

ENVIRONMENTAL LAW AND POLICY IN NAMIBIA

TOWARDS MAKING AFRICA
THE TREE OF LIFE

Fully Revised Second Edition

Edited by

OLIVER C. RUPPEL

&

KATHARINA RUPPEL-SCHLICHTING

Environmental Law and Policy in Namibia

**TOWARDS MAKING AFRICA
THE TREE OF LIFE**

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Hon. Netumbo Nandi-Ndaitwah
Minister of Environment and
Tourism, MP

It is gratifying to see the second fully revised edition of *Environmental Law and Policy in Namibia*. I am happy to note that the first edition of this publication attracted much attention among both lawyers and non-lawyers in Namibia, Africa and beyond, and with good reason.

A sustainable environment is essential to protect people from the short, medium and long term ravages of nature; man-made threats in nature; and the deterioration of the natural environment. Namibia faces a range of difficult environmental challenges including land degradation; water scarcity and pollution; deforestation; biodiversity loss; and climate change. Addressing these challenges requires, above all, unequivocal determination on the part of policy-makers. The law, as a subsequent step to policy and decision-making processes on the one hand and as a basis for enforcement and implementation on the other, is an important discipline in terms of environmental protection and is an essential tool to address environmental problems threatening our country, region and planet. Given the multi-disciplinary nature of environmental issues and the involvement of different government institutions, policy makers and stakeholders, the afore-mentioned environmental challenges are covered by a variety of statutes and policies.

The main purpose of this book is to offer a multi-faceted insight into environmental law and policy issues in Namibia. It does this most successfully by taking stock of the existing legal framework and Namibia's commitment to environment-related issues at the local, national, regional, continental and international level. The mother of Namibian laws, our Constitution, is one of the few constitutions in the world to explicitly incorporate the protection of the environment. It is well reflected in this publication that we have achieved significant milestones in terms of environmental law and policy such as the ratification and implementation of several multilateral environmental agreements; the enactment of landmark pieces of national legislation such as the Environmental Management Act; as well as a broad environmental policy framework including a national policy on climate change. Of course, the process is on-going and we must not rest on our laurels.

It is highly commendable that the editors of this book have eloquently managed to give an in-depth overview of sectoral and cross-sectoral legislation and policies relating to environmental concerns. Furthermore, the publication puts environmental issues into the broader context of current and future societal needs and economic developments. The focus of the publication is on Namibia, particularly in terms of national law. It is however notable that the book also puts a strong emphasis on the multi-faceted African legal structure and its particularities, including the environmental legal frameworks of the African Union and the

Southern African Development Community and those of other evolving groupings such as the COMESA-EAC-SADC Tripartite Initiative and the BRICS.

This publication will be a valuable source of information and guidance for lawyers, students, policymakers and all those members of the public interested in environmental issues in Namibia and beyond. I wish to thank Professor Oliver Ruppel and Dr Katharina Ruppel-Schlichting and all who have contributed to the book and assisted in making it a reality. It is an important work for Namibia, which will inevitably contribute to further green growth and sustainable development in the interest of our people. Let all of us make environmental protection our responsibility.



Netumbo Nandi-Ndaitwah
Minister of Environment and Tourism, MP

Windhoek, October 2012

PREFACE

This is the second edition of our publication *Environmental Law and Policy in Namibia*. The first edition, published in February 2011 was a great success. We therefore decided to fund a second, updated and completely revised edition.

Namibia, as one of the most progressive countries in the so-called ‘Third World’ has a remarkable record when it comes to the protection of the environment. There is always a conflict between protection of the environment and economic development in developing countries. In the case of Namibia the challenges are an unemployment rate of more than 30 percent, mining as the key economic activity, a very fragile environment and the effects of climate change.

The Namibian Government tries to find ways to address these divergent challenges. The country’s Environmental Management Act of 2007 is considered a model legislative initiative, not only in an African context, especially for a developing country.

With this law Namibia acknowledges its responsibility to protect and maintain its environmental and natural resources for future generations, who should not be adversely affected as a result of the actions of current generations.

The country has committed itself to the UN’s Millennium Development Goals, has its Vision 2030 and every four years a new National Development Plan is initiated, the current one being NDP4 which was unveiled in July 2012.

All three programmes are geared towards socio-economic development, even in the face of very severe challenges and concerns. Most prominent amongst these concerns are the environment, climate change and the country’s almost total dependence on international markets, which means Namibia is competing against countries that do not subscribe to or uphold environmental awareness and protection standards to the same level.

The first edition of this book was greeted with a remarkable international and national response. This encouraged us to fund the second edition of *Environmental Law and Policy in Namibia*.

Dr Katharina Ruppel-Schlichting and Professor Oliver C. Ruppel engaged a distinguished group of authors, whose contributions have been invaluable to the efforts of continual upgrade and improvement of this book.

The Hanns Seidel Foundation for some decades now, as part of its worldwide activities, supports the protection of the natural environment as it relates to and intersects with political, economic and social development, in recognition that environmental protection has become

a major global challenge against the backdrop of increased demand for universal socio-economic upliftment.

In this regard, we are aware of the competing priorities of rendering sustainable development and protecting the environment.

The Hanns Seidel Foundation therefore wants to contribute to finding solutions to overcome the new challenges. Limited human resources and funds, weak institutions and lack of understanding of the responsibility towards future generations exacerbate already strained conditions in the developing world, limiting the ability of these countries to meet new challenges proactively.

Against this backdrop, we view our assistance as an important part of our good governance programmes.

A handwritten signature in black ink, appearing to read 'W. Kleine', with a long, sweeping horizontal stroke extending to the right.

Wolfgang Kleine
Resident Representative in Namibia

PREFACE TO THE FIRST EDITION

This publication is about an important topic for the future of Namibia; it presents, thanks to the commitment of the *Legal Research and Development Trust* (LRDT), a compilation of all environmentally relevant norms and standards, reflecting actual contemporary ecological concerns. As such, it provides a basis for further academic, legal and practical considerations of environmental concerns.

This focus on the environment does not indicate that the important topics of development co-operation have become less important. Creating justice on a global level, and adherence to the *Millennium Development Goals*, adopted by the international community, is still what matters most.

However, new challenges develop constantly, among which the environment and climate change are prominent. This renders sustainable development more difficult, as limited human resources and weak institutions exacerbate the susceptibility of the developing world, restraining their ability to meet new challenges proactively. In the past, this approach has been the major concern of the Hanns Seidel Foundation.

Guided by the ideal standard of a democratic, social and constitutional state, this norm was taken as a call to motivate and strengthen the civil society, reinforce good governance; further, to assist with capacity building in politics, society and administration according to democratic principles. The Hanns Seidel Foundation intends to stick to these values in the future.

Yet, in the face of the enormous and dramatic consequences of climate change, it is impossible to take our responsibilities for the environment lightly. Our engagement, hitherto, has demonstrated this aptly, when, for instance in the context of our good governance programmes, we insisted on adherence to the law and the consistent and impartial interpretation and application of environmental legislation.

Win-win situations are created, when environmental conscientisation results in the economic advancement of communities; e.g. when an intact and clean environment draws additional tourism. Yet, and in addition, it is of utmost importance, to integrate environmental concerns with politics and to sensitize the population in this regard.

In light of Namibia's particularly fragile ecosystems, it should be easy to understand that there is an innate connection between the economic necessity to utilise its resources on the one, and the requirement to treat these with adequate caution, even respect, on the other hand.

This book, therefore, is not just an inventory. The work is an attempt to rethink environmental and ecological perspectives, and to change policy and politics accordingly. In this regard, the Hanns Seidel Foundation, as a political foundation, sees its calling and duty to assist.

A handwritten signature in dark ink, appearing to read 'C. Hegemer', written in a cursive style.

Christian Hegemer
Hanns Seidel Foundation
Director of the Institute for International Co-operation

ACKNOWLEDGEMENTS

Over the course of writing a book, one accumulates more debts than can be acknowledged in a few lines. A multi-authored publication such as this is an enormous team effort. Therefore our special thanks go to all the distinguished contributors – both in Namibia and beyond.

We are very grateful to those who contributed financially to this publication, namely the Hanns Seidel Foundation (HSS) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). “In the service of democracy, peace and development” – this is the motto of the Germany-based Hanns Seidel Foundation; this publication reflects this maxim and the aims of the foundation and its noble mission. Our particular gratitude goes to Mr. Wolfgang Kleine, the Representative of the Hanns Seidel Foundation (HSS) in Namibia, for his active involvement in making both editions of this book a reality.

This publication is also a tribute to German-Namibian development cooperation. It is in line with what the German Minister for Economic Cooperation and Development Mr. Dirk Niebel stated during his 2010 official visit to Namibia, “Germany has ever since Namibian Independence considered the bilateral relations to be a special partnership for historical and cultural reasons, and Germany has been providing development assistance to Namibia worth over 600 million Euros (over N\$6 billion) over the last two decades.”

Germany has also supported Namibia in the field of environmental matters through bilateral cooperation. As early as 1991, Germany and Namibia concluded a cultural agreement, which *inter alia* incorporated cooperation in the areas of research and higher education. Environmental law and policy have also been on this agenda. Apart from the personal contributions by legal scholars such as the editors of this publication, technical cooperation has been afforded by GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), DED (Deutscher Entwicklungsdienst) and others. In this light, we thank Dr. Konrad Uebelhoer from GIZ for his support. We also thank Mr. Michael Becker from GIZ for his support and creation of the website “Environmental Law and Policy in Namibia”.

Our thanks are due to Mr. Graham Hopwood and Mr. Frederico Links who completed the language editing for the second edition.

Last but not least, we would like to thank the numerous readers who provided us with valuable feedback on the first edition of this book – for their positive response, but also for suggestions for improvements.

This publication reflects developments, status and information until September 2012.

THE EDITORS

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EXECUTIVE SUMMARY

Oliver C. Ruppel & Katharina Ruppel-Schlichting

Underlying the research for this publication was the aim of compiling a legal textbook and a collection of and reflection on the most relevant national legal texts and international obligations pertaining to environmental law and policy in Namibia.

During the past decades, environmental concerns have been growing in importance on the international agenda and with good reason. Mankind is part of nature and life depends on the uninterrupted functioning of natural systems, which ensure the supply of energy and nutrients. Humans are directly dependent on ecosystems and natural resources for their livelihood and other basic needs. Although the dependence of people on ecosystems is often more apparent in rural communities, where lives are directly affected by the availability or non-availability of resources such as water, food, medicinal plants and firewood, urban ecosystems also require adequate preservation and protection. In this context environmental law plays an essential role. Environmental protection can *inter alia* be achieved by

- international treaties and declarations;
- national constitutions with a large scope, defining the environmental values to be preserved and protected;
- environmental policies determining the objectives and strategies which should be used in order to ensure the respect of environmental values; and
- statutory and customary legal instruments to reach the objectives fixed by the environmental policy.

All of this is contextualised legally and discussed critically in this publication. The Namibian Constitution, many international treaties, as well as a multitude of statutory enactments and policies provide for the wide field of environmental protection in Namibia. Compared to the multitude of environmental legislation existing in Namibia, the number of publications relating to environmental law and policy is – until now – comparatively small. *Environmental Law and Policy in Namibia* is a timely reflection of the fact that since Independence, environmental law has emerged as a fast-growing and important branch of the law in Namibia. Over the past years a bundle of new environmental laws have been passed and thus it becomes evident that environmental concern has gained momentum – both practically and academically.

Internationally, environmental law has also developed rapidly into a more solid legal system. At the same time it has become a key negotiating platform in international diplomacy. This requires expert knowledge, which has been gathered in this book.

- National environmental law and policy;
- international environmental law focusing on environmental law within the African Union (AU) and the Southern African Development Community (SADC);
- environmental management;

- water and land law;
- conservation of biodiversity;
- mining and energy law, including renewable energy law;
- customary law, common law and criminal law aspects of environmental law;
- intellectual property rights and traditional knowledge;
- climate change, environmental justice and human rights;
- international trade, sustainable development and the environment; and
- environmental journalism.

Namibian law reflects the country's history and is the product of different legal sources. The Namibian legal system is an object of fascination for comparative lawyers, legal ethnologists, anthropologists and sociologists. Several types of law or legal tradition operate simultaneously, making it very special. In this context, the foundations and historical development of environmental law are elaborated on, together with the functions of environmental law and the major environmental concerns in Namibia and beyond. The application of international law in Namibia is also discussed with great attention and the sources of international environmental law, multilateral environmental agreements relevant for Namibia and the role of international environmental institutions are explained in detail.

On the national level the Namibian Constitution, Vision 2030 and the National Development Plans all have environmental law implications and effect. The different sector-related aspects of environmental law, covering biodiversity, water, land, agriculture, mining, energy, air, climate, and intellectual property are treated from different angles. In the same context principles of environmental management, pollution control, waste management, environmental impact assessment, licensing, permitting, compliance, enforcement and dispute settlement are touched upon in this publication.

The link between customary and environmental law is also dealt with and also how African customary law is anchored within the environmental legal system. Common law and criminal law aspects of environmental protection are briefly covered, although these fields do not lie at the heart of this publication.

Environmental disruption and its effects on human rights, as well as the links between human rights law and environmental law are also brought into context, while the legal foundations of environmental justice, multi-layered good governance, access to justice, public participation and freedom of information are prominently explained.

In terms of environmental concerns, the Namibian situation is comparable to others in southern Africa. The environmental legal and policy framework of the African Union and the Southern African Development Community (SADC) are thus elaborated in more detail focusing *inter alia* on timely issues such as climate change, justice, sustainable development and economic developments in the evolving regimes of the COMEAS-EAC-SADC Tripartite Initiative and the BRICS. Many of those challenging issues are pointed out in this publica-

tion from different and eye-opening perspectives. Namibia is one of the driest countries in southern Africa and the world. The cold Benguela current along the west coast and Namibia's location traversing the subtropical high-pressure belt greatly influence the main features of the climate, making Namibia particularly vulnerable to the impacts of climate change. Africa as a continent is vulnerable to climate change due to the interaction of multiple pressures: endemic poverty, complex governance and institutional dimensions, limited access to capital, markets, infrastructure and technology, ecosystem degradation, complex disasters, conflict and low adaptive capacity. As a global problem, climate change calls for multilateral solutions as a scientific consensus is emerging that a business-as-usual scenario would have disastrous consequences for future generations. This will require substantive changes in lifestyle, in particular in developed countries. No less important is, however, major investment in low-carbon technology and modern technology transfer to and capacity-building in Africa.

In view of the aforementioned, the link between international trade, foreign investment and environmentally friendly sustainable development is critically discussed. No doubt, issues related to international trade and the environment have special significance to developing countries, as these argue that the developed countries have depleted resources and indulged in environmentally harmful practices during the past century in order to achieve unprecedented high standards of living.

The 'curse' of natural resources, climate change, water stress, food security and the prevalence of poverty remain challenges for Namibia and Africa. All of these are also linked to international trade and certainly go hand-in-hand with poverty reduction, self-reliant sustainable development and the rational use of natural resources. Their production, trade and consumption can have negative externalities on people and the environment. In light of this, the implementation of pro-poor policies, sustainable development, natural resources management, integrated reporting, environmental planning, environmental impact assessment and the overall policy review form part of the agenda of this publication. New technologies, environmentally friendly goods and services need to be promoted in the SADC and the protection and preservation of traditional knowledge, agriculture and species is important, especially in the African context. All of that requires more and more national commitment, international cooperation, adequate technical assistance and capacity building.

Although Namibia is well placed to gain from growing international environmental awareness, based on its assets – a pristine natural environment and rich biodiversity coupled with good governance, and committed and sound environmental management – it at the same time faces challenges, especially in terms of poverty. This requires that factors such as climate change, desertification, flooding and erosion need to be brought into the public domain more energetically. In this respect, the role of environmental reporting should not be underestimated in future. In conclusion, it is expected, that a better understanding of Environmental Law and Policy in Namibia will benefit Namibia and its people in many ways. The publication is intended to be of use to lawyers and non-lawyers alike, as the protection and preservation of our environment, as Sir Robert Jennings, the former Judge and President of the International Court of Justice, stated

in another context, “is not a question of ameliorating the problems of our civilisation but of our survival”.

LIST OF ABBREVIATIONS

ABS	Access and benefit sharing
ACPC	African Climate Policy Centre
AfDB	African Development Bank
AF	Adaptation Fund
AGF	Advisory Group on Climate Change Financing
ALAN	Association of Local Authorities in Namibia
AMCEN	African Ministerial Conference on the Environment
APPO	Air Pollution Prevention Ordinance
ARC	Association of Regional Councils
ARIPO	African Regional Intellectual Property Organisation
ASSELLAU	Association of Environmental Law Lecturers in African Universities
ATF	Agricultural Trade Forum
AU	African Union
AUC	African Union Commission
AWG-LCA	Ad hoc Working Group on Long-term Cooperative Action
BAP	Bali Action Plan
BASIC	Brazil, South Africa, India and China
BIOTA	Biodiversity Monitoring Transect Analysis in Africa (Project)
BRICS	Brazil, the Russian Federation, India, China and South Africa
CAF	Cancun Adaptation Framework
CAHOSCC	Conference of African Heads of State and Government on Climate Change
CBD	Convention on Biological Diversity
CBDR	Common but differentiated responsibility
CBNRM	Community Based Natural Resources Management
CCDA	Climate Change and Development in Africa

CDM	Clean Development Mechanism
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COMESA	Common Market for Eastern and Southern Africa
CONTRALESA	Congress of Traditional Leaders of South Africa
COP	Conference of the Parties
CSAG	Climate Systems Analysis Group
CSC	Climate Services Centre
CTE	Committee on Trade and Environment
CTESS	Committee on Trade and Environment Special Session
CTF	Clean Technology Fund
DANIDA	Danish International Development Agency
DEA	Directorate of Environmental Affairs
DGVM	Dynamic global vegetation model
DPRE	Development Plan for Renewable Energy
DRFN	Desert Research Foundation of Namibia
DSB	Dispute Settlement Body
EAC	East African Community
ECB	Electricity Control Board
ECCP	European Climate Change Programme
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EPA	Economic Partnership Agreement or Environmental Protection Agency
ETS	EU Emissions Trading System
EU	European Union
FAO	United Nations Food and Agriculture Organisation
FDI	Foreign Direct Investment
FTA	Free Trade Agreement

FYP	Five-year Plan
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GCCA	Global Climate Change Alliance
GCCI	Global Climate Change Impacts
GCOS	Global Climate Observation System
GDP	Gross Domestic Product
GEEREF	Global Energy Efficiency and Renewable Energy Fund
GEF	Global Environmental Facility
GFDRR	Global Facility for Disaster Reduction and Recovery
GHG	Greenhouse gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GMO	Genetically modified organism
GR	Genetic resources
GRN	Government of the Republic of Namibia
IAEA	International Atomic Energy Agency
ICCPR	International Covenant on Civil and Political Rights
ICDP	Integrated Conservation and Development Projects
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICJ	International Court of Justice
IDP	Internally Displaced Person
IEA	International Energy Agency
ILO	International Labour Organisation
INC	Intergovernmental Negotiating Committee
IPBF	Indigenous People's Business Forum
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent Power Producer
IPR	Intellectual property rights
IRENA	International Renewable Energy Agency

ISDR	International Strategy for Disaster Reduction
IUCN	World Conservation Union (formerly International Union for the Conservation of Nature and Natural Resources)
IUCNAEL	IUCN Academy of Environmental Law
JI	Joint implementation
KAS	Konrad Adenauer Stiftung
KFW	Kreditanstalt für Wiederaufbau
LAI	Leaf area index
LCA	Long-term Cooperative Action
LDC	Least developed country
LDCF	Least Developed Countries Fund
LRDT	Legal Research and Development Trust
MCA	Millennium Challenge Account
MDG	Millennium Development Goal
MEA	Multilateral Environmental Agreement
MEF	Major Economy Forum
MET	Ministry of Environment and Tourism
MOP	Meeting of the Parties
MPA	Model Petroleum Agreement
MRA	Marine Resources Act
MRV	Measurement, Reporting and Verification
NAMA	Non-agricultural market access
NAPA	National adaptation plan
NAMFISA	Namibia Financial Institutions Supervisory Authority
NAMREP	Namibia Renewal Energy Programme
NEAA	Netherlands Environmental Assessment Agency
NCCC	Namibian Climate Change Committee
NCCI	Namibia Chamber of Commerce and Industry
NDC	Namibia Development Corporation
NDP	National Development Plan

NEEP	Namibia Energy Efficiency Programme in Buildings
NEPAD	New Partnership for Africa's Development
NGGIP	National Greenhouse Gas Inventories Programme
NGO	Non-governmental organisation
NIRP	National Integrated Resource Plan
NMA	Namibian Manufacturers Association
NPP	Net primary productivity
OAU	Organisation for African Unity
ODS	Ozone-depleting substances
OECD	Organisation for Economic Co-operation and Development
OGEMP	Off-Grid Energisation Master Plan
PGRFA	Plant Genetic Resources for Food and Agriculture
PIC	Prior Informed Consent
PPA	Power Purchase Agreements
PRC	People's Republic of China
PSC	Peace and Security Council
R&D	Research and Development
RE	Renewable Energy
RED	Regional Electricity Distributor
REDMP	Rural Electricity Distribution Master Plan
REEECAP	Renewable Energy and Energy Efficiency Capacity Building Programme
REEEI	Renewable Energy and Energy Efficiency Institute
REFAD	Renewable Energy for African Development
REN21	Renewable Energy Policy Network for the 21 st Century
REPM	Renewable Energy Procurement Mechanism
RET	Renewable Energy Technology
RGGI	Regional Greenhouse Gas Initiative
RISDP	Regional Indicative Strategic Development Plan
REDD	Reducing Emissions from Deforestation and Forest Degradation

RTPC	Regional Trade and Policy Course
SACU	Southern African Customs Union
SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference
SAP	Synthesis and Assessment Product
SARCOF	Southern Africa Regional Climate Outlook Forum
SCCF	Special Climate Change Fund
SCM	Subsidies and countervailing measures
SID	Small-island developing state
SPS	Sanitary and Phytosanitary Measures
SREP	Scaling-Up Renewable Energy Fund
SRREN	Special Report on Renewable Energy Sources and Climate Change Mitigation
SWAPO	South West Africa People's Organisation
TBT	Technical Barriers to Trade
TCE	Traditional Cultural Expression
TFI	Task Force on National Greenhouse Gas Inventories
TK	Traditional Knowledge
TRIPS	Agreement on Trade-related Aspects of Intellectual Property Rights
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNAM	University of Namibia
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environment Programme

UNFCCC	United Nations Framework Convention on Climate Change
UNIN	United Nations Institute for Namibia
UN-REDD	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
UNTAG	United Nations Transition Assistance Group
UPOV	International Union for the Protection of New Varieties of Plants
USAID	United States Agency for International Development
USD	US Dollar
WCI	Western Climate Initiative
WG	Working Group
WIPO	World Intellectual Property Organisation
WMO	World Meteorological Organisation
WTO	World Trade Organisation
WWF	World Wildlife Fund
ZERI	Zero Emission Research Initiative

CHAPTER 1

NAMIBIA AND ITS LEGAL SETUP

Oliver C. Ruppel & Katharina Ruppel-Schlichting

1 Namibia in a Nutshell: Facts and Figures

The inhospitable Namib Desert constituted a barrier to European colonisation until the late 18th century when traders and missionaries first explored the area. In 1878, the United Kingdom annexed Walvis Bay on behalf of the Cape Colony, while the rest of south-western Africa would soon thereafter fall under German administration, henceforth to be known as German South West Africa. Resulting from the Herero and Nama wars of anti-colonial resistance of 1904-08, Germany consolidated its hold over the colony, and prime-grazing land passed to white control. German overlordship ended during World War I in the wake of South Africa's military occupation of the German colony. On 17 December 1920, South Africa took over the administration of South West Africa in terms of Article 22 of the 1919 Peace Treaty of Versailles (which incorporated the Covenant of the League of Nations) and a mandate agreement by the League Council. South Africa was mandated with the power of administration and legislation over the territory¹. Article 22 stated as follows:

To those colonies and territories which as a consequence of the late war have ceased to be under the sovereignty of the States which formerly governed them and which are inhabited by peoples not yet able to stand by themselves under the strenuous conditions of the modern world, there should be applied the principle that the well-being and development of such peoples form a sacred trust of civilisation and that securities for the performance of this trust should be embodied in this Covenant. The best method of giving practical effect to this principle is that the tutelage of such peoples should be entrusted to advanced nations who by reason of their resources, their experience or their geographical position can best undertake this responsibility, and who are willing to accept it, and that this tutelage should be exercised by them as Mandatories on behalf of the League. The character of the mandate must differ according to the stage of the development of the people, the geographical situation of the territory, its economic conditions, and other similar circumstances. (...) There are territories, such as South-West Africa (...), which, owing to the sparseness of their population (...) or their remoteness from the centres of civilisation, or their geographical contiguity to the territory of the Mandatory, and other circumstances, can be best administered under the laws of the Mandatory as integral portions of its territory, subject to the safeguards above mentioned in the interests of the indigenous population.²

In 1946, the League of Nations was superseded by the newly formed United Nations. When the United Nations requested South Africa to place the territory under a trusteeship agreement it refused. In 1966 the South African mandate was officially revoked by the UN General

1 See <http://www.state.gov/r/pa/ei/bgn/5472.htm>; last accessed 14 December 2010.

2 Available at <http://net.lib.byu.edu/~rdh7/wwi/versa/versa1.html>; last accessed 20 December 2010.

Assembly.³ Also in 1966 the South West African People's Organisation (SWAPO), under the leadership of Sam Nujoma, started to put pressure on the South African government, and took up an armed struggle to liberate Namibia. Political and social unrest within Namibia increased markedly during the 1970s and was often met with repression at the hands of the colonial administration. In 1978, the UN Security Council passed Resolution 435 and authorised the creation of a Transition Assistance Group to monitor the country's transition to independence.⁴

In April 1989, the UN began to supervise this transition process, part of which entailed supervising elections for a Constituent Assembly which was also charged with drafting a constitution for the country. After more than a century of domination by other countries and a long struggle on both diplomatic and military levels, Namibian independence was achieved and officially declared on 21 March 1990, which is a national holiday today. Walvis Bay, which is Namibia's deep-water sea port, remained under South African control until 1994. Namibia has been a member of the Commonwealth of Nations since 1990.⁵

Namibia borders on Angola in the north, Zambia and Zimbabwe in the north-east, Botswana in the east, South Africa in the south and the Atlantic Ocean to the west. The capital of Namibia is Windhoek, with a population estimated to be between 250,000 and 400,000.⁶ The 2011 Census enumerated a population of 2,104,900.⁷ The population density lies at 2.5 inhabitants per km²; about 42% of the population live in urban areas.⁸ The surface area of Namibia is 824,268 km², making the country the 31st largest in the world. Namibia is demarcated into 13 regions:

- In the North: Caprivi, Kavango, Kunene, Omusati, Ohangwena, Oshana and Oshikoto;
- In the central part of the country: Omaheke, Otjozondjupa, Erongo and Khomas;
- In the South: Hardap and Karas.

Namibia's population consists of approximately 50% Ovambo, 9% Kavango, 7% Damara, 7% Herero, 6% White (including about 20,000 of German descent), 5% Nama, 4% Caprivi-ans, 3% San, 2% Rehoboth Baster and less than 1% Tswana.⁹

87.5% of the population is black, 6% white and 6.5% mixed. English is the only official language today (until 1990 also Afrikaans and German). 80% of the population is classified as Christian (with 60% Protestants and 20% Catholic). At least 10% of the population hold indigenous beliefs.¹⁰

3 Ibid.

4 Amoo/Skeffers (2008:17ff.).

5 Ibid.

6 CIA, the World Fact book on Namibia; available at <https://www.cia.gov/library/publications/the-world-factbook/geos/wa.html>; last accessed on 14 December 2010.

7 Cf. GRN (2012e:2).

8 GRN (2012e:42 and 5).

9 See <http://www.state.gov/r/pa/ei/bgn/5472.htm>; last accessed 14 December 2010.

10 Figures taken from <http://www.kas.de/namibia/en/publications/20353/>; last accessed 14 December 2010.

According to the UN Human Development Index of 2008 Namibia is ranked 129th out of 179. Life expectancy at birth (2006) is 51.9 years; adult literacy (2006) is 87.6%; unemployment is estimated at over 50% of the labour force (2010); approximately 56% of the population live on less than US\$2 per day; the HIV/AIDS pandemic and household food insecurity are among the main problems facing Namibia. Tuberculosis and malaria prevalence in Namibia are amongst the highest in the world. Almost half the population depends on subsistence farming. Although Namibia has large reserves of minerals (diamonds, uranium, zinc, copper, and gold) and despite the comparably high income per capita in the region, the wealth distribution is extremely unbalanced in Namibia. Economically, Namibia remains overly dependent on South Africa, its most important partner in the Southern African Development Community (SADC). The local currency, the Namibia Dollar (NAD) is linked to the South African Rand. Both currencies are accepted in Namibia.

The *United Nations Statistics Division* in its *Environment Statistics Country Snapshot* on Namibia provides data about the environment for comparative purposes. The country snapshot of Namibia, *inter alia*, reflects the following data:

Air and climate		
Emissions of:		Year
CO2 (million tonnes)	3.0	2007
CO2 per capita (tonnes)	1.0	2007
GHG (million tonnes CO2 eq.)	6.0	1994
GHG per capita (tonnes CO2 eq.)	4.0	1994
Ozone depleting CFCs (ODP tonnes)	0.0	2008
GHG from energy (%)	34.0	1994
Biodiversity		
		Year
Proportion of terrestrial marine areas protected (%)	14.0	2009
Number of threatened species	92	2010
Fish catch (tonnes)	372,822	2008
Change in fish catch from previous year (%)	-11	2008
Economy¹¹		
GDP (current US\$) (billions)	12,30	2011
GDP growth (annual %)	3,8	2011
Inflation, GDP deflator (annual %)	5,6	
Agriculture, value added (% of GDP)	7	2011
Industry, value added (% of GDP)	20	2011
Services, etc., value added (% of GDP)	73	2011
Exports of goods and services (% of GDP)	43	2011

¹¹ Please note that the data for economy are estimates for 2011 by the World Bank retrieved from http://ddp-ext.worldbank.org/ext/ddpreports/ViewSharedReport?&CF=&REPORT_ID=9147&REQUEST_TYPE=VIEWADVANCED.

Imports of goods and services (% of GDP)	41	2011
Gross capital formation (% of GDP)	27	2011
Energy		
Energy consumption (1000t oil eq.)	1,289	2007
Energy consumption per capita (kg oil eq.)	617	2007
Energy intensity (kg oil eq.) per \$1,000 (PPP) GDP	127	2007
Renewable electricity production (%)	92	2007
Land and Agriculture		
Total area (km ²)	824,268	2008
Agricultural land (km ²)	388,080	2008
Arable land (% of agric. land)	2.0	2008
Permanent crops (% of agric. land)	0.0	2008
Permanent pasture and meadows (% of agric. land)	98.0	2008
Change in agricultural land area since 1990 (%)	0.0	2008
Forest area (km ²)	72,900	2010
Change in forest since 1990 (%)	-17	2010
Population		
Population (1000)	2,130	2008
Population growth rate from previous year (%)	2.0	2008
Water and Sanitation		
		Year
Long-term average renewable freshwater resources (mill m ³ /year)	45,460	N / A
Urban population with access to improved drinking water source (%)	99	2008
Rural population with access to improved drinking water source (%)	88	2008
Rural population with access to improved sanitation (%)	17	2008

Source with further references: http://unstats.un.org/unsd/ENVIRONMENT/envpdf/Country_Snapshots_Aug%202011/Namibia.pdf; last accessed 18 September 2012. Data on Economy from World Bank at http://ddp-ext.worldbank.org/ext/ddpreports/ViewSharedReport?REPORT_ID=9147&REQUEST_TYPE=VIEWADVANCED&DIMENSIONS=152.

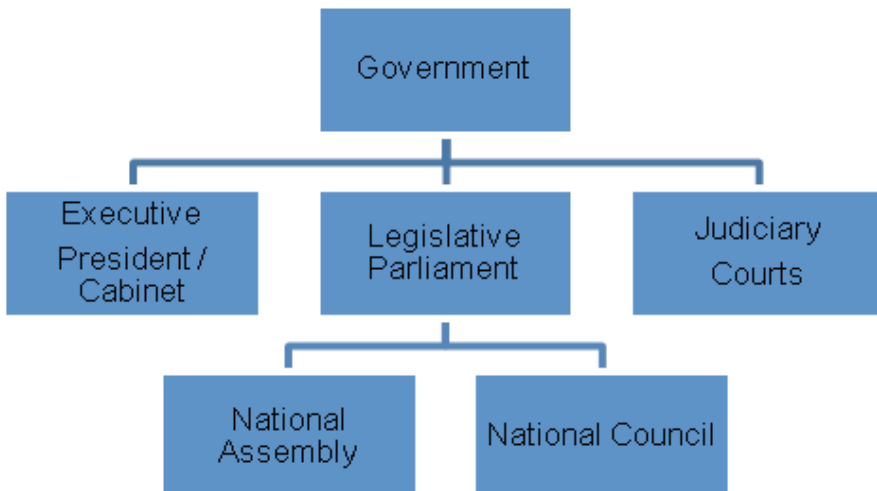
2 The Legal Setup in Namibia

The following section provides an overview of Namibia's legal setup, necessary for a discussion of the more complex legal issues in the environmental domain. The Constitution of the Republic of Namibia, which was drafted and adopted in 1990, is the fundamental and supreme law of the land.¹²

It is hailed by some as being amongst the most liberal and democratic in the world. It enjoys hierarchical primacy amongst the sources of Namibian law by virtue of its Article 1(6). It is thematically organised into 21 Chapters which contain 148 Articles. Together, they organise the state and outline the rights and freedoms of people in Namibia.¹³

By virtue of Proclamation 21 of 1919, Roman Dutch law as developed by South African courts was made the common law of the territory and was binding on the courts in Namibia until independence in 1990. This position is affirmed by Article 66(1) of the Constitution, which provides that both the customary law and common law of Namibia in force at the date of independence shall remain valid to the extent to which this is not in conflict with the Constitution or any other statutory law.

One of the key requirements of the rule of law is that the courts and the state's prosecution agencies are independent and free of political interference.¹⁴ Although this doctrine – the separation of powers – is well entrenched in the Namibian Constitution and recognised by the courts, the true measure of the independence of the judiciary and the state prosecution services lies in the way these institutions relate to the Executive and other organs of state in practice.



¹² Cf. Amoo (2008a,b,c).

¹³ Ambunda/Mugadza (2009:5ff.).

¹⁴ Cf. Horn/Bösl (2008a&b).

Article 12 of the Constitution contains the provisions for a fair trial. The principle of the rule of law runs throughout the constitutional regime.¹⁵ In Namibia, the separation of legislative and executive powers from those of the independent judiciary is constitutionally guaranteed.¹⁶ Various mechanisms are put in place to ensure that each branch of Government remains independent of the other through a system of checks and balances.¹⁷

The Constitution explicitly states that Namibia is established as “a democratic and unitary state founded on the principles of democracy, the rule of law and justice for all.”¹⁸

3 The Laws

Namibian law reflects the country’s history and is the product of different sources: Firstly, Roman law; secondly, the fusion of Roman law and Roman Dutch customary law – hence the term Roman Dutch law – which came in the wake of Dutch colonisation at the Cape of Good Hope; thirdly, from the early 19th century onwards English law asserted itself, leaving deep traces in Roman Dutch law, after British hegemony in southern Africa had been established; and fourthly, indigenous customary law from time immemorial.¹⁹ With few exceptions German legal influence has disappeared completely.

The Namibian legal system is an object of fascination for comparative lawyers, legal ethnologists and sociologists.²⁰ The concept of legal pluralism – a situation in which more than one type of law or legal tradition operates simultaneously – is commonplace in Namibia.²¹ Some sources of law are authoritative while others merely have a persuasive authority. The courts are bound by authoritative sources whereas those of persuasive authority may serve to convince a court to apply or interpret a legal rule in a particular manner. The sources of law in which they are usually consulted are statute law or legislation; judgements of the courts; international law (Article 144 of the Constitution); common and customary law (Article 66 of the Constitution) and to some extent legal writing.

15 Hinz (2003:273).

16 Ruppel (2008d).

17 Diescho (1994:70ff.).

18 Article 1(1), Namibian Constitution.

19 Hinz (2002a).

20 Ruppel (2009j).

21 Griffiths (1986:1-55).

4.1 The Supreme Court

The Supreme Court is primarily a court of appeal, and its appellate jurisdiction covers appeals emanating from the High Court, including appeals which involve interpretation, implementation and upholding of the Constitution and the fundamental rights and freedoms guaranteed there under.²⁴ The Supreme Court is not bound by any judgement, ruling or order of any court that exercised jurisdiction in Namibia before or after independence. The Constitution further vests in Parliament the power to make legislation providing for the appellate jurisdiction of the Supreme Court. The Supreme Court is vested with unlimited appellate jurisdiction over appeals against any judgement or order of the High Court; and any party to any such proceedings before the High Court, if dissatisfied with any such judgement or order, has a right of appeal to the Supreme Court.²⁵

In the exercise of its appellate jurisdiction, the Supreme Court has the power to receive further evidence, either orally or by deposition before a person appointed by the court, or to remit the case for further hearing to the court of first instance or to the court whose judgement is the subject of the appeal, with such instructions relating to the taking of further evidence or any other matter as the Supreme Court may deem necessary. The Supreme Court is also empowered to confirm, amend or set aside the judgement or order that is the subject of the appeal, and to give any judgement or make any other order which the circumstances may require.²⁶ The Supreme Court has original jurisdiction over matters referred to it for decision by the Attorney-General under the Constitution, and with such other matters as may be authorised by Act of Parliament. Thus, the Supreme Court has original jurisdiction over constitutional matters, but this original jurisdiction is not exclusive to the Supreme Court because the High Court is also vested with original jurisdiction over constitutional matters. Unlike, for example, in the case of the judicial structure in South Africa, where there is a Constitutional Court, the Namibian Constitution does not create a separate Constitutional Court *per se*, but the Supreme Court can constitute itself as a Constitutional Court.²⁷ The Supreme Court may exercise this jurisdiction *ex mero motu* (of the court's own accord) should it come to the notice of the court or any judge of that court, that an irregularity has occurred in any proceedings, notwithstanding that such proceedings are not subject to an appeal or other proceedings before the Supreme Court. The seat of the court is in Windhoek. A decision of the Supreme Court is binding on all other courts of Namibia and all persons in Namibia unless it is reversed by the Supreme Court itself, or is contradicted by an Act of Parliament, lawfully enacted in conformity with the principles of legislative sovereignty.²⁸

24 Amoo (2008b:72ff.).

25 Cf. Supreme Court Act No. 15 of 1990.

26 Ibid.

27 Amoo (2008a:3ff.).

28 Ibid.

4.2 The High Court

The High Court is a superior court of record and its jurisdiction is provided by both the Constitution and the High Court Act²⁹. The Constitution vests the High Court with both original and appellate jurisdiction, and all proceedings in the High Court are to be carried in an open court.³⁰ The court may, however, exclude the press and/or the public from all or any part of the trial for reasons of morals and the public order or national security.³¹ It is situated permanently in Windhoek, and since 2009 also at Oshakati. Other than this, the court goes on circuit to venues, including Gobabis, Grootfontein and Swakopmund.³² The High Court derives its appellate jurisdiction to hear and adjudicate upon appeals from lower courts primarily from the Constitution.³³ During the appeal process, the court may receive further evidence, either orally or by deposition before a person appointed by the court, or remit the case to the court of first instance or the court whose judgement is the subject of the appeal, for further hearing, with such instructions relating to the taking of further evidence or any other matter as the High Court may deem it necessary. The court also has the power to confirm, amend, or set aside the judgement or order which is the subject of the appeal, and to give any judgement or make any order which the circumstances may require.³⁴

4.3 The Lower Courts

The lower courts are responsible for administering justice. In terms of Article 78 of the Constitution, the lower courts form part of the judiciary, one of the three branches of the state. Lower courts are established in terms of Section 2(1) of the Magistrates' Courts Act.³⁵ The bulk of the judiciary's work also takes place in the lower courts. There are 32 permanent courts and more than 30 periodical courts in Namibia.³⁶ Lower courts are divided into a Regional Division and five administrative districts, namely Windhoek, Oshakati, Otjiwarongo, Keetmanshoop and Rundu. Each district has a seat for a regional court that presides on all criminal matters except high treason, but has no jurisdiction in civil matters.³⁷

29 No. 16 of 1990.

30 Section 13 of the High Court Act.

31 Article 12(1)(a), Namibian Constitution; Amoo (2008b:76).

32 Section 4 of the High Court Act provides that the seat of the High Court is to be in Windhoek, but if the Judge-President deems it necessary or expedient in the interest of the administration of justice, he or she may authorise the holding of its sitting elsewhere in Namibia.

33 Article 80(2), Namibian Constitution.

34 Section 19 of the High Court Act.

35 No. 32 of 1944.

36 The Ministry of Justice Annual Report 2006 – 2007, p 15.

37 Amoo (2008b:83).

4.4 The Magistrates' Courts

Magistrates' Courts in Namibia may be classified into regional, district and sub-district, division³⁸ and periodical courts³⁹. Magistrates' Courts are courts of record⁴⁰ and their proceedings in both criminal cases and the trial of all defended civil actions are conducted in an open court.⁴¹ The jurisdiction of the Magistrates' Courts in respect of causes of action is regulated by Section 29 of the Magistrates' Court Act, as amended.⁴² The Magistrates' Courts have jurisdiction over liquid claims not exceeding N\$100,000 and illiquid claims not exceeding N\$25,000.⁴³ Magistrates' Courts are presided over by judicial officers, and advocates or attorneys of any division of the Supreme Court may appear in any proceeding in any court. All Magistrates' Courts have equal civil and criminal jurisdiction, except the regional Magistrates' Courts, which have only criminal jurisdiction.⁴⁴ The territorial jurisdiction of a Magistrate's Court is the district, sub-district or area for which it is established; a court established for a district has no jurisdiction in a sub-district. Magistrates' Courts also have the jurisdiction to hear and determine any appeal against any order or decision of a Community Court.

4.5 The Community Courts

The Community Courts shall cater for all forms of proceedings exercised under customary law. Community courts are a formal creation of the Community Courts Act,⁴⁵ which also provides detailed procedures and requirements for the establishment and recognition of Community Courts in particular traditional communities.⁴⁶ The Act was drafted to give legislative recognition to and formalise the jurisdiction of the traditional (African) courts that render essential judicial services to members of traditional communities who subject themselves to their jurisdiction and the application of customary law. This formal recognition also brings the proceedings of the erstwhile traditional courts within the mainstream of the judiciary in Namibia, and subjects their proceedings to formal evaluation and review by the superior courts.⁴⁷ The Community Courts Act has, however, not yet been implemented. The Ministry of Justice has pointed out that the delay in the promulgation of the Act may be associated with a lack of funds for implementing the necessary infrastructure, as well as the lack of trained staff in the area of customary law.⁴⁸

38 Section 2(f.) (2) (a)-(iv) of the Magistrates' Courts Act of 1944.

39 Section 26 of the Magistrates' Courts Act of 1944; periodical courts are meant to serve the remote areas of the country, and as the name suggests, they are only held at intervals, when the volume of work in the area requires a court sitting.

40 A court of record can be understood as "a court whose acts and judicial proceedings are written on parchment or in a book for a perpetual memorial which serves as the authentic and official evidence of the proceedings of the court". Cf. Amoo (2008b:83).

41 Section 5 of the Magistrates' Courts Act of 1944.

42 Magistrates' Courts Amendment Act No. 9 of 1997.

43 A liquid amount is fixed and certain and can – compared to an illiquid amount – be easily determined. *Maritime and General Insurance Co Ltd v Colenbrander* 1978 (2) SA 262 (D) at 264F.

44 Amoo (2008b:84ff.).

45 No. 10 of 2003.

46 For more details see Hinz (2008a).

47 Amoo (2008b:90).

48 Hinz (2008a).

4.6 The Ombudsman

In order to protect and maintain the respect of the state for the rights of the individual citizen, to promote the rule of law, and to promote and advance democracy and good governance, the Office of the Ombudsman has been established. The relevant legal provisions with regard to the Ombudsman are to be found in Chapter 10 of the Namibian Constitution as well as in the Ombudsman Act⁴⁹. The mandate of the Ombudsman relates to three widely-defined categories:⁵⁰ human rights, administrative practices, and the environment. Complaints, which are related to the mandate of the Ombudsman, may be submitted by any person, free of charge and without specific formal requirements. To ensure that citizens have an avenue, open to report complaints free of red tape, and free of political interference, the Ombudsman is politically independent, impartial, fair, and acting confidential in terms of the investigation process.⁵¹ Negotiation and compromise between the parties concerned are the main objective when handling complaints.⁵²

49 No. 7 of 1990.

50 For more details on the mandates of the Ombudsman see Ruppel/Ruppel-Schlichting (2010).

51 Tjitendero (1996:10). As to the characteristics of a classical Ombudsman in general see Gottehrer / Hostina (1998).

52 Article 91(e) of the Constitution and Section 5(1) of the Act.

CHAPTER 2

INTRODUCING ENVIRONMENTAL LAW

Katharina Ruppel-Schlichting

1 Terminology

At the outset, it is important to explain the term environmental law, as there is more than one one valid definition. This is obvious in the light of the fact that environmental law is a highly complex subject. The Oxford Advanced Learner's Dictionary broadly defines environment as "the conditions, circumstances, etc affecting a person's life"¹. This definition can serve as a good starting point for our analysis and definition of the term environment. Academics from various disciplines, including humanists, natural scientists and economists have made various attempts to shed light on this issue, and thus definitions vary. The etymological origin of the term environment is to be found in an ancient French word, *environner*, which means to encircle. This implicates the existence of a centre in which someone or something is situated observing the circumstances, objects, or conditions by which he, she or it is surrounded. Based on this etymological origin, it is reasonable – though not necessarily correct – for the term environment to often be used synonymously with other terms such as nature, ecology or habitat.

A commonly-used definition is that environment is

the complex of physical, chemical, and biotic factors (like climate, soil and living things) that act upon an organism or an ecological community and ultimately determine its form and survival

and "the aggregate of social and cultural conditions that influence the life of an individual or community."²

Academics and decision-making bodies have dealt with the notion 'environment' in the process of drafting documents, academic papers, statutes or other legal texts, as well as judicial decisions. Most approaches describe the term very widely, whilst others are more specific, as shown by the examples below.

The Declaration of the United Nations Conference on the Human Environment, which was discussed and decided at the United Nations Conference on the Human Environment in Stockholm in 1972, is considered to be one of the basic legal foundations of international environmental protection. Part I proclaims that "the protection of the human environment is

1 Oxford Advanced Learner's Dictionary 5th edition 1995.

2 Merriam-Webster's Collegiate Dictionary 11th edition 2004.

a major issue which affects the well-being of peoples and economic development throughout the world”. While the declaration lacks a definition of the term itself, it is more precise in specifying what natural resources are:

The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management as appropriate.

The General Agreement on Tariffs and Trade (GATT), which is one central agreement under the umbrella of the World Trade Organisation (WTO) does not explicitly refer to the environment, but Article 20(b) and (g) mention “human, animal or plant life or health” and the “conservation of exhaustible natural resources”.

On the national level, the Namibian Environmental Management Act³ in Section 1 defines environment as

the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including –

(a) the natural environment that is the land, water and air, all organic and inorganic material and all living organisms; and

(b) the human environment that is the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values.

The South African National Environmental Management Act⁴ defines environment as

The surroundings within which humans exist and that are made up of:

(i) the land, water and atmosphere of the earth;

(ii) micro-organisms, plant and animal life;

(iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

In their rather broad dimensions, all the above approaches make it clear that it is difficult to establish more precisely the possible limits of the term environment. The encompassing nature of the term has also been emphasised by the International Court of Justice in its advisory opinion on the *Legality of the Threat or Use of Nuclear Weapons*:

The environment is not an abstraction, but represents the living space, the quality of life, and the very health of human beings, including generations unborn.⁵

3 No. 7 of 2007.

4 No. 107 of 1998.

5 Advisory Opinion, ICJ Rep. 1996, 241f, para 29.

By way of summary: the term environment denotes the entire range of living and non-living factors that influence life on earth, and their interactions. Everything living, humans, animals, plants and micro-organisms are thus part of our environment, as well as non-living resources such as air, water, land, in addition to historical, cultural, social and aesthetic components; this includes the built environment. This difficulty in definition is reflected in the scope of the term environmental law. In a very broad sense, environmental law can generally be described as the body of rules which contain elements to control the human impact on the environment. However, given that all human activities, as well as all natural events have a direct or indirect impact on the environment, environmental protection virtually forms part and should be integrated into all areas of law and policy. Thus, environmental law cannot be seen as a distinct domain of law but rather as an assortment of legal norms, contained in a number of conventional fields of law or an

ensemble of norms, statutes, treaties and administrative regulations to ensure or to facilitate the rational management of natural resources and human intervention in the management of such resources for sustainable development.⁶

In more detail, environmental law can thus be defined as the group of norms, rules, procedures and institutional arrangements found in civil and common law, statutes and implementing regulations, case law, treaties and soft law instruments, which deal with or relate to protection, management and utilisation of the environment and natural resources for sustainable development and/or intergenerational equity.⁷ Whatever the scope of environmental law, it cannot be disputed that an interdisciplinary and holistic approach is needed in order to adequately address environmental threats and concerns from a legal perspective. Disciplines that are relevant for the area of environmental law include the natural, physical and social sciences, history, ethics, and economics.

2 Foundations of Environmental Protection

Although environmental law is considered to be a relatively new area of law, one must go far back in the world's history when tracing the foundations of environmental protection. As stated above, environmental law is of interdisciplinary nature, and as such, it is anchored in various fields and disciplines: religion, philosophy, ethics, science, economics, national and international law. All world religions contain rules and principles regarding the conservation of the environment.⁸ In the Judeo-Christian religious tradition, one basic conceptual foundation of environmental protection in terms of human guardianship for the earth and its resources can be found in the Old Testament:

God blessed them, and God said to them, 'Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth.'⁹

6 Okidi (1988:130).

7 Similarly Sands (2003:15).

8 For a detailed description see Kiss/Shelton (2004:9ff.).

9 Gen.1:28.

Christian environmental commitment has been stressed by Pope Benedict XVI and his predecessor, John Paul II.¹⁰

The family needs a home, a fit environment in which to develop its proper relationships. For the human family, this home is the earth, the environment that God the Creator has given us to inhabit with creativity and responsibility. We need to care for the environment: it has been entrusted to men and women to be protected and cultivated with responsible freedom, with the good of all as a constant guiding criterion. Human beings, obviously, are of supreme worth vis-à-vis creation as a whole. Respecting the environment does not mean considering material or animal nature more important than man. Rather, it means not selfishly considering nature to be at the complete disposal of our own interests, for future generations also have the right to reap its benefits and to exhibit towards nature the same responsible freedom that we claim for ourselves.¹¹

Principles of environmental protection can also be found in the Islamic tradition:

The right to utilise and harness natural resources, which God has granted man, necessarily involves an obligation on man's part to conserve them both quantitatively and qualitatively. God has created all the sources of life for man and all resources of nature that he requires, so that he may realise objectives such as contemplation and worship, inhabitation and construction, sustainable utilisation, and enjoyment and appreciation of beauty. It follows that man has no right to cause the degradation of the environment and distort its intrinsic suitability for human life and settlement. Nor has he the right to exploit or use natural resources unwisely in such a way as to spoil the food bases and other sources of subsistence for living beings, or expose them to destruction and defilement.¹²

The religious belief systems of indigenous peoples contain concepts of environmental protection to a wide extent as well, as natural resources are basic to their existence. Thus, the relationship with the land is a foundation for their beliefs, customs, tradition and culture.¹³

Semi-detached from religious concepts and traditions are the concepts of equity and justice, which are of rather philosophical or ethical nature. Three kinds of relationships can be listed in this context: Inter-generational equity, dealing with the relationships among existing

10 "Faced with the widespread destruction of the environment, people everywhere are coming to understand that we cannot continue to use the goods of the earth as we have in the past. The public in general as well as political leaders are concerned about this problem, and experts from a wide range of disciplines are studying its causes. Moreover, a new ecological awareness is beginning to emerge which, rather than being downplayed, ought to be encouraged to develop into concrete programmes and initiatives." Message of His Holiness Pope John Paul II for the celebration of the World Day of Peace 1 January 1990 see http://www.vatican.va/holy_father/john_paul_ii/messages/peace/documents/hf_jp-ii_mes_19891208_xxiii-world-day-for-peace_en.html; last accessed 4 November 2010.

11 Message of His Holiness Pope Benedict XVI for the celebration of the World Day of Peace 1 January 2008 see http://www.vatican.va/holy_father/benedict_xvi/messages/peace/documents/hf_ben-xvi_mes_20071208_xli-world-day-peace_en.html; last accessed 4 November 2010.

12 Bagader *et al.* (1994): Section one: A general introduction to Islam's attitude toward the universe, natural resources, and the relation between man and nature.

13 Hinz/Ruppel (2008b:6).

persons; intra-generational equity, governing the relationships between present and future generations; and inter-species equity, covering the relationships between humans and other species. These concepts have been laid down in many environmental legal texts¹⁴ and form basic principles for environmental jurisprudence on international¹⁵ and national¹⁶ level.

Science, especially biology, chemistry and physics, has been and remains one of the most important foundations in the history and the development of environmental law, as it uses science to predict and regulate the consequences of human behaviour on natural phenomena. On the other hand, environmental law must be developed in a manner that is flexible enough to respond to scientific uncertainty, possible irreversibility and the dynamics of a constantly evolving environment.¹⁷

Last, but not least, environmental law also rests on the world's economic system and its challenge to environmental protection¹⁸ as economic growth – at least in its early stages – more often than not brings about environmental degradation.¹⁹ Measures for environmental protection are expensive and therefore increase the costs of goods and services; this in turn has an impact on the free trade in goods and services, and might influence the issue of competitive advantage. This, the economic North-South divide²⁰, and the fact that natural resources are exhaustible, tie the need for environmental protection and economic development together. This can be addressed through environmental law mechanisms.

3 Functions of Environmental Law

During the past decades, environmental concerns have been high on the legal agenda, with good reason. Mankind is part of nature and life depends on the uninterrupted functioning of natural systems as this ensures the supply of energy and nutrients. Humans are directly dependent on the ecosystems and natural resources. The dependence of people on ecosystems is often more apparent in rural communities where lives are directly affected by the availability of resources such as water, food, medicinal plants and fire wood. Further, ecosystems provide cultural, aesthetic, spiritual and intellectual stimulation. Every form of life is unique and merits respect, regardless of its worth to man. Humans can, however, alter nature and exhaust natural resources by action or its consequences and must therefore fully recognise the urgency

14 See for example Principle 1 of the Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration); Preamble to the Convention on Biological Diversity; Section 3(2) of the Environmental Management Act No. 7 of 2007.

15 E.g. *Maritime Delimitation in the Area between Greenland and Jan Mayden Denmark v Norway* ICJ 14 June 1993 separate opinion by Weeramantry available at <http://www.icj-cij.org/docket/index.php?p1=3&k=e0&case=78&code=gjm&p3=4>; last accessed 4 November 2010.

16 E.g. *Oposa and others v Factoran and another* G.R.NO: 101083 Supreme Court of the Philippines. Summary available at <http://www.unescap.org/drrpad/vc/document/compendium/ph1.htm>; last accessed 4 November 2010. See also Gatmaytan (2003).

17 Kiss/Shelton (2004:14).

18 Kiss/Shelton (2004:15).

19 Hypothesis advanced by Simon Kuznet in his Environmental Kuznet's Curve. Kuznet (1955 and 1956). For a critical discussion see Yandle *et al.* (2002).

20 Beyerlin (2006).

of maintaining the stability and quality of nature and of conserving natural resources. Thus, environmental concerns have become subject to multiple law-making processes.

But why is law needed to conserve our environment? Given that environmental degradation is largely caused by human intervention, the public authority responsible for preventing such negative effects will act by developing legal rules in order to have at hand binding norms. The obligatory character of environmental law and enforcement mechanisms are designed to prevent acts detrimental to the environment. Not only does environmental law establish rules and regulations, it also provides for other forms of intervention such as management tools, incentives and disincentives. However, binding rules are not the only element in environmental law; other, non-binding principles such as declarations or plans might just as well be appropriate to enhance environmental protection. Thus, environmental law is an essential remedy to pollution and to the depletion of the world's natural resources. International law is needed because most environmental challenges cross boundaries in their scope.²¹

From a legal perspective, environmental protection can be achieved by international treaties and declarations, through national constitutions, and environmental policies determining the objectives and strategies which should be used in order to ensure the respect of environmental values, and further, through statutory legal instruments to reach the objectives fixed by the environmental policy. The main function of environmental law is thus to safeguard and protect non-renewable resources for future generations. Further to this, renewable resources have to be managed in such a way that continuous supply is ensured and resource depletion is avoided, e.g. deforestation, which can also trigger climate change and desertification. Habitats upon which various species of animal life depend for survival have to be protected in order to retain the food chain. Also the essential character of natural treasures has to be preserved for future generations.²²

4 Historical Development of Environmental Law

Although much has been written, especially with regard to the historical development of international environmental law, the following paragraphs will complementarily provide a short overview on how international environmental law has developed.²³ Writing, however, from a Namibian perspective, the African context and specific developments in sub-Saharan Africa, and Namibia in particular, will also be addressed.

International environmental law has only come into its own during the second half of the 20th century, although some international environmental legislative measures had already been taken earlier. The 1902 Paris Convention to Protect Birds Useful to Agriculture granted

21 Kiss/Shelton (2004:3).

22 Sands (2003:252ff.); Kidd (2008:13ff.).

23 For an extensive overview of the history of international environmental law see, for example, Kiss/Shelton (2004:25ff.) and Sands (2003:25 ff.).

protection to certain birds by prohibiting their killing or destruction of their nests, eggs or breeding places, except for scientific research or repopulation purposes. The 1933 London Convention Relative to the Preservation of Fauna and Flora in their Natural State applied to Africa – then largely colonised. It did not, however, cover the metropolitan areas of the colonial powers.²⁴ The Convention provided for the creation of national parks, included measures regulating the export of hunting trophies, banned certain methods of hunting and provided for measures to be taken to protect animals and plants perceived to be useful to man or of special scientific interest. On the North American continent, the 1940 Washington Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere provided for the establishment of national parks and reserves, the protection of wild plants and animals, and for cooperation between governments in the field of research.²⁵ Following these precursors of present-day environmental law concepts, the founding of the United Nations and its specialised agencies in 1945 marks a milestone in the development of international environmental law.

In the 1950s, states increasingly entered into water-related agreements. Such boundary water agreements, including provisions on the problem of water pollution and efforts to combat marine pollution, were addressed by the 1954 London Convention for the Prevention of the Pollution of the Sea by Oil.²⁶ In 1956, the first United Nations Conference on the Law of the Sea (UNCLOS I) was held at Geneva, Switzerland. Four treaties were concluded as a result in 1958: the Convention on the Territorial Sea and Contiguous Zone,²⁷ the Convention on the Continental Shelf,²⁸ the Convention on the High Seas,²⁹ and the Convention on Fishing and Conservation of Living Resources of the High Seas.³⁰ The four Conventions on the Law of the Sea aimed at achieving international cooperation to solve the problems related to the conservation of the living resources of the high seas. Among others, it prohibited ocean pollution by oil, pipelines and by radioactive waste; further, damage to the marine environment caused by drilling operations on the continental shelf was also addressed. The 1959 Antarctic Treaty outlawed all nuclear activity on the sixth continent and envisaged the adoption of measures to protect animals and plants.

The present ecological era is considered to have started at the end of the 1960s, when it became apparent that the world's resources were not limitless and something needed to be done to prohibit industrial and developing nations from destroying the world's water, air, biological and mineral resources. Public opinion increasingly demanded action to protect the

24 This convention was replaced by the 1968 African Convention on the Conservation of Nature and Natural Resources.

25 Legal instruments predating the establishment of the United Nations are the 1909 Agreement Respecting Boundary Waters between the United States and Canada or the 1921 Geneva Convention Concerning the Use of White Lead in Painting. Cf. Sands (2003:25ff.) and Kiss/Shelton (2004:25f.).

26 Amended in 1962 and 1969 and replaced in 1972 by the International Convention for the Prevention of the Pollution of the Sea by Oil.

27 Entry into force: 10 September 1964.

28 Entry into force: 10 June 1964.

29 Entry into force: 30 September 1962.

30 Entry into force: 20 March 1966.

quantity and quality of the environment.³¹ New technologies, especially the development and deployment of nuclear technology led to further environmental legislation such as the 1963 Moscow Treaty Banning Nuclear Weapons in the Atmosphere, Outer Space and Underwater. It was adopted to obtain an agreement on general and complete disarmament under strict international control and in accordance with the objectives of the United Nations.

It is noteworthy, that even before the United Nations officially took up the protection of the environment with its Stockholm conference in 1972, it was at regional level, where environmental law history was written as early as 1968. On the European level, the Council of Europe adopted the first environmental texts.³² But more remarkably, the heads of states and governments of the Organisation of African Unity in 1968 signed a comprehensive document on environmental protection, namely the African Convention on the Conservation of Nature and Natural Resources. This was remarkable in that such a document was signed despite the common view in the region that environmental degradation was primarily a problem of industrial pollution in the northern hemisphere.

Within the United Nations, which strongly shaped the evolution of international environmental law, several conferences and the results thereof are of particular relevance. In 1972, the General Assembly convened a Conference on the Human Environment in Stockholm. This environmental conference was the first of its kind and it was attended by about 6,000 participants, delegations from 113 states, representatives of every major intergovernmental organisation, 700 observers sent by 400 NGOs and 1500 journalists.³³ The two-week conference resulted in several documents, which remain basic foundations of today's international environmental law: The Declaration on the Human Environment³⁴ included 26 principles that greatly shaped future international environmental law. In its basic statements, the 1972 Stockholm Declaration on Human Environment recognises that the natural elements and man-made things are essential to human well-being and to the full enjoyment of human rights including the right to life. The protection of the environment is viewed as a major issue for economic development. It furthermore recognises that the natural growth of the world's population continuously poses problems for preserving the environment and that human ability to improve the environment is complemented by social progress and the evolution of production, science and technology. The Action Plan for Human Environment, also a result of the 1972 Stockholm conference, is made up of 109 resolutions for action with three major themes: a global environmental assessment programme,³⁵ environmental management

31 Kiss/Shelton (2004:27).

32 The Declaration on Air Pollution Control; the European Water Charter; and the European Agreement on the Restricting of the Use of Certain Detergents in Washing and Cleaning Products. See Kiss/Shelton (2004:27).

33 <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=97>

&ArticleID=1519&l=en; last accessed 4 November 2010. Also see Kiss/Shelton (2004:28).

34 Available at [http://www.unep.org/Documents.Multilingual/Default.asp?](http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503)

documentid=97&articleid=1503; last accessed 5 November 2010.

35 Establishing "Earthwatch" a mechanism for evaluation and review, research and monitoring and information exchange.

activities;³⁶ and supporting measures focused on information and public education, and on the education of environmental specialists. One further important outcome of the 1972 Stockholm Conference was the recommendation for a central organisation charged with environmental matters, today's United Nations Environment Programme (UNEP).

Subsequent to the Stockholm Conference, a multitude of environmental conventions were adopted.³⁷ The 1971 Ramsar Convention on Conservation of Wetlands of International Importance was adopted to stem the progressive encroachment on and subsequent loss of wetlands, while recognising the fundamental ecological functions of wetlands, including their economic, cultural, scientific and recreational value. The 1972 UNESCO Convention on the Protection of the World Cultural and Natural Heritage, adopted in Paris, established a system to protect cultural and natural heritage of outstanding universal value. In 1972 the UN Conference on the Law of the Sea produced the Convention on the Law of the Sea (UNCLOS) adopted in 1982 after ten years of work. UNCLOS encompasses, inter alia, the issue of marine environmental protection. In 1973 the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) was adopted in Washington to protect certain endangered species from over-exploitation by means of a system of import-export permits. The 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals protects those species that migrate across national boundaries. The 1982 United Nations World Charter for Nature was not endorsed as a binding legal instrument, but it continues to have a strong influence on environmental law. This charter proclaims that mankind itself is part of nature, that civilisation is rooted in nature and that every form of life is unique and therefore merits respect, regardless of its worth to man. In its principles it sets forth that nature shall be respected; population levels of all wild forms, wild and domesticated shall be at least sufficient for their survival; special protection shall be afforded to the unique areas of the globe (land and sea); and that ecosystems, organisms and other natural resources shall be managed to achieve and maintain their optimum sustainable productivity and continuity.

Emerging new environmental challenges, such as long-range air pollution and the depletion of the ozone layer resulted in the adoption of the 1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 Montreal Protocol, creating an international system to reduce emissions of ozone-depleting substances. The Chernobyl Disaster of 1986³⁸ led to the

36 Containing provisions concerning pollution (dumping of toxic and dangerous substances; elaboration of norms limiting noise; control of contaminations in food); protection of the marine environment; and protection of wildlife and natural spaces.

37 For a collection of international environmental treaties see UNEP (2005c).

38 On April 26, 1986, the fourth reactor of the Chernobyl Nuclear Power Plant exploded. After the explosion, graphite fires broke out due to the high temperatures of the reactor. All permanent residents of Chernobyl and the zone of alienation were evacuated because radiation levels in the area had become unsafe. The nuclear meltdown produced a radioactive cloud that floated over neighbouring nations. Two hundred and thirty-seven people suffered from acute radiation sickness, of which thirty-one died within the first three months. An international assessment of the health effects of the Chernobyl accident is contained in a series of reports by the United Nations Scientific Committee of the Effects of Atomic Radiation (UNSCEAR). The radioactive contamination of aquatic systems

Vienna Convention on Early Notification of a Nuclear Accident and the Vienna Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency of the same year. In 1987, *Our Common Future*, also known as the Brundtland Report, was drafted by a special UN Commission.³⁹ This report stated that individual states, and the international community at large, had come to recognise sustainable development as the single most important paradigm to maintain and improve the quality of human life. The newly-coined term, sustainable development, meant that natural resources, renewable or non-renewable, and the environment must be used in such a manner that may equitably yield the greatest benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations. Sustainable development includes the maintenance and improvement of the capacity of the environment to produce renewable resources and the natural capacity for regeneration of such resources. This concept was taken up by the United Nations Conference on Environment and Development held in Rio in 1992. It was the next big conference after Stockholm 1972, and hosted 10,000 participants, 172 states, 1,400 NGOs and 9,000 journalists.⁴⁰ Two legally binding instruments resulted from the Rio Conference, namely the 1992 United Nations Framework Convention on Climate Change (UNFCCC) and the 1992 Convention on Biological Diversity (CBD). The UNFCCC was drafted prior to the Rio Conference, adopted in New York, and then opened for signature at the Rio Conference. It regulates levels of greenhouse gas concentration in the atmosphere, so as to avoid climate change on a level that would impede sustainable economic development or compromise initiatives in food production, while the CBD aims at conserving biological diversity, promoting the sustainable use of its components, and encouraging equitable sharing of the benefits arising out of the utilisation of genetic resources.

Other texts resulting from the Rio Conference were the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests; the Declaration on Environment and Development (Rio Declaration) as well as Agenda 21. The Rio Declaration, a soft law mechanism, reaffirms the Stockholm Declaration and provides 27 principles guiding environment and development, the core concepts being sustainable development and integrating development and environmental protection. Concepts contained in the Rio Declaration include inter-generational equity; prevention; environmental impact assessment; the polluter pays and precautionary principles; public rights such as participation and access to justice; and the special status of indigenous peoples.

Agenda 21, which is a Programme of Action and, like the Rio Declaration, a soft law and thus a non-binding document, was drafted to serve as a guide for the implementation of the treaties agreed to at the summit and the principles of sustainable development. Agenda 21 also established the United Nations Commission on Sustainable Development (CSD) and

as well as the degradation of flora and fauna became major issues in the immediate aftermath of the accident.

39 World Commission on Environment and Development (1987).

40 Kiss/Shelton (2004:33).

the Global Environment Facility (GEF). Agenda 21 remains of particular importance for international environmental law and consists of 40 Chapters with 115 specific topics. Agenda 21 is sub-divided in four main parts: conservation and resource management (e.g. atmosphere, forest, water, waste, chemical substances); socio-economic dimensions (e.g. habitats, health, demography, consumption and production patterns); strengthening the role of NGOs and other social groups; and measures of implementation (funding, institutions). Sector-specific Chapters on the atmosphere (9); biodiversity and biotechnology (15); oceans (17); freshwater resources (18); toxic chemicals (19); and waste (20ff) form part of Agenda 21.

After the Rio Conference, virtually every multilateral agreement included environmental protection, be it of particularly environmental, economic, or human rights or humanitarian law nature.⁴¹ An emerging issue in international environmental law after the Rio Conference was a new weapons system which called for the 1993 Paris Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction. New technologies such as biotechnology and the handling of living modified organisms (LMOs) in the laboratory resulted in the adoption of the 2000 Cartagena Protocol on Biosafety to the CBD, drafted to ensure an adequate level of protection in the field of safe transfer, handling and use of LMOs that may have adverse effects on the conservation and sustainable use of biological diversity, taking into account risks to human health, and specifically focusing on trans-boundary movements.

Ten years after the Rio Conference, the next big UN Conference of environmental relevance was the Johannesburg World Summit on Sustainable Development held in 2002. Although this summit was considered to be less successful in environmental terms by environmentalists and environmental lawyers, it emphasised the interrelation between combating poverty and improving the environment. The Declaration on Sustainable Development, which emerged from the summit, focuses on development and poverty eradication and recognises three components of sustainable development: economic development, social development, and environmental protection. The Johannesburg Summit was followed by a further World Summit of the United Nations General Assembly in 2005, which reaffirmed the commitment to achieve the goal of sustainable development through implementation of Agenda 21 and the Johannesburg Plan of Implementation. The 2005 World Summit Outcome, adopted by the UN General Assembly, specifically envisages promoting a recycling economy to tackle climate change, to promote clean energy, to fight hunger, and to provide access to clean drinking water and basic sanitation.

Undoubtedly, the UN has played a vital role in the development of environmental law. However, it must also be emphasised, that environmental law has gradually developed on the regional, sub-regional and of course on the national levels as well. Seen from a Namibian perspective, international environmental law within the African Union and the Southern African Development Community (SADC) is of particular importance. As early as 1968, the

41 Kiss/Shelton (2004:33).

Organisation of African Unity (OAU), which later became the African Union (AU), signed a comprehensive document on environmental protection, namely the African Convention on the Conservation of Nature and Natural Resources to enhance environmental protection; foster the conservation and sustainable use of natural resources; and to harmonise and coordinate policies in these fields. The 1968 Convention was revised in 2003 to improve institutional structures to facilitate effective implementation and mechanisms to encourage compliance and enforcement, but the revised convention is yet to come into force. One further piece of AU legislation of environmental relevance is the African Nuclear Free Zone Treaty, which was adopted in 1995 and entered into force on 15 July 2009 to establish an African nuclear-weapon-free zone, thereby, *inter alia*, keeping Africa free of environmental pollution from radioactive waste.

Within the SADC legal framework, environmental concerns are of increasing importance and have a substantial place in the legal setting of the regional institution. The SADC was established in Windhoek in 1992 as the successor to the Southern African Development Coordination Conference (SADCC), which was founded in 1980. Sustainable utilisation of natural resources and effective protection of the environment have been laid down as basic objectives of SADC in its founding legal document, the SADC Treaty and member states agreed to cooperate in the area of natural resources and environment.⁴² Several SADC Protocols have been signed and entered into in the past two decades, which aim to ensure implementation of the SADC Treaty. Many of these protocols contain provisions for environmental protection, either directly or indirectly. Environmentally-relevant documents are: the Protocols on Energy⁴³, Fisheries⁴⁴, Forestry⁴⁵, Health⁴⁶, Mining⁴⁷, Tourism⁴⁸, Trade⁴⁹, Transport, Communications and Meteorology⁵⁰, Wildlife Conservation and Law Enforcement⁵¹, Shared Watercourse Systems⁵², and the Revised Protocol on Shared Watercourses⁵³.

The development of Namibian environmental law is closely linked to the history of environmental law in South Africa due to Namibia's history. Article 140 of the Namibian Constitution provides that all law in force immediately before the date of independence shall remain in force until repealed or amended by Act of Parliament. Thus, South African legislation plays a significant role even after Namibia's Independence. Some of the environmental laws valid in Namibia are inherited from the South African legal system. South Africa had enacted

42 Article 5g, SADC Treaty.
43 Signed in 1996, in force since 17 April 1998.
44 Signed in 2001, in force since 8 August 2003.
45 Signed in 2002, in force since 17 July 2009.
46 Signed in 1999, in force since 14 August 2004.
47 Signed in 1997, in force since 10 February 2000.
48 Signed in 1998, in force since 26 November 2002.
49 Signed in 1996, in force since 25 January 2000.
50 Signed in 1996, in force since 6 July 1998.
51 Signed in 1999, in force since 30 November 2003.
52 Signed in 1998, in force since 28 September 1998.
53 Signed in 2000, in force since 22 September 2003.

a variety of environmental legislation regarding the conservation of natural resources.⁵⁴ The Water Act,⁵⁵ the Soil Conservation Act,⁵⁶ the Mountain Catchment Areas Act,⁵⁷ the Hazardous Substances Ordinance⁵⁸ the Nature Conservation Ordinance,⁵⁹ and the Atmospheric Pollution Prevention Ordinance⁶⁰ are only some examples for South African legislation relevant for environmental conservation which passed on to Namibia, and which is still applicable 20 years after Independence.

However, Namibia, since Independence, has put a strong emphasis on integrating environmental concerns into the post-colonial legal framework. Many legislative steps have been taken, in order to comply with its obligations under international law and to ensure the conservation of natural resources by legislative means. Since Namibia's efforts in this regard will be elaborated on in the subsequent Chapters of this book, the author of this Chapter refrains from going into more detail with regard to environmental legislation in Namibia at this point.

The evolution of international and national environmental law was not restricted to the drafting of legal treaties, agreements or similar documents. Jurisprudence also played and continues to play a significant role in the process of developing environmental law standards and contributed to the protection of the environment. One early landmark decision in this regard was a case involving the United States and Canada in 1941, namely the *Trail Smelter Arbitration* case.⁶¹ The arbitration affirmed that no state has the right to use its territory or permit it to be used to cause serious damage by emissions to the territory of another state or to the property of persons found there.

Jurisprudence of the International Court of Justice (ICJ) also contributed to environmental protection. The Corfu Channel Case⁶² (*UK v Albania*), decided by the ICJ in 1949, did not specifically deal with environmental matters but addressed general principles of state responsibility also applicable to environmental matters. In 1996, the ICJ issued two advisory opinions relating to the use of nuclear weapons, one requested by the General Assembly of the United Nations,⁶³ the other by the World Health Organisation⁶⁴. The latter dealt directly

54 Kidd (2008:12f).

55 No. 54 of 1956.

56 No. 76 of 1969.

57 No. 63 of 1970.

58 No. 14 of 1974.

59 No. 4 of 1975.

60 No. 11 of 1976.

61 *Trail Smelter Arbitration* (1938/1941) 3 RIAA 1905 Arbitral Tribunal: US and Canada.

62 ICJ Corfu Channel (*United Kingdom of Great Britain and Northern Ireland v Albania*) judgment available at <http://www.icj-cij.org/>; last accessed 5 November 2010.

63 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996. Available at <http://www.icj-cij.org/docket/index.php?p1=3&p2=4&k=e1&case=95&code=unan&p3=4>; last accessed 5 November 2010.

64 ICJ Legality of the Use by a State of Nuclear Weapons in Armed Conflict; Request for Advisory Opinion by the World Health Organisation, 8 July 1996. Available at <http://www.icj-cij.org/docket/index.php?p1=3&p2=4&k=e1&p3=4&case=93>; last accessed 5 November 2010.

with environmental concerns as the question in the request was formulated as follows:

In view of the health and environmental effects, would the use of nuclear weapons by a State in war or other armed conflict be a breach of its obligations under international law including the WHO Constitution?

The court in its advisory opinion denied the request by the WHO because the legality of the use of nuclear weapons “does not relate to a question which arises within the scope of activities of that organisation”. The court held that although negative effects on human health and the environment may result from the use of nuclear weapons, the WHO needs to undertake measures irrespective of the legality of their use. The request by the United Nations General Assembly was, however, accepted and with regard to environmental concerns the court recognised that

the environment is under daily threat and that the use of nuclear weapons could constitute a catastrophe for the environment. The Court also recognises that the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.⁶⁵

And further the court stated that

while the existing international law relating to the protection and safeguarding of the environment does not specifically prohibit the use of nuclear weapons, it indicates important environmental factors that are properly to be taken into account in the context of the implementation of the principles and rules of the law applicable in armed conflict.⁶⁶

One further case of particular importance decided by the ICJ was the case concerning the Gabčíkovo-Nagymaros Project.⁶⁷ This case raised a multitude of environmentally related legal issues, such as the concept of sustainable development, the principle of continuing environmental impact assessment and the handling of *erga omnes* obligations in *inter partes* judicial procedure.

65 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996 at page 21 para 29; available at <http://www.icj-cij.org/docket/index.php?p1=3&p2=4&k=e1&case=95&code=unan&p3=4>; last accessed 5 November 2010. For a discussion of the ICJ’s advisory opinion and of the question whether or not the use of nuclear weapons during international armed conflict would violate existing norms of public international law relating to the protection and safeguarding the environment see Koppe (2008).

66 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996 at page 21 para 33; available at <http://www.icj-cij.org/docket/index.php?p1=3&p2=4&k=e1&case=95&code=unan&p3=4>; last accessed 5 November 2010.

67 ICJ Gabčíkovo-Nagymaros Project (Hungary/Slovakia), 25 September 1997. Judgement available at <http://www.icj-cij.org/docket/index.php?p1=3&p2=3&k=8d&case=92&code=hs&p3=4>; last accessed 5 November 2010.

But not only the jurisdiction of the ICJ contributed to the development of environmental law and to the protection of the environment. Other international and national judicial bodies had to deal with environmental concerns as well. The Dispute Settlement Body of the WTO, for example, was frequently confronted to resolve issues regarding environmental protection.⁶⁸ Environmental protection was also a burning issue in the Ogoni case, a case which was heard in national courts of Nigeria⁶⁹ and the United States,⁷⁰ as well as by the African Commission on Human and Peoples' Rights⁷¹ and which was also subject to a United Nations Special Rapporteur's Report on Nigeria,⁷² which accused Nigeria and Shell of abusing human rights and failing to protect the environment in oil-producing regions, and called for an investigation of Shell. Subject to judicial review in this case was the fact that, since Shell began drilling for oil in Ogoniland in the Niger Delta in 1958, the people of Ogoniland have had pipelines built across their farmlands and in front of their homes, have suffered constant oil leaks from these very pipelines, and have been forced to live with the constant flaring of gas fires. This environmental assault has drenched land with oil, killed masses of fish and other aquatic life, and introduced devastating acid rain to the land of the Ogoni, a people dependent upon farming and fishing. The poisoning of the land and water has had devastating economic and health consequences.

Summarising, it can be stated that the history of modern environmental law originated in the second half of the past century and is strongly influenced and developed by international and national political action and legislative measures, as well as by international and national jurisprudence.

5 Major Environmental Concerns in Namibia

To quite some extent, Namibia faces environmental problems that are similar to those experienced in many parts of Africa; some of the most challenging issues will be pointed out broadly in the subsequent paragraphs in order to give an overview of the importance of taking legal and non-legal measures for environmental conservation.

68 See for example the following cases: Panel Report, United States – Import Prohibition of Certain Shrimp and Shrimp Products, WT/DS58/R and Corr.1, adopted 6 November 1998, modified by Appellate Body Report, WT/DS58/AB/R, DSR 1998:VII, 2821; Panel Report, European Communities – Measures Affecting Asbestos and Asbestos-Containing Products, WT/DS135/R and Add.1, adopted 5 April 2001, modified by Appellate Body Report, WT/DS135/AB/R, DSR 2001:VIII, 3305; Panel Report, Brazil – Measures Affecting Imports of Retreaded Tyres, WT/DS332/R, adopted 17 December 2007, as modified by Appellate Body Report, WT/DS332/AB/R.

69 Judgment delivered by the Nigerian High Court on 14 November 2005.

70 *Kiobel v Royal Dutch Petroleum*; United States Court of Appeals for The Second Circuit, Docket Nos. 06-4800-cv, 06-4876-cv. <http://www.ca2.uscourts.gov/decisions>; last accessed 5 November 2010. For a comment on this decision see Ikari (2010).

71 Communication 155/96. The Social and Economic Rights Action Center and the Center for Economic and Social Rights / Nigeria. Available at http://www.achpr.org/english/_info/decision_article_24.html; last accessed 5 November 2010.

72 Released 15 April 1998. The report condemned Shell for using a “well-armed security force which is intermittently employed against protesters.” The report was unusual both because of its frankness and its focus on Shell, instead of only on member countries.

5.1 Land Degradation and Soil Erosion

Land degradation in Namibia, like elsewhere in the world occurs in different forms and the effects and causes of land degradation are manifold.⁷³ It is, *inter alia*, caused by climatic variations, especially the high variability of rainfall patterns, and human activities. According to the Namibia Household Income and Expenditure Survey 2009/2010,⁷⁴ 23% of Namibian households depend on subsistence farming as the main source of income. This figure has decreased from 38% in 1993/1994 and 29% in 2003/2004. However, many Namibians depend – directly or indirectly – more on farming than on any other economic activity.⁷⁵ Despite the fact that the whole agriculture and forestry sector, which includes processing, only made up 5.1% of GDP in 2009⁷⁶ most of the land in Namibia is used for agricultural purposes.⁷⁷

Overstocking and overgrazing are considered to be the main causes for land degradation in Namibia. Especially in rural areas, poverty forces people into unsustainable environmental management practices such as overstocking and overgrazing in order to ensure food supply. More often than not, the densities of livestock exceed the carrying capacity of the land, which places strain on the environment. Further negative effects on land are caused by the unsustainable harvesting of forest resources, wild plants and game, and the clearing of land for farming or housing purposes.⁷⁸

Land degradation not only has negative economic consequences in that it reduces the country's resources, it also poses a serious threat to food security and rural livelihoods, which particularly affects the most vulnerable groups in Namibia's poor and densely populated areas. The most alarming effects of land degradation are deforestation, decreased availability of palatable grass species, soil erosion, bush encroachment and soil salinisation.⁷⁹

5.2 Deforestation

In 2005, almost 7.7 million ha of Namibia was covered by forests. This corresponds to 9.3% of the total land surface area. Almost 2% of the forest area has disappeared since 1990, however. Major threats to forests in Namibia include the expansion of land for agriculture; the cutting of wood for fuel and for domestic use; clearing for infrastructure development; uncontrolled wild fires; selective logging through timber concessions and unlicensed curio carving; and habitat destruction by elephants.⁸⁰

Forest resources are of essential importance as woodlands stabilise fragile soils. Moreover, forest areas are the home of rich biological diversity. But forests also play a vital role from a

73 Klintenberg/Seely (2004).

74 NSA (2012:56).

75 Iyambo, N, then Minister of Agriculture, Water and Forestry in his foreword to Mendelsohn (2006).

76 HSF (2012:15).

77 Mendelsohn (2006:10).

78 MET (2006:1ff.)

79 Klintenberg/Seely (2004:7).

80 Cf. FAO (2005).

socio-economic perspective and especially in the rural areas of Namibia, many are directly or indirectly dependent on the availability of forest resources for browsing, building material for homesteads, fuel wood for cooking, light and heating, and medicines amongst others. However, the increase of the population unfortunately goes hand in hand with an increase in an unsustainable use of timber for fuel, housing, fencing, fire, and poses a severe strain on the environment as deforestation not only leads to the loss of resources used for human activities, it also results in desertification and severe degradation of land.⁸¹

5.3 Water Management

Water is a critical factor and water supply remains a serious problem throughout Namibia, as the country is considered to be one of the most arid countries in southern Africa. 22% of Namibia can be classified as desert, with a mean annual rainfall of less than 100 mm. 33% is classified as arid, with a mean annual rainfall of between 100 and 300 mm. 37% is classified as semi-arid, with a mean annual rainfall of between 301 and 500 mm, and 8% as sub-tropical, with a mean annual rainfall of between 501 and 700 mm.⁸² These low rainfall rates, exacerbated by evaporation rates often higher than the precipitation, a high degree of rainfall variation, and variable rainfall distribution patterns are responsible for the fragility of Namibian water resources.

Water is needed in terms of basic sustenance and for agriculture. Sustainable water management is, therefore, a major challenge. Major threats to water availability are population pressure, as well as industrial development and growth. The latter two are causing surface and ground water pollution, resulting in a decrease in water availability and quality, harmful to human and animal health. Environmental law can substantially contribute towards reducing these negative effects, e.g. by limiting the use of pesticides, or by preventing the discharge of waste water or other substances harmful to aquatic systems. Sound water management can for example be enforced by a permit system for the abstraction of water in order to avoid the over-abstraction of water.

Environmental law, an integrated water resource management that promotes the co-ordinated development and management of water, land and related natural resources, as well as increasing public awareness with regard to water problems is needed, in order to tackle the challenge of equitable access to enough water of acceptable quality.

5.4 Climate Change

As mentioned earlier, Namibia is considered to be one of the driest countries in southern Africa. The cold Benguela current along the west coast and Namibia's location traversing the subtropical high-pressure belt greatly influences the main features of the climate. The climate of Namibia is characterised by high variability. This in part, contributes to making Namibia vulnerable to the impact of climate change.

81 MET (2006:13).

82 GRN (1997a:1).

In Namibia's initial communication to the United Nations Framework Convention on Climate Change in 2002,⁸³ it is stated that trends in climate change predict that temperature will increase, specifically in central inland areas, rainfall will be variable and the rainy season is predicted to be shorter. Furthermore, an increase of potential evaporation at a rate about 5% per degree of warming and a sea level rise of up to 30cm was predicted.

Climate change in Namibia has an impact on access to water and sanitation, health, agriculture, fisheries and marine ecosystems, forestry, energy, and human settlements.⁸⁴ A growing body of evidence has demonstrated that poor and other disenfranchised groups are the greatest victims of environmental degradation. In Namibia, the majority of the population live in rural areas, where poverty is a sad reality and remains one of the greatest challenges in the southern African region. The combined impact of climate change is expected to reduce livelihood opportunities even further, to reduce biodiversity and food security; the prevalence of drought and flooding will increase. Predicted impacts associated with temperature increases include a further rise in sea levels, changes in precipitation patterns, and the resultant threat to food security and sustainable development in general, with more people being caught up in the poverty trap. Limited adaptive management puts Namibia's population and its natural resources at risk. Thus, integrating adaption and mitigation strategies into the legal framework is essential. Additionally, access to information, public participation and the development of an educational approach is called for. Finally, interdisciplinary research into the effects of climate change needs to be consolidated.

5.5 Waste and Pollution

Namibia in general and Windhoek in particular, are considered to be clean, if compared to many other parts and capital cities in Africa. Yet, growth in development and in population brings about an increase in pollution and waste. More people produce more waste, and economic development inevitably has negative effects on our environment: ground water and air pollution, more generally the toxic contamination of soils, etc. Therefore, waste management and pollution control are essential in terms of environmental protection.

Since 1990, the industrial production has significantly increased in Namibia with an attendant real potential to pollute the environment: the food industry, meat processing and mining all are potential sources of pollution.⁸⁵ Carbon dioxide emissions are on the increase due to increasing motorisation, and the amount of household waste is rising too. Household waste accounts for a significant amount of waste produced in all the urban and rural areas of Namibia.⁸⁶ In Windhoek in 2004, a total of 24,861 tons of waste was generated by households.⁸⁷ Based on information gleaned from the Namibian 2001 population census, a total waste of 788 841.24 tons has been generated at town level.⁸⁸ Apart from the situation in the capital, which has

83 GRN (2002d).

84 Karuaihe *et al.* (2007:34ff.).

85 MET (2006:70).

86 MET (2006:87).

87 Hasheela (2009:66).

88 Hasheela (2009:132). Based on more recent population figures, the figure of total waste amounts to 1,096,130.64.

improved in terms of waste management in recent years⁸⁹ the waste management industry in Namibia is still underdeveloped.

89 Hasheela (2009:130ff.).

CHAPTER 3

INTERNATIONAL ENVIRONMENTAL LAW

Oliver C. Ruppel

This Chapter deals with several aspects of international environmental law with a focus on how these relate to the situation in Namibia. It must be stated beforehand that, especially with regard to the sources of international law, much has been written by internationally-renowned jurists.¹ However, in order to give an overview of this field of the law as comprehensively as possible, but within the limits of this publication, this Chapter summarises the most basic features of international environmental law.

1 The Application of International Law in Namibia

International law has developed rapidly over the past few decades, especially since the dawn of the UN, when rules and norms regulating activities carried on outside the legal boundaries of nations were developed. Numerous international agreements – bilateral, regional or multilateral in nature – have been concluded and international customary rules, as evidence of a general practice accepted as law, have been established. But how do these sources of international law apply domestically? In this regard, two approaches can generally be followed.² The first, the monist approach, assumes that international laws are automatically incorporated into domestic law; the second, the dualist approach, follows the rule that international laws are not automatically incorporated into domestic law and therefore require an act of legal transformation into domestic law.

Article 144 of the Namibian Constitution incorporates international law explicitly as law of the land and it needs no legislative act to become so.³ International law is thus integrated into domestic law. National authorities and the judiciary in particular can, therefore, apply international law directly on the national level, before cases are taken to regional or international judicial or quasi-judicial bodies.⁴ However, international law has to conform to the Constitution in order to apply domestically. Whenever a treaty provision or other rule of international law is inconsistent with the Namibian Constitution, the latter will prevail.⁵

Article 144 also mentions two sources of international law that apply in Namibia: general rules of public international law and international agreements binding upon Namibia. General rules of public international law include rules of customary international law, supported and accepted by a representatively large number of states. The notion of *international*

1 See for example Sands (2003); Kiss (2004); Dugard (2005).

2 Cf. Dugard (2005:47f.).

3 Erasmus (1991:94).

4 Bangamwabo (2008:168).

5 Erasmus (1991:94).

agreement primarily refers to *treaty* in the traditional sense, i.e. international agreements concluded between states in written form and governed by international law,⁶ but it also includes conventions, protocols, covenants, charters, statutes, acts, declarations, concords, exchanges of notes, agreed minutes, memoranda of understanding, and agreements.⁷ Notably, not only agreements between states, but also those with the participation of other subjects of international law, e.g. international organisations, are covered by the term *international agreement*. In general, international agreements are binding upon states if the consent to be party to a treaty is expressed by a signature followed by ratification; or by accession, where the state is not a signatory to a treaty; or by declaration of succession to a treaty concluded before such a state existed.

In Namibia, a treaty will be binding in terms of Article 144 if the relevant international and constitutional requirements have been met in terms of the law of treaties and the Namibian Constitution. International agreements, therefore, will become Namibian law when they come into force for Namibia.⁸ The conclusion of or accession to an international agreement is governed by Articles 32(3)(e), 40(i) and 63(2)(e) of the Namibian Constitution. The Executive is responsible for conducting Namibia's international affairs, including entry into international agreements. The President, assisted by the Cabinet, is empowered to negotiate and sign international agreements, and to delegate such power. It is required by the Constitution that the National Assembly agrees to the ratification of or accession to an international agreement. However, the Constitution does not require the promulgation of an international agreement in order for it to become part of the law of the land.⁹

Further to Article 144, Article 96 of the Constitution promotes international cooperation, peace and security. It also exhorts respect for international law and treaty obligations as a principle of state policy.

2 Sources of International Environmental Law

The sources of international environmental law are part of the sources of international law in general. Thus, the international legal regime must be consulted in order to trace the sources of international environmental law. International law, like national law, knows different types of law, namely hard law and soft law. Hard law describes those provisions or agreements which are obligatory in nature and thus binding for those to whom these provisions are applicable. The opposite of this is the category of soft law, encompassing non-binding texts such as the Declarations resulting from the Rio and Stockholm Conferences. Soft law has an important influence in international law because acceptance and compliance often develops

6 Definition in Article 1 of the Vienna Convention on the Law of Treaties of 1969, which entered into force in 1980.

7 Cf. the definition of *treaty* proposed by the International Law Commission; Article 2(a) of the Draft Articles on the Law of Treaties, with commentary, available at http://untreaty.un.org/ilc/texts/instruments/english/commentaries/1_1_1966.pdf; last accessed 12 October 2009.

8 Erasmus (1991:102f.).

9 Hinz/Ruppel (2008b:8ff.).

into international customary law. The major problem is to determine the point at which soft law becomes such law, i.e. hard law. This will be discussed below.

International environmental law comprises both hard law and soft law components. The sources of international law in general are listed in Article 38 of the Statute of the International Court of Justice (ICJ), the principal judicial organ of the United Nations:

1. The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:
 - a. international conventions, whether general or particular, establishing rules expressly recognised by the contesting states;
 - b. international custom, as evidence of a general practice accepted as law;
 - c. the general principles of law recognised by civilised nations;
 - d. subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law...

Considering that Article 38 of the Statute of the ICJ was first drafted in 1920, these provisions no longer reflect all the sources of today's international law. New developments in respect of sources of law have to be considered in addition to those recognised in Article 38.¹⁰ In the following paragraphs, however, only those four categories of sources of international law as outlined in Article 38 will be elaborated on, with a focus on their implications for environmental law-related concerns.

2.1 International Conventions: Multilateral Environmental Agreements (MEAs)

International conventions or treaties, as referred to in Article 38 of the ICJ, are defined by Article 2.1(a) of the 1969 Vienna Convention on the Law of Treaties as international agreements "concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation".

International environmental treaties or Multilateral Environmental Agreements (MEAs) as they are commonly referred to, regulate the relationships between states pertaining to the environment. Generally, the first objective of any MEA is the protection and conservation of the environment. However, MEAs will also be beneficial in economic, political or administrative regard. MEAs can protect public health, improve governance, empower the public to get involved, increase solidarity, enhance international political respect, and

¹⁰ The list of sources of international law can be supplemented by other sources of international law like duties *erga omnes* and *ius cogens*. *Estoppel* and acquiescence can be added to the list of sources of international law as well as unilateral legal acts. Cf. Dugard (2005: 27).

improve technical and financial assistance and networking.¹¹

As a general rule, MEAs are of a binding nature and are thus to be distinguished from other non-binding international instruments (soft law), which cannot be enforced, but rather serve a guiding role. The binding nature of MEAs derives from the *pacta sunt servanda* principle, which has been reaffirmed by Article 26 of the Vienna Convention on the Law of Treaties.

Although international law typically focuses on obligations among states, it has the potential to influence environmental law at the national level. In some cases the parties to such agreements are international governmental or non-governmental organisations instead of, or in addition to, states.

2.1.1 How MEAs are made

International treaties come into being in a multi-stage process.¹² Usually, a draft is the first step and is drawn up by such international organisations as the United Nations, the African Union, or the Council of Europe. As the next step, this draft is negotiated by its stakeholders: national delegations including government officials, scientists, and representatives of NGOs. The negotiation phase is closed by the adoption of an agreed text, which is subsequently signed by the representatives of the state who have been commissioned to this effect by their government. Certain treaties are signed after the closing session of the negotiations during a determined period. After the end of such period non-contracting states can adhere or accede to the treaty. After the signature of a treaty follows the ratification, which takes place at the national level and according to domestic law. National law stipulates, usually, that a treaty should be ratified by the head of the state after approval by parliament or accepted by the executive. How an MEA becomes applicable under national law depends on the constitutional provisions of the country in question. It follows either a monist or a dualist approach, as explained earlier in this chapter.¹³ The ratification process is in most cases concluded by the deposit of an instrument of ratification,¹⁴ approval or other communication to the secretariat of an international organisation and the treaty subsequently enters into force on a date determined by the treaty itself, in most cases after a certain number of instruments of ratification have been deposited or after a specific period of time has elapsed.

2.1.2 The General Scope of MEAs

International environmental law may be established on the global level, containing rules applicable for the entire, or at least almost the entire, international community.¹⁵ At regional

11 UNEP (2006a:44f.).

12 Cf. Sands (2003:128ff.); Dugard (2005:408ff.).

13 For a more detailed discussion on the relationship between international and municipal law see Dugard (2005:47ff.). Namibia follows the monist approach by virtue of Article 144 of the Constitution as has been stated earlier in this chapter.

14 Usually a document issued by the respective state, which states that the treaty has been ratified.

15 MEAs with effectively whole world membership include the Convention of Biological Diversity (CBD) and its protocol, the 2000 Cartagena Protocol on biosafety; the 1971 Ramsar Convention on Wetlands of International

level, international law creates a legal framework for a specific region, such as European environmental law (e.g. EC guidelines) or similarly within the African Union.¹⁶ A regional or continental scope may of course again be subdivided into smaller regional blocs, such as the SADC legal framework, often referred to as the sub-regional level.¹⁷ Bilateral environmental agreements are international treaties usually concluded between two states with shared natural resources such as rivers, lakes or parks.

As has been outlined, the geographic coverage of international agreements is one reason for the broad scope of international environmental law. One other reason is the variety of different sectors covered by this field of the law, such as water, land, biological diversity, air and climate, to name only a few. Thus, the number of international agreements directly or indirectly pertinent to the environment is extraordinarily high¹⁸ and no other area of law has generated such a large body of conventions on a specific topic as international environmental law has in the past decades.

2.1.3 Typical Structure of MEAs

Many MEAs do have common characteristics, use the same legal techniques and often have a similar structure.¹⁹ Like other international treaties, MEAs are typically arranged as follows: The Preamble, which can be helpful in interpreting the treaty, explains the motivations of the contracting parties but contains in itself no obligatory rules. The main part of a MEA includes substantive rules that define the obligations of the parties, measures of implementation, institutional provisions (e.g. to create treaty bodies such as the Conference of the Parties) and closing measures concerning the life of the treaty itself. Many MEAs have Annexes, which contain specific regulations concerning technical details such as lists of substances or activities, pollution standards, lists of protected species, etc.

2.1.4 Compliance and Enforcement of MEAs

Compliance with and enforcement of MEAs²⁰ are, as in other fields of the law, essential for ensuring that MEAs are not simply pieces of paper.

Importance; and the 1973 Washington Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) among others.

16 The MEA most relevant for Africa is the African Convention on the Conservation of Nature and Natural Resources.

17 The SADC Protocols pertinent to environmental issues are such sub-regional environmental agreements.

18 Kiss (2004:41) speaks of more than one thousand. UNEP's 2005 Register of International Treaties and other agreements in the field of the environment has 272 environmental agreements, not including bilateral agreements or treaties, where the focus is on other issues but which establish environmental obligations, such as the GATT/WTO or regional free trade agreements. The International Environmental Agreements Database Project lists 1538 Bilateral Environmental Agreements; 1041 Multilateral Environmental Agreements; and 259 other (non-multi, non-bi) Environmental Agreements; and 429 Environmental NON-Agreements (e.g., Declarations, Memoranda of Understanding) see <http://iea.uoregon.edu/page.php?query=home-contents.php>; last accessed 10 November 2010.

19 Cf. Kiss (2004:42).

20 For a detailed discussion on compliance and enforcement regarding MEAs see UNEP (2006a).

Compliance, meaning the fulfilment by the contracting parties of their obligations under MEAs, is ensured by different legal means. Compliance measures can be adopted by states or the secretariats and Conferences of Parties of specific MEAs, and MEAs themselves do often contain provisions on compliance or non-compliance for that matter.²¹ The competent body of a MEA²² can, where authorised to do so, regularly review the overall implementation of obligations under the MEA and examine specific difficulties.

MEAs have to be implemented by Parties to the Agreement by enacting and promulgating relevant laws, regulations, policies, and other measures and initiatives to meet their obligations. International organisations have developed general guidelines on compliance and enforcement of MEAs.²³ Compliance with MEAs is *inter alia* enhanced through national implementation plans, including monitoring and evaluation of environmental improvement; reporting and verification; establishment of compliance committees with appropriate expertise; and inclusion of compliance provisions and mechanisms within the MEA.²⁴

The effectiveness of MEAs has to be subject to review. In this regard, monitoring, involving the collection of data, reporting, requiring Parties to make regular, timely reports on compliance, using an appropriate common format, or verification of data and technical information in order to assist in ascertaining whether a party is in compliance, may be adequate measures in terms of strengthening compliance. State Parties may be obliged to undertake to submit reports on the measures they have adopted which give effect to the rights recognised in the MEAs and on the progress made. Article 26 of the Convention on Biological Diversity (CBD) is one example for review under a MEA. Parties are thereby required to report to the Conference of the Parties (COP) on measures taken to implement the convention and their effectiveness in achieving the objectives of the convention. One major problem regarding national reports under international agreements in general is the issue of non-submission by the respective deadlines, due to various reasons, including limited human, technical, and financial resources. Taking again the CBD as an example, it can be observed that as of 12 November 2010²⁵ only 153 out of 193 CBD Parties had submitted the fourth national report

21 See for example Article 34 of the Cartagena Protocol on Biosafety, Article XII of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), or Article 18 of the Kyoto Protocol to the UNFCCC in connection with Decision 27/CMP.1 on the Procedures and mechanisms relating to compliance under the Kyoto Protocol; available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf#page=92>; last accessed 12 November 2010.

22 Such as the Conference of Parties, with a secretariat, established under Articles 23-25 of the Convention on Biological Diversity.

23 In 2002, UNEP has adopted the Guidelines on Compliance with and Enforcement of Multilateral Environmental Agreements; other relevant guidelines include the 1999 Caribbean Guidelines for MEA Implementation; available at <http://www.pnuma.org/foroalc/esp/bbexb07i-MEAsImplementationintheCaribbean.pdf>; the 2002 Guiding Principles for Reform of Environmental Enforcement Authorities in Transition Economies of Eastern Europe, Caucasus and Central Asia (EECCA), developed by EECCA Member States and the Organisation for Economic Cooperation and Development (OECD); available at <http://www.oecd.org/dataoecd/36/51/26756552.pdf>; or the 2003 Guidelines for Strengthening Compliance with and Implementation of Multilateral Environmental Agreements (MEAs) in the ECE (UN Economic Commission for Europe) Region; available at <http://www.unep.org/env/documents/2003/ece/cep/ece.cep.107.e.pdf>; last accessed 20 November 2010.

24 Cf. the 2002 UNEP Guidelines on Compliance with and Enforcement of Multilateral Environmental Agreements.

25 According to <http://www.cbd.int/reports/>; last accessed on 12 November 2010.

that was due on 30 March 2009.²⁶ Namibia has submitted all four national reports under the CBD.

Provisions for settlement of disputes complement the provisions aimed at compliance with an agreement. Several forms of dispute settlement mechanisms, including good offices, mediation, conciliation, fact-finding commissions, dispute resolution panels, arbitration and other possible judicial arrangements are available depending on the specific provisions contained in the applicable MEA. The primary judicial organ of the United Nations is one competent body to hear certain disputes on environmental issues. Other environmental judicial bodies include the Law of the Sea Tribunal,²⁷ or the International Court of Environmental Arbitration and Conciliation.²⁸

While compliance generally applies to the international context, enforcement applies to the national context. Enforcement can be described as the range of procedures and actions employed by a state, its competent authorities and agencies to ensure that organisations or persons, potentially failing to comply with environmental laws can be brought or returned into compliance and/or punished through civil, administrative or criminal action.²⁹ Enforcement is essential to secure the benefits of MEAs, protect the environment, public health and safety, deter violations, and encourage improved performance.³⁰ Enforcement encompasses a set of legal measures which can be applied. Such measures include the adoption of laws and regulations, monitoring outcomes, and various enabling activities and steps that a state may take within its national territory to ensure implementation of an MEA. Furthermore, good enforcement programmes reinforce the credibility of environmental protection efforts and the legal system that supports them and ensures fairness for those who willingly comply with environmental requirements.³¹

Effective enforcement can *inter alia* be achieved by providing for responses in cases of contraventions of national environmental laws and regulations implementing multilateral environmental agreements (environmental law violations) or in cases of violations or breaches of national environmental laws and regulations that a state determines to be subject to criminal penalties under its national laws and regulations (environmental crimes).

2.2 International Customary Law

International customary law encompasses norms and rules that countries follow as a matter of custom and they bind all states in the world.³² It is, however, not clear-cut when exactly a principle becomes customary law and thus binding, a situation, which has led to, disputes among states.

26 See <http://www.cbd.int/reports/search/?type=nr-04>; last accessed on 12 November 2010.

27 http://www.itlos.org/start2_en.html; last accessed 12 November 2010.

28 <http://iceac.sarenet.es/>; last accessed 12 November 2010.

29 UNEP (2006a:294).

30 UNEP (2006a:289f.).

31 UNEP (2006a:33).

32 Sands (2003:143f.).

Two criteria have, however, crystallised with regard to the requirements for a rule to become international customary law.³³ The prerequisite for the first criterion, namely that of settled practice (*usus*), is a constant and uniform usage or widespread acceptance of a rule. The acceptance of an obligation to be bound (*opinio juris sive necessitatis*) is the second criterion.³⁴ Many international customary law rules relevant for the field of environmental law have been developed.³⁵ The principle that no state may use or permit to use its territory in such a manner as to cause injury to the territory of another state has for example become a principle of international customary law. This principle goes back to the Trail Smelter Arbitration in 1941³⁶ and was taken up by the Stockholm Declaration, repeated in the Rio Declaration and reaffirmed in the Nuclear Weapons Case.³⁷

The duty to warn other states promptly about emergencies of an environmental nature and environmental damages to which another state or states may be exposed is contained in the 1978 Principles Concerning Shared Resources, drafted by UNEP, and also contained in Article 192 of the 1982 UN Convention on the Law of the Sea. This duty was neglected by the government of the Soviet Union in the case of the Chernobyl disaster in 1986. As a consequence the 1986 Convention on Early Notification of a Nuclear Accident was adopted, which in Article 2 explicitly imposes a duty upon states to notify those states which are or may be physically affected of a nuclear accident.

33 These criteria, which are being applied by national courts as well, have been developed by international jurisprudence inter alia in the following cases: *Asylum case* 1950 ICJ Reports 266; *North Sea Continental Shelf Case (West Germany v The Netherlands and Denmark)* 1969 ICJ Reports 3; *Nicaragua Case (Nicaragua v US)* 1986 ICJ Reports 14.

34 For a detailed discussion see Sands (2003:143ff.) or Dugard (2005:29ff.).

35 For further reference see Sands (2003: 147ff.) and Kiss (2004:49).

36 *Trail Smelter Arbitration* (1938/1941) 3 RIAA 1905 Arbitral Tribunal: US and Canada.

37 Advisory Opinion, ICJ Rep. 1996, 226 ff. at para 64 ff.

2.3 General Principles of International Environmental Law

Overview of General Principles of International Environmental Law

- State sovereignty
- Cooperation
- Preservation and protection of the environment
- Precaution
- Prevention
- Polluter pays principle
- Information and assistance in environmental emergencies
- Information and consultation in cross-boundary relations
- The rights of individuals: information, participation and access to justice
- Access and benefit sharing regarding natural resources
- Good governance
- Sustainable development, integration and interdependence
- Inter-generational and intra-generational equity
- Responsibility for trans-boundary harm
- Transparency, public participation and access to information and remedies
- Common concern for humanity
- Rights of future generations
- Common heritage of mankind
- Common but differentiated responsibilities

One of the oldest principles of general international law is that of state sovereignty. This principle acknowledges that the state has exclusive jurisdiction on its territory, that the state is the only authority which can adopt obligatory legal rules for its territory, that the state has the executive power (administration, police), and that its tribunals are the only ones competent to judge litigation.³⁸ Especially with regard to environmental issues, the principle of state sovereignty faces several challenges, as, for example, pollution of the sea, rivers, lakes and the air and the migrating of species across territorial borders do not adhere to national territorial jurisdictions. It is therefore necessary that treaties and international customary law impose limitations on the sovereignty of states. In the so-called Sutherland Report,³⁹ *sovereignty* is described as one of the “most used and also misused concepts of international affairs and international law”. Acceptance of almost any treaty involves a transfer of a certain amount of decision-making authority away from states, and towards some international institution. Generally, this is exactly why sovereign nations agree to such treaties: they realise that the benefits of cooperative action that a treaty enhances are greater than the circumstances that exist otherwise.⁴⁰ It is undeniable that discrete, territorially bound state units no longer have exclusive control over the process of governance pertaining to the societies that live in their respective territories. In this context, governance has come to be conceptualised in multilevel terms,⁴¹ as power has become widely dispersed among a range of institutions and actors.

The general international obligation to cooperate with others in order to resolve problems

38 Sands (2003:235ff.).

39 Sutherland *et al.* (2005).

40 *Ibid.*

41 Cf. Winter (2006).

concerning the international community is essential to conserve the environment entirely and globally.⁴² This general principle is contained in and elaborated on in many MEAs, for example in Article 5 of the Convention of Biological Diversity (CBD), which underlines the importance of this principle. Cooperation is essential in order to rationally use shared resources; to eradicate poverty as a requirement for sustainable development; to strengthen capacity building by transfer of knowledge, information and technology; and also in order to secure funding and financial assistance.

The general principle of prevention can be considered the single most important intention of environmental law. The prevention principle dictates that action must be taken at an early stage, and if possible, before damage occurs. Legal mechanisms to meet the requirements of the prevention principle include the assessment of environmental harm (Environmental Impact Assessment), licensing or authorisation, the adoption of national and international standards, or the adoption of preventative strategies and policies.

Like the prevention principle, the precaution principle seeks to avoid environmental harm, but it is to be applied when the consequences of non-action can be particularly serious or irreversible. The precautionary approach aims to provide guidance in the development and application of environmental law where there is scientific uncertainty and has been formulated in Principle 15 of the Rio Declaration on Environment and Development as follows:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of a serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.⁴³

At the international and national levels, there has been increased recognition of the special needs of indigenous communities for access to benefits of the natural resources on which they rely for their livelihood. Their participation in both decision-making and in management is of high importance for the protection of local ecosystems because of their traditional knowledge and environmental awareness. The principle of access and benefit sharing of natural resources has been taken up in Principle 22 of the Rio Declaration:

Indigenous people and their communities, and other local communities, have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognise and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

The principle is also reflected in Article 8(j) of the Convention on Biological Diversity, which imposes on states the obligation to respect, preserve and maintain knowledge, innovations and practices of indigenous people and local communities, to encourage the equitable sharing of

42 Sands (2003:249ff.).

43 Sands (2003:267).

the benefits arising from the utilisation of indigenous knowledge, innovations and practices. Transparency and access to information are both required in order to guarantee effective public participation and sustainable development. Public participation in the context of sustainable development requires, among others, the opportunity to hold and express opinions, and to seek, receive and impart ideas. And it also requires a right of access to the reported, comprehensible and timely information held by governments and industrial concerns, on economic and social policies regarding the sustainable use of natural resources and the protection of the environment, without imposing undue financial burdens on applicants for information, and with adequate protection of privacy and business confidentiality. Conducting environmental impact assessments, with broad public participation in terms of access to information, and the right to make submissions on environmental and impact statements, is one legal mechanism to ensure public participation rights.

Rio Declaration Principle 10 refers to participation rights as follows:

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

2.4 Judicial Decisions and Teachings

International environmental law also incorporates the opinions of international courts and tribunals. While there are few such courts and tribunals and they have limited authority, their decisions carry much weight with legal commentators and are quite influential on the development of international environmental law. The courts are: the International Court of Justice (ICJ); the Law of the Sea Court; the European Court of Justice; the World Trade Organisation's Dispute Settlement Body (DSB); as well as regional treaty tribunals.

Other sources of international law are texts by some of the best-qualified legal scholars. In the jurisprudence of international judicial bodies writings of jurists do also play a role. Examples of this are the Nuclear Test Case⁴⁴ and the Gabčíkovo-Nagymaros Project case⁴⁵, which have without any doubt been influenced by academic and other writings.

44 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996; available at <http://www.icj-ij.org/docket/index.php?p1=3&p2=4&k=e1&case=95&code=unan&p3=4>; last accessed 5 November 2010. Another example is the case on maritime delimitation in the area between Greenland and Jan Mayden Denmark v Norway ICJ 14 June 1993 separate opinion by Weeramantry available at <http://www.icj-cij.org/docket/index.php?p1=3&k=e0&case=78&code=gjm&p3=4>; last accessed 4 November 2010.

45 ICJ *Gabčíkovo-Nagymaros Project* (Hungary/Slovakia), 25 September 1997. Judgement available at <http://www.icj-cij.org/docket/index.php?p1=3&p2=3&k=8d&case=92&code=hs&p3=4>; last accessed 5 November 2010.

3 Multilateral Environmental Agreements Relevant to Namibia

3.1 Namibia's Membership to Global MEAs⁴⁶

Namibia is a State Party to a large number of MEAs. This emphasises Namibia's strong environmental commitment. Every membership of a MEA brings about benefits as well as obligations for Namibia. Aside from the immediate benefits of advanced environmental protection, there are also long-term effects. For instance environment-related public health problems with a bearing on development are dealt with proactively and internationally.⁴⁷ Many MEAs improve environmental governance and generally promote transparency, participatory decision-making, accountability, conflict resolution, and have an indirect positive influence in terms of democratisation processes in any given developing country context. In some cases, it is beneficial to become a party to a MEA in order to obtain financial assistance for addressing environmental problems, and, more importantly, MEAs may also facilitate technical assistance, for example through knowledge and technology transfer.

There are also obligations. A significant amount of human, technical and financial resources is needed to ensure implementation of MEAs. In order for a MEA to have an impact on the ground, legislation, administrative measures, and capacity building for implementation and enforcement at the local and national levels are essential.

The following table lists the international treaties and related instruments in the environment field, to which Namibia is a party, and gives an overview of Namibia's obligations under international environmental law.

46 The information for this Section is based on UNEP's Register of international treaties and other agreements in the field of the environment. UNEP (2005c). A directory of major multilateral environmental agreements classified by global/regional scope and an overall chronological listing beginning from 1933 and an index of major non-legally binding instruments developed at UNEP (or under the aegis of UNEP) is available at http://www.unep.org/law/Law_instruments/index.asp; last accessed 12 November 2010.

47 UNEP (2006a:44).

Treaty / Agreement	Treaty/Agreement Particularities			Namibian Participation		
	Place of Adoption	Date of Adoption	Entry into Force	Ratification (R) Accession (Ac) Acceptance (At) Signature (S) Consent to be bound (P)	Date	Entry into Force
International Convention for the Conservation of Atlantic Tunas	Rio de Janeiro, Brazil	14.05.1966	21.03.1969	R	10.11.1999	10.11.1999
Convention on Wetlands of International Importance Especially as Waterfowl Habitat	Ramsar, Iran	02.02.1971	21.12.1975	Ac	23.08.1995	23.12.1995
Convention Concerning the Protection of the World's Cultural and Natural Heritage	New York, USA	16.11.1972	17.12.1975	At	06.04.2000	06.04.2000
Convention on International Trade in Endangered Species of Wild Fauna and Flora	Washington D.C., USA	03.03.1973	01.07.1975	Ac	18.12.1990	18.03.1991
Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973	London, UK	17.02.1978	02.10.1983	S	18.03.2003	18.03.2002
Convention on the Physical Protection of Nuclear Material	Vienna, Austria	26.10.1979	08.02.1987	Ac	02.10.2002	01.11.2002
Convention on the Conservation of Antarctic Marine Living Resources	Canberra, Australia	20.05.1980	07.04.1982	Ac	29.06.2000	29.06.2000
United Nations Convention on the Law of the Sea	Montego Bay, Jamaica	10.12.1982	16.11.1994	R	10.12.1982	18.04.1983
Protocol to Amend the Convention on Wetlands of International Importance Especially as Waterfowl Habitat	Paris, France	03.12.1982	01.10.1986	Ac	23.08.1995	23.08.1995
Vienna Convention for the Protection of the Ozone Layer	Vienna, Austria	22.03.1985	22.09.1988	Ac	20.09.1993	20.09.1993
Montreal Protocol on Substances that Deplete the Ozone Layer	Montreal, Canada	16.09.1987	01.01.1989	Ac	20.09.1993	20.09.1993

Treaty / Agreement	Treaty/Agreement Particularities			Namibian Participation		
	Place of Adoption	Date of Adoption	Entry into Force	Ratification (R) Accession (Ac) Acceptance (At) Signature (S) Consent to be bound (P)	Date	Entry into Force
Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal	Basel, Switzerland	22.03.1989	05.05.1992	Ac	15.05.1995	15.05.1995
[London] Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer	London, UK	29.06.1990	10.08.1992	R	06.11.1997	06.11.1997
United Nations Framework Convention on Climate Change	New York, USA	09.05.1992	21.03.1994	S/R	12.06.1992	16.05.1995
Convention on Biological Diversity	Rio de Janeiro, Brazil	05.06.1992	29.12.1993	S/R	12.06.1992	16.05.1997
Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage 1969	London, UK	27.11.1992	30.05.1996	Ac	18.12.2002	18.12.2003
Protocol of 1992 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971	London, UK	27.11.1992	30.05.1996	Ac	18.12.2002	18.12.2003
[Copenhagen] Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer	Copenhagen, Denmark	25.11.1992	14.06.1994	At	28.07.2003	28.07.2003
Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction	Paris, France	13.01.1993	29.04.2003	S/R	13.01.1993	24.11.1995
Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas	Rome, Italy	29.11.1993	24.04.2003	Ac	07.08.1998	07.08.1998

Treaty / Agreement	Treaty/Agreement Particularities			Namibian Participation		
	Place of Adoption	Date of Adoption	Entry into Force	Ratification (R) Accession (Ac) Acceptance (At) Signature (S) Consent to be bound (P)	Date	Entry into Force
United Nations Convention to Combat Desertification in those Countries Experiencing serious Drought and/or Desertification, Particularly in Africa	Paris, France	17.06.1994	26.12.1996	S/R	24.10.1994	16.05.1997
Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982	New York, USA	28.07.1994	28.07.1996	S/P	29.07.1994	28.07.1995
Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks	New York, USA	04.08.1995	11.12.2001	S/R	19.04.1996	08.04.1998
Comprehensive Nuclear-Test-Ban Treaty	New York, USA	10.09.1996	Not yet	S/R	24.09.1996	29.06.2001
Kyoto Protocol to the United Nations Framework Convention on Climate Change	Kyoto, Japan	11.12.1997	16.02.2005	Ac	04.09.2003	04.09.2003
Convention on the Law of Non-Navigational Uses of International Watercourses	New York, USA	21.05.1997	Not yet	S/R	19.05.2000	29.08.2001
Cartagena Protocol on Biosafety to the Convention on Biological Diversity	Montreal, Canada	29.01.2000	11.09.2003	S/R	24.05.2000	10.02.2005
Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean	Windhoek, Namibia	20.04.2001	13.04.2003	S/R	20.04.2001	26.02.2002
Stockholm Convention on Persistent Organic Pollutants	Stockholm, Sweden	22.05.2001	17.05.2004	Ac	24.06.2005	24.06.2005

Treaty / Agreement	Treaty/Agreement Particularities			Namibian Participation		
	Place of Adoption	Date of Adoption	Entry into Force	Ratification (R) Accession (Ac) Acceptance (At) Signature (S) Consent to be bound (P)	Date	Entry into Force
International Treaty on Plant Genetic Resources for Food and Agriculture	Rome, Italy	03.11.2001	29.06.2004	S/R	09.11.2001	07.10.2004
World Health Organisation Framework Convention on Tobacco Control	Geneva, Switzerland	21.05.2003	27.02.2005	S/R	29.01.2004	07.11.2005

These tables show, that the list of MEAs to which Namibia is a party is long and it would go beyond the scope of this publication to discuss all the above-mentioned agreements. However, some of the most important MEAs will be introduced in the following section.

The 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar) was adopted to stem the progressive encroachment on and loss of wetlands now and in the future, recognising the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value. Parties to the Convention are required to designate at least one national wetland for inclusion in a “List of Wetlands of International Importance” and to consider their international responsibilities for conservation, management and wise use of migratory stocks of wildfowl. Furthermore, parties establish wetland nature reserves, cooperate in the exchange of information and train experts for wetland management. Conferences on the conservation of wetlands and water-fowl are to be convened as the need arises.

The 1972 Convention Concerning the Protection of the World’s Cultural and Natural Heritage intends to establish an effective system of collective protection of the cultural and natural heritage of outstanding universal value, organised on a permanent basis and in accordance with modern scientific methods. Each State Party recognises that the duty of identification, protection, conservation and transmission to future generations of the cultural and natural heritage belongs primarily to State Parties, which commit themselves to integrate the protection of their heritage into comprehensive planning programmes, to set up services for the protection of their heritage, to develop scientific and technical studies and to take necessary legal, scientific, administrative and financial steps to protect their heritage, and to assist each other in the protection of the cultural and natural heritage. The Convention establishes a World Heritage Committee, to which each party will submit an inventory of its national heritage and which will publish a “World Heritage List” and a “List of World Heritage in Danger”. A World Heritage Fund is established, financed by the parties and other interested bodies.

The 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) aims to protect certain endangered species from over-exploitation by means of a system of import-export permits. The Convention includes animals and plants whether dead or alive, and any recognisable parts or derivatives thereof. Appendix I to the Convention covers endangered species, trade in which is to be tightly controlled; Appendix II covers species that may become endangered unless trade is regulated; Appendix III covers species that any party wishes to regulate and requires international cooperation to control trade therein; and Appendix IV contains model permits. Permits are required for species listed in appendices I and II stating that export/import will not be detrimental to the survival of the species. The CITES Secretariat is administered by UNEP and is located in Geneva, Switzerland.

The 1980 Convention on the Conservation of Antarctic Marine Living Resources intends to safeguard the environment and protect the integrity of the ecosystem of the seas surrounding Antarctica and to conserve Antarctic marine living resources. A Commission for the Conservation of Antarctic Marine Living Resources is established to inter alia facilitate research into and comprehensive studies of Antarctic marine living resources and the Antarctic marine ecosystems; to compile data on the status of and changes in populations of Antarctic marine living resources, and on factors affecting the distribution, abundance and productivity of harvested species and dependent or related species or populations; to ensure the acquisition of catch and effort statistics on harvested populations; to identify conservation needs and analyse the effectiveness of conservation measures; to formulate, adopt and revise conservation measures on the basis of the best scientific evidence available; and to implement a system of observation and inspection.

The 1982 United Nations Convention on the Law of the Sea (UNCLOS) was adopted to set up a comprehensive new legal regime for the sea and oceans and, as far as environmental provisions are concerned, to establish material rules concerning environmental standards as well as enforcement provisions dealing with pollution of the marine environment.

The 1985 Vienna Convention for the Protection of the Ozone Layer aims to protect human health and the environment against adverse effects resulting from modifications of the ozone layer. Parties undertake to cooperate in research concerning substances and process that modify the ozone layer and the effects on human health and the environment of such modifications, and on alternative substances and technologies; and in systematic observation of the state of the ozone layer. Furthermore, parties commit themselves to cooperate in formulation and implementation of measures to control activities that cause adverse modifications of the ozone layer, and, particularly, the development of protocols for such purposes, and to exchange scientific, technical, socio-economic, commercial and legal information relevant to the Convention, and cooperate in the development and transfer of technology and knowledge. The Convention has two annexes setting forth important issues for scientific research on and systematic observation of the ozone layer and describing the kinds of information to be collected and shared under its terms.

The 1992 United Nations Framework Convention on Climate Change (UNFCCC) was adopted to regulate levels of greenhouse gas concentration in the atmosphere, so as to avoid the occurrence of climate change on a level that would impede sustainable economic development, or compromise initiatives in food production. The parties are to protect the climate system for present and future generations. The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention. The parties should work in cooperation so as to obtain maximum benefit from initiatives in the control of the climate systems. National inventories on greenhouse gas emissions have to be prepared by the parties and programmes for the control of climate change have to be formulated and implemented. It is further provided to undertake cooperation in technology for the control of change in the climate system; incorporate suitable policies for the control of climate change

in national plans; and to undertake education and training policies that will enhance public awareness in relation to climate change. The developed country parties (and other parties listed in Annex I) commit themselves to take special measures to limit their anthropogenic emissions of greenhouse gases, and to enhance the capacity of their sinks and reservoirs for the stabilisation of such gases. The developed country parties (and other parties listed in Annex II) undertake to accord financial support to developing country parties, to enable the latter to comply with the terms of the Convention. The Convention establishes a Conference of Parties to be the supreme body of the Convention and to oversee the implementation.

The 1992 Convention on Biological Diversity (CBD) aims at conserving biological diversity, promoting the sustainable use of its components, and encouraging equitable sharing of the benefits arising out of the utilisation of genetic resources. Such equitable sharing includes appropriate access to genetic resources, as well as appropriate transfer of technology, taking into account existing rights over such resources and such technology. The CBD confirms the principle of national sovereignty over domestic natural resources, subject to respect for the rights of other states, but places a duty on parties to conserve biological diversity within their jurisdiction, as well as outside their jurisdiction in certain cases. The CBD provides for the cooperation between state parties, in preserving biological diversity in areas out of national jurisdiction and confers on state parties the responsibility for the formulation and implementation of strategies, plans or programmes for the conservation and sustainable use of biological diversity. Furthermore, state parties are required to monitor the elements of biological diversity, determining the nature of the urgency required in the protection of each category, and in sampling them, in terms of the risks to which they are exposed. One further obligation on states by the CBD is to provide for research, training, general education and the fostering of awareness, in relation to measures for the identification, conservation and sustainable use of biological diversity and for environmental impact assessment of projects that are likely to have significant adverse effects on biological diversity. Further important provisions of the CBD relate to access to genetic resources; access to transfer of technology, for application in the conservation and sustainable use of biological diversity; and on financial resources. The CBD establishes a Conference of Parties, with a Secretariat, to keep the implementation of the Convention under review.

The 1994 United Nations Convention to Combat Desertification in those Countries Experiencing serious Drought and/or Desertification, Particularly in Africa intends to combat desertification and mitigate the effects of drought in the countries affected through effective action at all levels supported by international cooperation and partnership arrangements in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in those areas. This Convention ensures participation of the public in relevant decision-making processes, facilitates national and local action, improves international cooperation and coordination, emphasises developing cooperation among various levels of actors in a country for sustainable use of land and water resources, and takes into full consideration the special needs and circumstances of affected developing countries.

CHAPTER 4

ENVIRONMENTAL LAW IN THE AFRICAN UNION (AU)

Oliver C. Ruppel

1 Introduction

The historical foundations of the African Union (AU) originated in the Union of African States, an early confederation that was established in the 1960s. The Organisation of African Unity (OAU) was established on 25 May 1963. On 9 September 1999, the heads of state and governments of the OAU issued the Sirte Declaration,¹ calling for the establishment of an African Union. The Declaration was followed by summits in Lomé in 2000, when the Constitutive Act of the African Union was adopted, and in Lusaka in 2001, when the Plan for the Implementation of the African Union was adopted. During the same period, the initiative for the establishment of the New Partnership for Africa's Development (NEPAD) was also established. The African Union was launched in Durban on 9 July 2002 by the then South African President, Thabo Mbeki,² at the first session of the Assembly of the African Union. The Union's administrative centre is in Addis Ababa, Ethiopia and the working languages are Arabic, English, French, Portuguese, and Swahili. The African Union has 54 member States with Morocco being the only African State that is not a member. Geographically, the African Union covers an area of 29,757,900 km² and the United Nations Population Division estimated a population total of 1,033,043,000 for 2010.³

Given the African continent's bounty of natural resources, the protection and conservation of the environment must be an overarching aim within the AU; this is reflected in the African Union's legal framework.

2 Structure of the AU

The Assembly is the supreme organ of the Union, and is composed of Heads of State and Government or their duly accredited representatives. The Assembly determines common policies. The Executive Council, composed of Ministers or Authorities designated by the Governments of Members States, is responsible to the Assembly and coordinates and makes decisions on common policies.

Together, a Chairperson, the Deputy Chairperson, eight Commissioners and Staff members form the Commission. Each Commissioner is responsible for one portfolio (peace and Security; political affairs; infrastructure and energy; social affairs; human resources, science

1 Named after Sirte, in Libya.

2 Thabo Mbeki was the African Union's first President.

3 Africa's entire population was estimated to be 1,033,043,000 in 2010, which includes the population of Morocco, estimated at 32,381,000. See <http://esa.un.org/unpp/p2k0data.asp>; last accessed 13 February 2012.

and technology; trade and industry; rural economy and agriculture; and economic affairs). The Commission is comparable to a secretariat and plays a central role in the day-to-day management of the AU. The Commission *inter alia* represents the Union and defends its interests; elaborates draft common positions of the Union; prepares strategic plans and studies for the consideration of the Executive Council; elaborates, promotes, coordinates and harmonises the programmes and policies of the Union with those of the Regional Economic Communities; and ensures the mainstreaming of gender in all programmes and activities of the Union. The Executive Council is assisted by the Permanent Representatives Committee and the following Specialised Technical Committees, which assist the Executive Council in substantive matters: The Committee on Rural Economy and Agricultural Matters; the Committee on Monetary and Financial Affairs; the Committee on Trade, Customs and Immigration Matters; the Committee on Industry, Science and Technology, Energy, Natural Resources and Environment; the Committee on Transport, Communications and Tourism; the Committee on Health, Labour and Social Affairs; and the Committee on Education, Culture and Human Resources. The Pan-African Parliament implements policies, while the Economic, Social and Cultural Council is an advisory organ composed of different social and professional groups of the Member States. The Peace and Security Council makes decisions on prevention, management and resolution of conflicts. The Financial Institutions will consist of the African Central Bank, the African Monetary Fund, and the African Investment Bank. The African Court of Justice and Human Rights will ensure compliance with the law as outlined in the following section.

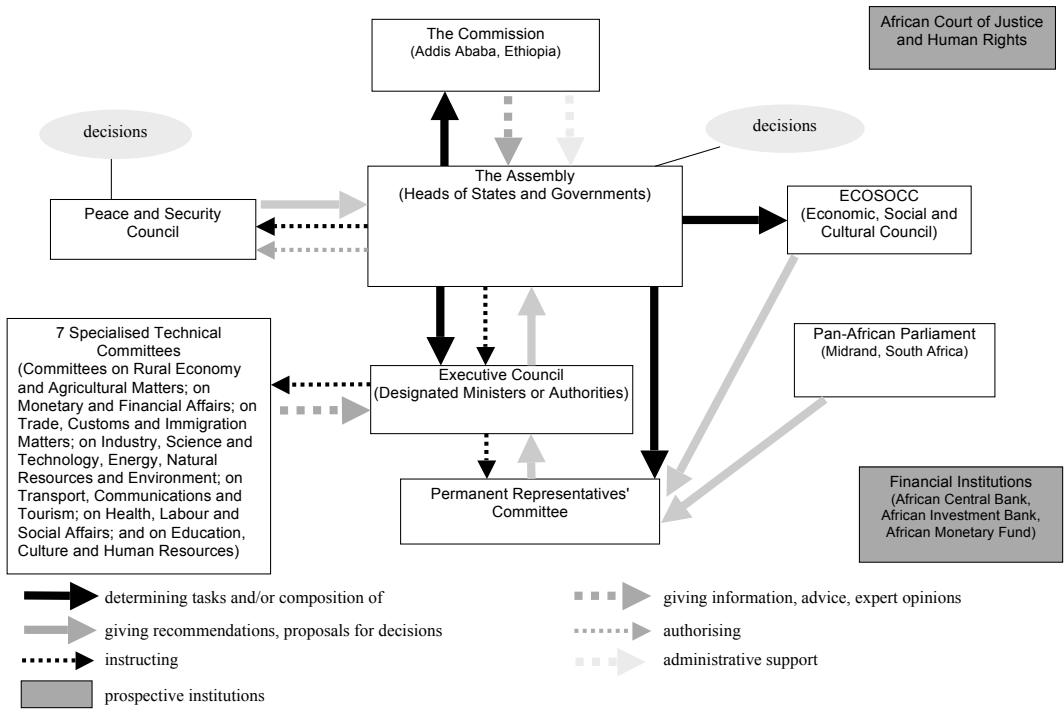


Chart compiled by Cord Luedemann based on Ouazghari:5.

3 The African Union's Judicial System and Consideration of Environmental Rights

The environmental agreements under the umbrella of the African Union each have their own provision on how disputes are to be settled. Alternative dispute resolution plays an important role in this regard as it is the favourable mechanism, as e.g. provided for in the African Convention for Nature Conservation. However, the African Court of Justice has the ultimate jurisdiction.

In 1998, the African Court on Human and Peoples' Rights (ACHPR) has been established by the Protocol to the African Charter on Human and Peoples' Rights on the Establishment of an African Court on Human and Peoples' Rights, which came into force in 2004. The ACHPR is situated in Arusha, United Republic of Tanzania and has received cases since June 2008.

In 2003, the African Court of Justice as ultimate organ of jurisdiction in the African Union was established by the Protocol of the Court of Justice of the African Union, which entered into force in February 2009. However, the Protocol on the Statute of the African Court of Justice and Human Rights adopted in 2008 during the African Union Summit of Heads of State and Government in Sharm El Sheikh, Arab Republic of Egypt provides for the 1998 and the 2003 Protocols to be replaced and the African Court on Human and Peoples' Rights and the Court of Justice of the African Union to be merged into a single Court to become what is now known as 'the African Court of Justice and Human Rights'. However, the 2008 Protocol on the merger of the courts has so far only been ratified by three⁴ States and ratification by 15 States is required for the Protocol to come into force. Once operational, the merged court will have two sections, a General Affairs Section and a Human Rights Section, both composed of eight Judges. The court will have jurisdiction over all disputes and applications referred to it, which *inter alia* relate to the interpretation and application of the AU Constitutive Act or the interpretation, application or validity of Union Treaties, as well as human rights violations.

The African Commission on Human and Peoples' Rights (hereafter African Commission) is a quasi-judicial body established by the 1981 African (Banjul) Charter on Human and Peoples' Rights (hereafter African Charter) and is responsible for monitoring compliance with the African Charter. The African Charter is a human rights treaty that already proclaims environmental rights in broadly qualitative terms. It protects the right of peoples both to the 'best attainable state of physical and mental health' (Article 16) and to a 'general satisfactory environment favourable to their development' (Article 24). Article 24 of the African Charter establishes a binding human-rights-based approach to environmental protection, linking the right to environment to the right to development.⁵

4 As of 7 February 2012, the Protocol has been ratified by Burkina Faso, Libya, and Mali. Cf. http://www.au.int/en/sites/default/files/Protocol%20on%20Statute%20of%20the%20African%20Court%20of%20Justice%20and%20HR_1.pdf; accessed 20 February 2012.

5 Van der Linde, M. & L. Louw. 2003. 'Considering the interpretation and implementation of article 24 of the African Charter on Human and Peoples Rights in light of the SERAC communication' In *African Human Rights Law Journal*, 3/1:167-187.

In the *Endorois* case,⁶ the African Commission concluded that several Articles of the African Charter have been violated in the course of the dispossession of their land through the creation of the Lake Hannington Game Reserve in 1973, and a subsequent re-gazetting of the Lake Bogoria Game Reserve in 1978 by the Government of Kenya. Among the rights found to have been violated was the Endorois' right to culture (Article 17 (1) and (2)) and their right to free disposition of natural resources (Article 21) as they were unable to access the vital resources in the Lake Bogoria region since their eviction from the Game Reserve. Moreover, the African Commission held that their right to development (Article 22) had been violated, as the Respondent State's failed to adequately involve the Endorois in the development process.⁷ The decision of the African Commission in the *Endorois* case,⁸ was influenced by provisions of Convention No. 169 of the International Labour Organisation (ILO) on Indigenous and Tribal Peoples in Independent Countries.⁹ The Convention *inter alia* provides criteria for describing the peoples it aims to protect; entails provisions regarding the principle of non-discrimination; calls for special measures to be adopted to safeguard the persons, institutions, property, labour, cultures and environment of indigenous and tribal peoples; recognises cultural and other specificities of indigenous and tribal peoples; and requires that on all issues that affect them, indigenous and tribal peoples are consulted and that these peoples are able to engage in free, prior and informed participation in policy and development processes.¹⁰

In the *Ogoni* case, the African Commission held, *inter alia*, that Article 24 of the African Charter imposed an obligation on the state to take reasonable measures to 'prevent pollution and ecological degradation, to promote conservation, and to secure ecologically sustainable development and use of natural resources'.¹¹ The *Ogoni* case is considered to be a landmark decision with regard to the effective protection of economic, social and cultural rights in Africa, particularly the protection of the right of peoples to a satisfactory environment. Article 24 of the African Charter should also be viewed together with the Bamako Convention and the first Organisation of African Unity (OAU) treaty on the environment, the Convention on the Conservation of Nature and Natural Resources, which predates the African Charter.

6 Communication 276/ 03 *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council/Kenya* available at http://www.achpr.org/english/Decison_Communication/Kenya/Comm.%20276-03.pdf; last accessed 12 February 2012.

7 The recommendation of the Commission was to recognise rights of ownership and restitution of Endorois ancestral land; ensure that the Endorois community has unrestricted access to Lake Bogoria and surrounding sites for religious and cultural rites and for grazing their cattle; pay adequate compensation to the community for all the losses suffered; pay royalties to the Endorois from existing economic activities and ensure that they benefit from employment possibilities within the Reserve; grant registration to the Endorois Welfare Committee; engage in dialogue with the Complainants for the effective implementation of these aforementioned recommendations and to report on their implementation.

8 *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v Kenya*.

9 The Convention came into force on 5 September 1991 and is available at <http://www.ilo.org/ilolex/cgi-lex/convde.pl?C169>; last accessed 12 February 2012.

10 It should be noted that of the 22 states that have ratified ILO Convention No. 169, as of February 2012 only one, namely Central African Republic, is from the African continent.

11 *The Social and Economic Rights Action Center (SERAC) & the Center for Economic and Social Rights (CESR) v Nigeria*.

The Revised African Convention on the Conservation of Nature and Natural Resources was adopted by the Second Ordinary Session of the AU Assembly of Heads of State and Government in Maputo, Mozambique, in July 2003. It has, however, not yet come into force. The recognition of a right to a satisfactory environment by the African Charter and progressive jurisprudence by the African Commission emphasise the issue of environmental protection from a human rights perspective and underline the linkage between climate change and human rights, in a modern holistic approach to one of the most burning issues of today.¹² The impacts of climate change on human rights have been explicitly recognised by the African Commission. In its AU Resolution 153 the African Commission called on the Assembly of Heads of State and Government to take all necessary measures to ensure that the African Commission is included in the African Union's negotiating team on climate change.¹³ In the same communication it decided to carry out a study on the impact of climate change on human rights in Africa.¹⁴

4 Environmental issues within the AU's general legal framework

The Constitutive Act of the African Union, which was adopted in Lomé, Togo in 2000, provides in Article 13 that the Executive Council coordinates and takes decisions on policies in areas of common interest to the Member States. This includes, foreign trade; energy, industry and mineral resources; food, agricultural and animal resources; livestock production and forestry; water resources and irrigation; and the environment and its protection.

The African Economic Community, the African Union's economic institution was established in 1991 by the Abuja Treaty Establishing the African Economic Community. Namibia signed this treaty in 1991. It contains specific provisions regarding environmental protection and the control of hazardous wastes. The Treaty contains broad economic objectives, which touch on the environment, firstly by the general objective of promoting economic, social and cultural development and the integration of African economies in order to increase economic self-reliance and to promote an indigenous and self-sustained development; and secondly, through the specific objective of ensuring the harmonisation and coordination of environmental protection policies, among the States Parties. The Treaty makes provision for several specialised technical committees, including a Committee on Industry, Science and Technology, Natural Resources and Environment. Each of these committees has the mandate to prepare projects and programmes in its sphere of duty, and of ensuring supervision and implementation of these.

Chapter VIII contains provisions with regard to food and agriculture, and provides for cooperation among member states in the development of rivers and lake basins, and the development and protection of marine and fisheries resources, and plant and animal protection. States Parties are required to ensure the development within their borders of certain basic

12 Ruppel (2010i)

13 ACHPR/Res. 153 (XLV09).

14 Cf. http://www.achpr.org/english/resolutions/resolution153_en.htm; last accessed 14 February 2012.

industries that are identified as conducive to collective self-reliance and to modernisation, and to ensure proper application of science and technology to a number of sectors that, according to Article 51, include energy and the conservation of the environment. States have the obligation to coordinate and harmonise their policies and programmes in the field of energy and natural resources, and to promote new and renewable forms of energy and, in line with Article 58, to promote a healthy environment, and, to this end, to adopt national, regional and continental policies, strategies and programmes and establish appropriate industries for environmental development and protection. The Treaty requires member states to take appropriate measures to ban the importation and dumping of hazardous wastes in their territories, and to cooperate among themselves in the trans-boundary movement, management and processing of such wastes, where these emanate from a member state.

The African Charter for Human and Peoples' Rights has progressively taken up the issue of environmental protection by explicitly incorporating a human right to environment, a third generation human right.¹⁵ Article 24 of the African Charter for Human and Peoples' Rights reads, "[a]ll peoples shall have the right to a general satisfactory environment favourable to their development".

15 See Glazewski (2000:17); Ruppel (2008a) and the Chapter on Human Rights and the Environment in this book. For a detailed discussion on the right to environment under the African Charter on Human and Peoples' Rights see also Mekouar (2001).

5 Specific Environmental Conventions

OVERVIEW						
Treaty / Agreement	Treaty / Agreement Particularities				Namibian Participation	
	Date of Adoption	Date Entry into Force	Date of Last Signature / Deposit	Date of Signature	Date of Ratification / Accession	Date Deposited
Phyto-Sanitary Convention for Africa	13.09.1967	06.10.1992	06.10.1992	-	-	-
African Convention on the Conservation of Nature and Natural Resources	15.09.1968	16.06.1969	27.01.2012	-	-	-
Bamako Convention on the Ban of the Import into Africa and the Control of Trans-boundary Movement and Management of Hazardous Wastes within Africa	01.01.1991	22.05.2008	31.05.2011	-	-	-
African Maritime Transport Charter	11.06.1994	-	27.01.2012	13.07.1999	-	-
The African Nuclear-Weapon-Free Zone Treaty (Pelindaba Treaty)	11.04.1996	15.07.2001	01.03.2012	11.04.1996	06.02.2012	01.03.2012
African Convention on the Conservation of Nature and Natural Resources (Revised Version)	01.07.2003	-	18.04.2012	09.12.2003	-	-
African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa	23.10.2009	-	25.04.2012	23.10.2009	-	-
Revised African Maritime Transport Charter	26.07.2010	-	27.01.2012	-	-	-

Table compiled by author based on information from <http://www.au.int/en/treaties>.

5.1 The African Convention on Conservation of Nature and Natural Resources, 1968

The 1968 African Convention on the Conservation of Nature and Natural Resources (also referred to as the African Nature Convention or the Algiers Convention), and the forerunner to the 2003 Revised Algiers Convention, which is outlined in the next paragraph, is arguably the centrepiece of the AU's environmental texts.

This regional African Convention was originally adopted in Algiers in 1968 under the auspices of the Organisation of African Unity (OAU) and came into force in 1969. As such it was the successor to the 1900 Convention for the Preservation of Wild Animals, Birds and Fish in Africa, which was later superseded by the 1933 Convention Relative to the Preservation of Fauna and Flora in their Natural State (the London Convention). The need for a treaty to address nature conservation had already been expressed in the Arusha Manifesto of 1961.¹⁶ Hence, in 1963, the African Charter for the Protection and the Conservation of Nature was adopted, followed soon after by the Algiers Convention.

The objectives of the 1968 Convention encouraged individual and joint action for the conservation, utilisation and development of soil, water, flora and fauna for the present and future welfare of mankind, from an economic, nutritional, scientific, educational, cultural and aesthetic point of view. To this end, states undertake to adopt the measures necessary to ensure conservation, utilisation and development of soil, water, floral and faunal resources in accordance with scientific principles and with due regard to the best interests of the people (Article II); to take effective measures to conserve and improve the soil and to control erosion and land use (Article IV); and to establish policies to conserve, utilise and develop water resources, prevent pollution and control water use (Article V). Furthermore, the Convention imposes on states the obligation to protect flora and ensure its best utilisation, the management of forests and control of burning, land clearance and overgrazing (Article VI); and to conserve faunal resources and use them wisely, manage populations and habitats, control hunting, capture and fishing, and prohibit the use of poisons, explosives and automatic weapons in hunting (Article VII). States are required to tightly control traffic in trophies, to prevent trade in illegally killed and obtained trophies and to establish and maintain conservation areas (Article X). A list of protected species that enjoy full total protection, and a list of species that may be taken only with authorisation is part of the Convention.

5.2 The Revised Algiers Convention, 2003

The Algiers Convention was revised in 2003 (Maputo) to take into account recent developments on the African environment and natural resources scenes, while bringing the Convention to the level and standard of current multilateral environmental agreements'.¹⁷ The revised Convention,

16 IUCN (2006:4).

17 Decision of the Revised 1968 African Convention (Algiers Convention) on the Conservation of Nature and Natural Resources, Doc. EX/CL/50(III), Assembly/AU/Dec. 9(II).

which was adopted by the African Union in Mozambique in July 2003,¹⁸ was described as ‘the most modern and comprehensive of all agreements concerning natural resources’.¹⁹

As of May 2012, 39²⁰ of the 54 member states have signed the Convention, while only eight member states²¹ have deposited their instrument of ratification.²² The revised Convention thus still has to come in force, which will be 30 days after 15 countries have deposited their ratification instruments. Namibia, not being a signatory to the 1968 Convention, signed the revised Convention in December 2003, while no instrument of ratification has been deposited as of yet.

The revised Convention follows a comprehensive and general approach to environmental protection. It defines natural resources, addresses economic and social development goals, and stresses the necessity to work closely together towards the implementation of global and regional instruments supporting the goals of the Rio Declaration and Agenda 21.²³

The Preamble sets the tone by providing that its ‘objectives would be better achieved by amending the 1968 Algiers Convention by expanding elements related to sustainable development’. In this vein, article 4, titled Fundamental Obligation, states:

The Parties shall adopt and implement all measures necessary to achieve the objectives of this Convention, in particular through preventive measures and the application of the precautionary principle, and with due regard to ethical and traditional values as well as scientific knowledge in interest of present and future generations.

The main objective of the Convention is to enhance environmental protection, to foster the conservation and sustainable use of natural resources, and to harmonise and coordinate policies in these fields with a view to achieving ecologically rational, economically sound and socially acceptable development policies and programmes. In realising these objectives, the Parties should be guided by the principles of a right to a satisfactory environment and the right to development – the so-called third-generation human rights.²⁴ Parties are required to adopt and implement all measures necessary to achieve the objectives of the Convention, in particular through preventive measures and the application of the precautionary principle, and with due regard to ethical and traditional value as well as scientific knowledge in the interest of present and future generations (Article IV).

18 At the second ordinary session of the African Union Assembly held in Maputo, Mozambique in July 2003.

19 Kiss/Shelton (2007:183).

20 The Convention has been signed by Angola, Benin, Burkina Faso, Burundi, Chad, Cote d’Ivoire, Comoros, the DRC, Congo, Djibouti, Equatorial Guinea, Ethiopia, Gambia, Ghana, Guinea-Bissau, Guinea, Kenya, Libya, Lesotho, Liberia, Madagascar, Mali, Mozambique, Namibia, Nigeria, Niger, Rwanda, São Tomé and Príncipe, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia and Zimbabwe.

21 I.e. Burundi, Comoros, Ghana, Libya, Lesotho, Mali, Niger and Rwanda.

22 See <http://www.africaunion.org/root/au/Documents/Treaties/List/Revised%20Convention%20on%20Nature%20and%20Natural%20Resources.pdf>; last accessed 25 October 2010

23 IUCN (2006:5ff.).

24 IUCN (2006:6).

The provisions of the Convention address the following areas:²⁵ Land and soil (Article VI), water (Article VII), vegetation cover (Article VIII), species and genetic diversity (Article IX), protected species (Article X), trade in specimens and products thereof (Article XI), conservation areas (Article XII), process and activities affecting the environment and natural resources (Article XIII), sustainable development and natural resources (Article XIV), military and hostile activities (Article XV), procedural rights (Article XVI), traditional rights of local communities and indigenous knowledge (Article XVII), research (Article XVIII), development and transfer of technology (Article XIX), capacity building, education and training (Article XX), national authorities (Article XXI), cooperation (Article XXII), compliance (Article XXIII), liability (Article XXIV), and exceptions (Article XXV).

The Conference of the Parties and the Secretariat are established by Articles XXVI and XXVII respectively. Article XXXIV relates to the relationship with the 1968 Algiers Convention and provides that for Parties that are bound by the revised Convention, only this Convention is to apply. The relationship between Parties to the original Convention and Parties to this Convention is to be governed by the provisions of the original Convention (Article XXXIV). It has to be noted that unlike its predecessor, the 2003 Convention excludes reservations, which reflects the necessity for the Parties to apply common solutions to common problems. If the Parties had the right to make reservations, differing obligations would jeopardise the attainment of the Convention's objectives.²⁶

Disputes regarding the interpretation and application of the Convention are primarily subject to alternative dispute resolution otherwise the African Court of Justice has jurisdiction.

5.3 Bamako Convention on the Ban of the Import into Africa and the Control of Trans-boundary Movement and Management of Hazardous Wastes within Africa

The Convention was adopted in Bamako, Mali on 30 January 1991 and entered into force on 22 April 1998. As of May 2012, it had 34 signatories, of which 24 had ratified the Convention. As of May 2012, Namibia had not become a Party to this Convention.

The Convention creates a framework of obligations to strictly regulate the trans-boundary movement of hazardous wastes to and within Africa. The Bamako Convention in Article 3 categorises hazardous wastes and enumerates general obligations of States Parties in respect of the enforcement of a ban on hazardous waste import, and on the dumping of hazardous wastes at sea and internal waters in respect of waste generation, and the adoption of precautionary measures. States are furthermore required to establish monitoring and regulatory authorities to report and act on trans-boundary movement of hazardous wastes. A secretariat to serve a Conference of the Parties is established. A list of categories of wastes which are hazardous waste and a list of hazardous characteristics are annexed to the Bamako Convention as well

25 For a discussion on each of these areas see IUCN (2006:8ff.).

26 IUCN (2006:7).

as annexes on disposal operations; information to be provided on notification; information to be provided on the movement document; and on arbitration.

Included as part of the 2003 Convention are three Annexes on the Definition of Threatened Species, Conservation Areas, and on Prohibited Means of Taking.

5.4 The Revised African Maritime Transport Charter

Considering the importance of cooperation among African countries in the maritime transport sector and in order to find appropriate solutions to the problems impeding the development this sector, the Charter was adopted in 1994. Namibia has signed the Charter in 1999, which has not come into force as of yet.²⁷ In 2010, the Revised African Maritime Transport Charter has been adopted. This Charter has so far been signed by 11 member states, not by Namibia. Ratification by 15 states is required for the Charter to come into force. However, no instrument of ratification has been deposited as of yet. The revised African Maritime Transport Charter, in contrast to its predecessor, puts a strong emphasis on the protection of the marine environment. The Charter recognises the interdependence between economic development and a sustainable policy for the protection and preservation of the marine environment. One of the objectives of the Charter is to develop and promote mutual assistance and cooperation between States Parties in the area of maritime safety, security and protection of the marine environment. Article 28 provides that parties are to seek intensify their efforts to ensure the protection and preservation of the marine environment and to promote measures aimed at preventing and combating pollution incidents arising from marine transport. Furthermore, Parties “commit themselves to the creation of a sustainable compensation regime to cover marine incidents of pollution of the sea that are not covered by existing international compensation regimes.”

5.5 The African Nuclear Free Zone Treaty (Treaty of Pelindaba)

The Treaty, to which Namibia became a signatory in April 1996, entered into force in August 2009²⁸. Namibia’s instrument of ratification has been deposited in March 2012. The Treaty establishes the African nuclear-weapon-free zone, thereby achieving, inter alia, the promotion of regional cooperation for the development and practical application of nuclear energy for peaceful purposes in the interest of sustainable social and economic development of the African continent, and keeping Africa free of environmental pollution by radioactive wastes and other radioactive matter.

Each Party has the obligation to renounce nuclear explosive devices, prohibit in its territory the stationing of any nuclear explosive device, and prohibit testing of nuclear explosive devices. Any capability for the manufacture of nuclear explosive devices has to be declared and Parties undertake to dismantle and destroy any nuclear explosive device, destroy facilities for the

²⁷ As of May 2012, 13 States have ratified the charter, while ratification of two-thirds of the member States is required for the Charter to come into force.

²⁸ <http://www.au.int/en/sites/default/files/pelindaba%20Treaty.pdf>.

manufacture of nuclear explosive devices or where possible to convert them to peaceful uses. Furthermore, the measures contained in the Bamako Convention on the Ban of the Import into Africa and Control of Trans-boundary Movement and Management of Hazardous Wastes within Africa have to be implemented according to Article 7 in so far as it is relevant to radioactive waste and not to take any action to assist or encourage the dumping of radioactive wastes and other radioactive matter anywhere within the African nuclear-weapon-free zone. The use of nuclear science and technology for economic and social development is to be promoted, including cooperation under the African Regional Cooperation Agreement for Research, Training and Development Related to Nuclear Science and Technology. Each Party undertakes not to take, or assist, or encourage any action aimed at an armed attack by conventional or other means against nuclear installations in the African nuclear weapon-free zone. The Treaty of Pelindaba establishes the African Commission on Nuclear Energy for the purpose of ensuring compliance with their undertakings under the Treaty. Annual reports have to be submitted by the Parties to the Commission and a Conference of the Parties is to be convened.

The Treaty has four Annexes, including a Map of the African-nuclear free zone; and Annexes on Safeguards of the International Atomic Energy Agency and on the African Commission on Nuclear Energy; and an Annex on the complaints procedure and settlement of disputes.

5.6 The Phyto-Sanitary Convention for Africa

The Phyto-Sanitary Convention for Africa was adopted in Kinshasa, DRC, on 13 September 1967. The Convention does not contain any provision relating to its entry into force. However, as of May 2012, 10 member States have deposited their instruments of ratification. The aim of this Convention is to control and eliminate plant diseases in Africa and prevent the introduction of new diseases. To this end, Parties undertake to control import of plants and to take measures of quarantine, certification or inspection in respect of living organisms, plants, plant material, seeds, soil, compost and packing material. Namibia is not a party to this Convention.

5.7 The African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa

The African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (hereafter the Kampala Convention)²⁹ was adopted on 23 October 2009 in Kampala. So far, the Kampala Convention has 35 signatories. Eleven countries³⁰ have so far ratified the Kampala Convention and it has thus not entered into force.³¹ Namibia signed

29 Text available online at [http://www.au.int/en/sites/default/files/AFRICAN_UNION_CONVENTION_FOR_THE_PROTECTION_AND_ASSISTANCE_OF_INTERNALLY_DISPLACED_PERSONS_IN_AFRICA_\(KAMPALA_CONVENTION\).pdf](http://www.au.int/en/sites/default/files/AFRICAN_UNION_CONVENTION_FOR_THE_PROTECTION_AND_ASSISTANCE_OF_INTERNALLY_DISPLACED_PERSONS_IN_AFRICA_(KAMPALA_CONVENTION).pdf).

30 As of 4 January 2012, the following Member States have ratified the Convention: Benin, Central African Republic, Chad, Gabon, Gambia, Guinea-Bissau, Lesotho, Sierra Leone, Togo, Uganda and Zambia.

31 Ratification of 15 Member States is required for the Convention to come into force.

the Convention in 2009, however, ratification is still pending. The Convention is the first regional legal instrument in the world containing legal obligations for states with regard to the protection and assistance of Internally Displaced Persons. It applies to displacement caused by a wide range of causes including conflict and human rights violations but also to natural or man-made disasters and has thus an environmental component. Member states commit themselves to establish early warning systems and adopt disaster preparedness and management measures to prevent displacement caused by natural disaster. The Convention provides standards for the protection of internally displaced people from arbitrary displacement, protection of internally displaced people while they are displaced and durable solutions to their displacement.

6 Selected Institutions and Initiatives Particularly Relevant for Environmental Protection

6.1 The African Ministerial Conference on the Environment (AMCEN)

The African Ministerial Conference on the Environment (AMCEN) has a strong regional and sub-regional focus. AMCEN thus builds on the potential that Regional Economic Communities (RECs) have to integrate adaptation measures into regional policies and socio-economic development.³² AMCEN is a permanent forum where African ministers of the environment discuss matters of relevance to the environment of the continent. It was established in 1985 when African ministers met in Egypt and adopted the Cairo Programme for African cooperation. The Conference is convened every second year. In the 2010 Bamako Declaration on the Environment for Sustainable Development, at the thirteenth session of the African Ministerial Conference on the Environment, the Conference's contribution in providing political guidance and leadership on environmental management to Africa since its creation in 1985 in Cairo was appreciated. AMCEN was established to provide advocacy for environmental protection in Africa; to ensure that basic human needs are met adequately and in a sustainable manner; to ensure that social and economic development is realised at all levels; and to ensure that agricultural activities and practices meet the food security needs of the region.

The adequate response to these challenges needs to be aligned with national and regional strategies for development, poverty alleviation, economic growth and the enhancement of human well-being, while increasing resilience to the physical impacts of climate change. The African Heads of State and Government meeting at the seventeenth session of the AU Summit held in July in Malabo, Equatorial Guinea, the fourth session of the African Ministerial Conference on Environment held in September 2011 in Bamako, Mali, and most recently the Seventh Session of the Committee on Food Security and Sustainable Development and the Africa Regional Preparatory Conference on Sustainable Development (Rio+20) held in

32 Scholtz (2010).

Addis Ababa, Ethiopia, in October 2011, all identified opportunities and challenges in the transition to green economy with links to the achievement of the MDGs, climate change and sustainable development. In recognition of AMCEN's mandate which includes guidance in respect of key issues related to multilateral environmental agreements, African governments requested that AMCEN should facilitate the provision of information to countries that would assist them towards translating available climate science and current international climate policies in their effort to move towards practical implementation in the context of sustainable development. For this purpose AMCEN prepared a Guidebook towards this end which informs on climate change matters including science, governance, technological, financial and capacity building needs as well as opportunities for effective actions towards sustainable development.³³

6.2 The Peace and Security Council (PSC)

Article 3 of the AU Constitutive Act contains the objectives of the AU, including, among other things, the promotion of sustainable development, international cooperation, continental integration, and the promotion of scientific and technological research to advance development of the continent. In the Protocol relating to the Establishment of the Peace and Security Council (PSC) of the African Union, member states committed themselves to various guiding principles (Article 4), including 'early responses to contain crises situations', the recognition of the 'interdependence between socio-economic development and the security of peoples and States'. Moreover, in Article 6 of the AU Constitutive Act, the functions of the PSC are outlined as, among others, the promotion of peace, security and stability in Africa; early warning and preventive diplomacy; peace-making; humanitarian action and disaster management. All of the aforementioned provisions provide a clear mandate for addressing environmental problems, especially when it comes to natural or man-made disasters.

6.3 The New Partnership for Africa's Development (NEPAD)

The New Partnership for Africa's Development (NEPAD) was adopted in 2001 in Lusaka, Zambia by African Heads of State and the Government of the OAU in 2001 and was ratified by the AU in 2002. South Africa is a founding member-country of NEPAD. Its overall aim is to promote partnership and cooperation between Africa and the developed world and it envisages the economic and social revival of Africa. Its founding document states:

This New Partnership for Africa's Development is a pledge by African leaders, based on a common vision and a firm and shared conviction, that they have a pressing duty to eradicate poverty and to place their countries, both individually and collectively, on a path of sustainable growth and development, and at the same time to participate actively in the world economy and body politic. The Programme is anchored on the determination of Africans to extricate themselves and the continent from the malaise of underdevelopment and exclusion in a globalising world.³⁴

33 Cf. AMCEN (2011).

34 NEPAD founding document available at <http://www.dfa.gov.za/au.nepad/nepad.pdf>; last accessed 1 March 2010.

NEPAD includes an environmental component, in that

It has been recognised that a healthy and productive environment is a prerequisite for the New Partnership for Africa's Development, that the range of issues necessary to nurture this environmental base is vast and complex, and that a systematic combination of initiatives is necessary to develop a coherent environmental programme.³⁵

NEPAD recognises that the region's environmental base must be nurtured, while promoting the sustainable use of its natural resources. To this end, the environmental initiative targets eight sub-themes for priority intervention:

- combating desertification;
- wetland conservation;
- invasive alien species control;
- coastal management;
- global warming;
- cross-border conservation areas;
- environmental governance; and
- financing.

A process aimed at a specific NEPAD Environment Action Plan commenced early in the NEPAD initiative, and a framework for the action plan was endorsed by the African Ministerial Conference on the Environment (AMCEN) in 2002 by the AU in the same year. The Environment Action Plan is underpinned by the notion of sustainable development in that it takes account of economic growth, income distribution, poverty eradication, social equity and better governance.

³⁵ Preamble to Ch. 8 of the NEPAD documentation, titled The Environmental Initiative; see generally Van der Linde (2002).

CHAPTER 5

ENVIRONMENTAL LAW IN THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC) AND CROSS-CUTTING REGIMES

Oliver C. Ruppel

1 Introduction

Environmental concerns are, similar to the protection and promotion of human rights, not at the heart of the constitutive acts of regional economic communities (RECs) like SADC. However, environmental concerns have, at least to some extent, found their way into the legal framework of most RECs.¹

SADC was established in Windhoek in 1992 as the successor to the Southern African Development Coordination Conference (SADCC), which was founded in 1980. SADC currently counts 15 states among its members, namely Angola, Botswana, the Democratic Republic of Congo (DRC), Lesotho, Madagascar², Malawi, Mauritius, Mozambique, Namibia, the Seychelles,³ South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe.

In founding SADC, environmental protection was explicitly included. The Declaration and Treaty of SADC lays down in Article 5(g) as one of SADC's objectives⁴ to "achieve sustainable utilisation of natural resources and effective protection of the environment". In order to achieve this, member states are, amongst others⁵, called to seek to harmonise their political and socio-economic policies and plans towards this aim and in particular to push forward the institutional development of environmental protection. Considering the multitude of environmental issues in single SADC countries and within SADC as a region, it is of utmost importance to achieve the objective of Article 5(g) of the SADC Treaty to the best possible extent.

1 For more details see Ruppel (2012e).

2 Madagascar was suspended in 2009 after Andry Rajoelina seized power from elected President Marc Ravalomanana in a military coup.

3 The Seychelles was a member of SADC from 1997 to 2004; it re-joined SADC in 2008.

4 Other objectives of SADC are to: achieve development and economic growth and alleviate poverty; evolve common political values, systems and institutions; promote peace and security; achieve collective self-reliance, and the interdependence of Member States; maximise productive employment and utilisation of resources of the Region; and to consolidate the long standing historical, social and cultural affinities and links among the people of the region.

5 Other means to achieve the objectives of SADC include: Eliminating obstacles to the free movement of capital and labour, goods and services, and of the people of the region among Member States; promoting the development, transfer and mastery of technology; improving economic management and performance through regional co-operation; securing international understanding, co-operation and support; and mobilising the inflow of public and private resources into the region.

Important Environmental Issues in SADC Countries

<p>Angola</p> <ul style="list-style-type: none"> • Threats to Biodiversity • Access to Potable Water • Overfishing and Coastal Degradation <p>Botswana</p> <ul style="list-style-type: none"> • Overgrazing and Desertification • Water Scarcity and Urbanisation • Wildlife of the Okavango Delta <p>Congo, Democratic Republic of the</p> <ul style="list-style-type: none"> • Wildlife Poaching • Deforestation • Mining and Ecosystem Degradation <p>Lesotho</p> <ul style="list-style-type: none"> • Degradation of Rangelands • Threats to Biodiversity in the Lesotho Highlands • Water Resource Management and Pollution <p>Madagascar</p> <ul style="list-style-type: none"> • Soil Erosion • Endemism and Threats to Biodiversity • Deforestation 	<p>Malawi</p> <ul style="list-style-type: none"> • Land Scarcity and Soil Erosion • Deforestation for Fuelwood • Water Pollution and Aquatic Biodiversity <p>Mauritius</p> <ul style="list-style-type: none"> • Coastal Water Pollution • Threats to Biodiversity <p>Mozambique</p> <ul style="list-style-type: none"> • Water Access and Natural Disasters • Land Use • Protecting Wildlife and Forests <p>Namibia</p> <ul style="list-style-type: none"> • Land Degradation and Desertification • Aridity and Water Scarcity • Threats to Biodiversity <p>Seychelles</p> <ul style="list-style-type: none"> • Severe Weather and Coastal Erosion • Loss of Mangrove Forests and Protection of Coral Reefs <p>South Africa</p> <ul style="list-style-type: none"> • Water Availability and Quality • Land Degradation • Threats to Biodiversity 	<p>Swaziland</p> <ul style="list-style-type: none"> • Population Encroachment and Land Degradation • Irrigation and Soil Degradation • Threats to Biodiversity and Invasive Alien Species <p>United Republic of Tanzania</p> <ul style="list-style-type: none"> • Water Pollution and Aquatic Ecosystems • Land Degradation and Deforestation • Threats to Biodiversity and Ecosystems <p>Zambia</p> <ul style="list-style-type: none"> • Copper Mining and Water and Air Pollution • Deforestation and Wildlife Depletion • Urbanisation <p>Zimbabwe</p> <ul style="list-style-type: none"> • Land Degradation and Deforestation • Water Access and Drought • Wildlife Poaching and the Black Rhinoceros
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Source: Compiled by author based on UNEP (2008)

2 Heterogeneity of SADC States

SADC Countries	Surface Area (sq. km) ¹	Surface (% of total SADC) ¹	Population (Mio Persons) ²	GDP (2011 Estimates in Billion USD) ²	GDP per Capita (2011 Estimates in USD) ²	HDI (2011 Estimates) ³	HDI Rank ³
Angola	1,246,700	12.92	19.625	99.325	5,061.252	0.486	148
Botswana	566,730	5.87	1.853	16.390	8,843.914	0.633	118
DRC	2,267,050	23.50	72.571	15.306	210.915	0.286	187
Lesotho	30,360	0.31	2.588	2.690	1,039.532	0.450	160
Madagascar	581,540	6.03	21.851	9.359	428.327	0.480	151
Malawi	94,280	0.98	16.166	5.662	350.261	0.400	171
Mauritius	2,030	0.02	1.289	10.982	8,519.680	0.728	77
Mozambique	786,380	8.15	22.017	12.141	551.417	0.322	184
Namibia	823,290	8.53	2.138	13.015	6,087.231	0.625	120
Seychelles	460	0.00	0.089	0.993	11,116.899	0.773	52
South Africa	1,214,470	12.59	50.591	422.037	8,342.161	0.619	123
Swaziland	17,200	0.18	1.176	3.917	3,332.125	0.522	140
Tanzania	885,800	9.18	42.176	23.197	55.006	0.466	152
Zambia	743,390	7.71	13.585	18.408	1,355.054	0.430	164
Zimbabwe	386,850	4.01	12.575	9.242	734.968	0.376	173
Total	9,646,530		280.201	662.664			

¹ Source: World Bank Development Indicators

² Source: IMF World Economic Outlook Database (September 2011)

³ Source: UNDP

The heterogeneity of SADC member states is not only reflected by surface area, population figures, size of the domestic markets, per capita incomes, the endowment with natural resources and the social and political situation, but also by the variety of legal systems applied in different member states.⁶ In the states of sub-Saharan Africa, the concept of legal pluralism is predominant.⁷ In view of such heterogeneity within SADC it is of increasing significance for SADC member states to harmonise the law by means of implementation and transformation of SADC Protocols aiming to reduce or eliminate the differences between national and SADC community law.

6 See Ruppel-Schlichting/Ruppel (2011:305-307).

7 This was exemplarily reflected by the excellent presentations at the Jubilee Conference on African Legal Pluralism held at the University of Cape Town in September 2011. Many papers relevant to this discussion of legal heterogeneity were presented, including: *The Regulation of Petroleum in South Africa and the Protection of Community Rights* (M van den Berg); *Mining Governance and the Relation Between Artisanal and Commercial Mining in South Kivu, DR Congo* (S Greenen); *Water as a Public Property Sub-Theme: Water Resources Management* (G Viljoen); *Roman Water Law in Rural Africa: Dispossession, Discrimination and Weakening State Regulation?* (B van Koppen, P van der Zaag, E Manzungu, B Tapela and E Mapedza); *The Legal Interpretation of Custodianship in the South African Water Law* (K Eiman and E van den Schyff); *The Contribution of Property Rights to Cooperate Approaches in Water Resource Management in South Africa* (A Nkhata, C Breen and D Hay); *The Politics of Policy Formulation and Resource Users' Reactions: Governance of the Baobab Tree Using Customary and Statutory Systems in Chimanimani District of Zimbabwe* (W Kozanayi, R Wynberg and F Matose); *Globalization, Religious Pluralism and Constitutionalism* (F Venter); *Land Conflicts and Laws in Malawi: A Hidden Symbiotic Relationship* (F Lombe); *Land Restitution and the Transition to Justice in Post-Apartheid South Africa* (O Zenker); *Legal Pluralism and Property Relations in the Context of Zimbabwe's Fast Track Land Reform Programme (FTLRP)* (M Makonese); *The Complementary Relation of Every Day and Ritual Knowledge in Contesting Locally Managed Marine Areas: Conservation, Ethnicity and Resource Claims on Madagascar's Southwest Coast* (F Muttenter); *Protection of Traditional Knowledge in South Africa: Does the 'Commons' Provide a Solution?* (E du Plessis); *Customary Law and Mining* (H Smit); *Access to and Disposal of Natural Resources: The Case Law of the African Commission on Human and People's Rights and the Inter-American Court on Human Rights* (H Strydom); *The Clash of Internal Customary Governance Structures with a Positivist External Environment as a Clash Between Common Law Ownership and Customary Property Rights* (W Wicomb); *The Governance of Traditional Knowledge: Is Access and Benefit Sharing a Misfit?* (R Wynberg, R Chennells and D Schroeder); *Land Claims and National Parks: Considerations and Implications* (JM Pienaar); *Right to Development: A Subjective Right* (RK Mor); *The Judiciary, Constitutionalism, and Democracy in African Union Member States* (AM Mangu); *TRIPS, Compliance and Social Welfare: The Implications of Intellectual Property Law Reform for Uganda's Socio-Economic Development* (M Mulumba); *Affirming Bio-Cultural Rights – Community Protocols as a Bridge Between Customary and National/International Law* (G Cocchiaro); and *Children's Rights and Legal Pluralism in Namibia: Between Human Rights and Customary Law?* (OC Ruppel).

Heterogeneity of nonreligious legal systems within SADC			
Country	Legal Systems		
Angola	Civil Law		Customary Law
Botswana	Roman Dutch Law	Common Law	Customary Law
DR Congo	Civil Law		Customary Law
Lesotho	Roman Dutch Law	Common Law	Customary Law
Madagascar	Civil Law		Customary Law
Malawi		Common Law	Customary Law
Mauritius	Civil Law	Common Law	
Mozambique	Civil Law		Customary Law
Namibia	Roman Dutch Law	Common Law	Customary Law
Seychelles	Civil Law	Common Law	
South Africa	Roman Dutch Law	Common Law	Customary Law
Swaziland	Roman Dutch Law	Common Law	Customary Law
Tanzania		Common Law	Customary Law
Zambia		Common Law	Customary Law
Zimbabwe	Roman Dutch Law	Common Law	Customary Law

Source: Ruppel / Bangamwabo (2008:205)

3 Institutional Structure of SADC

Several institutions build the foundations for SADC: The Summit of Heads of State or Government is the supreme policy-making institution of SADC. It consists of the Heads of State or Government of all Member States and is responsible for the overall policy direction and control of the functions of SADC. All decisions reached by consensus are binding. The Council of Ministers consists of one minister from each member state, preferably the Minister for economic planning or finance. The Council of Ministers oversees the functioning and development of SADC, as well as the proper implementation of SADC policies and approves the policies, strategies and work programmes of SADC. Commissions are convened for specific sectoral tasks or programmes to coordinate the integration of policies and programmes in designated sectoral areas. Commissions report to the Council. The Standing Committee of Officials consists of one permanent secretary or equivalent official from each member state, preferably from the ministry for economic planning or finance ministry. The Committee serves as a technical advisory committee to the Council. The Secretariat is the principal executive institution of SADC. The Secretariat is headed by the Executive Secretary, who is the diplomatic representative of SADC. The Secretariat is responsible for the strategic planning and management of the programmes of SADC. The Secretariat implements decisions of the Summit and of the Council, provides financial and general administration, promotes

SADC, and coordinates the policies of member states. The Tribunal⁸ ensures adherence to and the proper interpretation of the SADC Treaty and any other agreements or Protocols issued by SADC and consists of at least ten members, appointed from member states, possessing the qualifications required for appointment to the highest judicial offices in their respective states. The Tribunal gives advisory opinions when requested to do so and makes final and binding decisions.

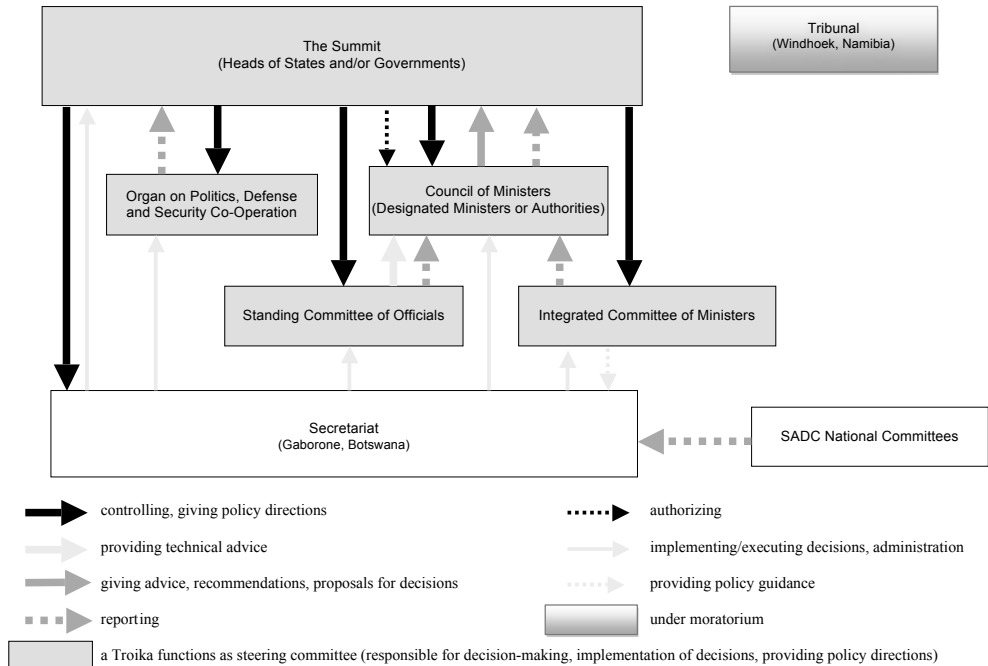


Chart compiled by Cord Luedemann

4 Environmentally Relevant Legal Framework

4.1 The SADC Treaty

SADC was established by signature of its constitutive legal instrument, the SADC Treaty. SADC envisages –

... a common future, a future in a regional community that will ensure economic well-being, improvement of the standards of living and quality of life, freedom and social justice, and peace and security for the peoples of Southern Africa. This shared vision is anchored on the common values and principles and the historical and cultural affinities that exist between the peoples of Southern Africa.⁹

8 At this stage, the Tribunal is suspended. See deliberations below on the Tribunal.

9 For SADC’s vision see <http://www.sadc.int/>; last accessed 12 October 2011.

To this end, SADC’s objectives include the achievement of development and economic growth, the alleviation of poverty, the enhancement of the standard and quality of life, support of the socially disadvantaged through regional integration, the evolution of common political values, systems and institutions, the promotion and defence of peace and security, and achieving the sustainable utilisation of natural resources and effective protection of the environment.¹⁰ In terms of SADC community law, the SADC Treaty is the highest source of law within SADC’s legal framework. In its Preamble, the Treaty determines, inter alia, to ensure, through common action, the progress and well-being of the people of southern Africa, and recognises the need to involve the people of the SADC region centrally in the process of development and integration. As stated above, the sustainable utilisation of natural resources and the effective protection of the environment have been laid down in Article 5(g) of the SADC Treaty as one of SADC’s objectives. Furthermore, food security, land and agriculture as well as natural resources and the environment have, among other issues, been identified as areas of cooperation by the SADC Treaty.¹¹

4.2 The SADC Protocols

Besides the aforementioned provisions and objectives in the SADC Treaty, the SADC legal regime becomes responsive to environmental concerns in various other legal instruments as well. One category of such documents constitutes the SADC Protocols. The Protocols are instruments by means of which the SADC Treaty is implemented, and they have the same legal force as the Treaty itself. A Protocol comes into force after two thirds of SADC member states have ratified it. The Protocols which are of most relevance with regard to the environment are listed in the table and briefly explained below.

Protocol	Date of entry into force
Protocol on Energy	17 April 1998
Protocol on Fisheries	8 August 2003
Protocol on Forestry	17 July 2009
Protocol on Health	14 August 2004
Protocol on Mining	10 February 2000
Protocol on Shared Watercourse Systems	28 September 1998
Revised Protocol on Shared Watercourses	22 September 2003
Protocol on Tourism	26 November 2002
Protocol on Trade	25 January 2000
Protocol on Transport, Communications and Meteorology	6 July 1998
Protocol on Wildlife Conservation and Law Enforcement	30 November 2003

10 These are some of the SADC objectives laid down in Article 5 of the SADC Treaty.

11 Article 21.3 SADC Treaty.

4.2.1 The Protocol on Energy

The Protocol on Energy strives to outline means of cooperation in the development of energy to ensure security and reliability of energy supply and the minimisation of costs. It is emphasised in the Protocol that development and use of energy must be environmentally sound.¹² To achieve this objective, the Protocol *inter alia* provides for cooperation in the development and utilisation of energy in the sub-sectors of wood fuel, petroleum and natural gas, electricity, coal, new and renewable energy sources, and energy efficiency and conservation. The Protocol formulates the intention to promote increased production of new and renewable sources of energy in an economically and socially acceptable manner, including biogas, windmills, mini-hydro plants, passive solar design of buildings, photo-voltaic, solar thermal and solar stoves and water heaters. The development of national energy efficiency and conservation plans is encouraged. Article 4 establishes an Energy Commission, consisting of the Committee of Ministers, the Committee of Senior Officials, the Technical Unit, and sub-committees. The Commission is responsible for the implementation of the Protocol. Annex 1 to the Protocol contains guidelines for cooperation in the Energy Commission.

On the basis of the Treaty and the Protocol on Energy, the SADC Energy Corporation Policy and Strategy (1996); the Energy Action Plan (1997) and the Energy Sector Activity Plan (2000) have been drafted in order to

position the energy sector such that the region can derive maximum benefits from a rationalisation of resources and facilities in the region, and to develop initiatives that contribute to building the capacity of energy institutions in the region to participate effectively in future liberalisation of the energy sector, as well as in the regional economy.¹³

Under the Protocol, the Regional Electricity Regulators Association of Southern Africa (RERA) was established in July 2002. RERA is a formal association of electricity regulators in pursuit of the broader initiative of the New Partnership for Africa's development (NEPAD) and the African Energy Commission (AFREC).¹⁴ RERA strives to facilitate harmonisation of regulatory policies, legislation, standards and practices and to be a platform for effective cooperation among energy regulators within the SADC region. The objectives of RERA fall into three broad categories, namely: Capacity Building & Information Sharing; Facilitation of Electricity Supply Industry (ESI) Policy, Legislation and Regulations, and Regional Regulatory Cooperation. Each SADC country can have one electricity supply industry regulator as a member of RERA. Currently, RERA has 10 members:

- Regional Electricity Regulators Association of Southern Africa
- Institute for Electricity Sector Regulation of Angola (IRSE)
- Lesotho Electricity Authority (LEA)
- Malawi Energy Regulatory Authority (MERA)

¹² Article 2.8.

¹³ SADC (2009).

¹⁴ For further information see <http://www.rerasadc.com/index.cfm>; last accessed 28 September 2012.

- National Electricity Advisory Council of Mozambique (CNELEC)
- Electricity Control Board of Namibia (ECB)
- National Energy Regulator of South Africa (NERSA)
- Energy and Water Utilities Regulatory Authority of Tanzania (EWURA)
- Energy Regulation Board of Zambia (ERB)
- Zimbabwe Electricity Regulatory Commission (ZERC)

At RERA's 10th Conference held in November 2012 in Windhoek (Theme: Fostering Electricity Regulation in Southern Africa, the issue of renewable energy played a major role. The proposed Renewable Energy Strategy and Action Plan (RESAP) was discussed. Alternative fuels and environmental protection are important aspects and goals of the RESAP-Programme. It has been stated that 33 percent of the electricity demand should be covered by renewable energies by 2020, 39 percent by 2030. To this end, a total investment 177 billion US Dollar is required until 2030. It is envisaged that RESAP will be adopted by the Ministers of Energy of SADC member States in May 2013 and implemented subsequently.¹⁵

Energy is a defining issue and closely linked with key contemporary global challenges in the SADC region – social development and poverty alleviation, environmental degradation, climate change, food security etc. Energy efficiency plays an important role in sustainable growth and development. Better energy efficiency can produce substantial benefits both for global economic growth and poverty reduction as well as for mitigating climate change. In the household sector, improved energy efficiency can directly reduce household expenditures on energy services, and therefore directly help to reduce poverty. Conducive policies are central to the development of sustainable energy generation and markets. Laws governing sustainable energy development and supply cut across many sectors such as, mining, forestry, agriculture, environment, water, industry, electricity, and petroleum, and hence require coordination – a complex challenge that is not easily overcome. The energy sector and the provision of electricity for southern Africa's population and industries comprise a complex issue without including the influence of climate change to the equation. If SADC intends reducing its GHG and carbon emissions a transition to sustainable energy is inevitable. This requires redefining its competitive advantage from attracting energy intensive sectors on the basis of non-renewable energy (e.g. coal) to building a new advantage around climate friendly technology and energy. What remains a challenge, and that needs to be researched more extensively, is, how emerging regional and national legislation can harmonise and coordinate the work around the issues of sustainable energy. Cross-sectoral coordination and responsibilities need to be streamlined in order to assure decision making to promote energy security in the region through more effective energy trade mechanisms in future. In the same context policymakers and government officials need to be capacitated to translate international policy to national and local levels, and vice versa. Further research emphasis needs to be placed on linking national, regional and international policymaking, especially

15 See <http://www.az.com.na/wirtschaft/sadc-bekannt-sich-zu-kostrom.158525.php>; last accessed 07 November 2012.

in relation to all emerging climate change related issues, such as the Green Climate Fund.

4.2.2 The Protocol on Fisheries

Considering that fisheries are essential for the social and economic well-being and livelihood of the people in the region, with regard to food security and the alleviation of poverty, the Protocol on Fisheries provides for cooperation and integrative actions in order to optimise the sustainable use of the living aquatic resources within SADC. Thus, the objective of the Protocol is to promote the responsible and sustainable use of living aquatic resources and aquatic ecosystems, in order to enhance food security and human health, safeguard the livelihood of fishing communities, generate economic opportunities for citizens, and alleviate poverty.

The Protocol recognises the UN Convention on the Law of the Sea (UNCLOS) and takes into account the FAO Code of Conduct for responsible Fisheries. Its objective is to promote the responsible and sustainable use of the living aquatic resources and aquatic ecosystems and interestingly defines a fish as any aquatic plant or animal and resources as all aquatic ecosystems. The preamble emphasises the necessity for joint co-operative and integrative action at regional level, awareness and support of national initiatives to implement international conventions on sustainable use and recognises the unique trans-boundary character of the aquatic resources and ecosystems and the need to cooperate in their management.¹⁶

Legal measures provided for in the Protocol to achieve this objective include the protection of resources against over-exploitation, the transfer of skills and technologies to other member states to enhance effective regional co-operation, and the exchange of information on the state of shared resources, levels of fishing, measures taken to monitor and control exploitation of shared resources, plans for new or expanded exploitation, and relevant research activities and results. The Protocol envisages to integrate systems to monitor resources, joint fish stock assessment programmes, agreed scientific methodologies, and preparation of best scientific advice on sustainable levels of exploitation. Of specific importance with regard to environmental protection relating to fisheries is the requirement to balance the needs of industrial enterprises, artisanal fishers, subsistence fishers, recreational fishers, and aquaculture practitioners, in a politically, environmentally and economically sustainable manner (Article 12) and the provision providing for the protection of aquatic ecosystems, including their biodiversity and unique habitats (Article 14). The harmonisation of legislation has been taken up by Article 8, asking for cooperation with regard to establishing region-wide penalties for illegal fishing by SADC and non-SADC flagged vessels in the waters of member states. Annexed to the Protocol are a list of international fora, conventions and agreements with which member states are to establish common positions and undertake co-ordinated and complementary actions, as well as a list of international bodies particularly relevant to the Protocol in Annex 2. Appendices 3 and 4 list international declarations on integrated coastal zone management and agreements on international rivers, respectively.

16

Ruppel/Bethune (2007).

4.2.3 The Protocol on Forestry

Forests are dealt with in the Protocol on Forestry; they cover an area of 357 million hectares of the SADC region corresponding to about 33% of the land area.

Forest Areas in SADC

World Rank	Country	Area in km ²	Date of Information	% of land area
8	Democratic Republic of the Congo	1.219.326	2011	52.00%
16	Mozambique	620.000	2011	78.00%
18	Angola	591.040	2005	47.41%
21	Zambia	376.309	2011	50.00%
22	Tanzania	352.570	2005	37.22%
26	Zimbabwe	259.267	2011	66.35%
43	Madagascar	128.380	2005	21.87%
46	Botswana	119.430	2005	20.53%
61	South Africa	89.170	2011	7.31%
66	Namibia	76.610	2005	9.29%
88	Malawi	33.176	2011	28.00%
174	Mauritius	612	2011	30.00%
178	Seychelles	407	2011	89.45%
186	Swaziland	174	2011	1.00%
197	Lesotho	80	2005	0.26%

Source: CIA World Fact Book 2011

The basic regional policy for sustainable management of forests in the SADC region is the Protocol on Forestry. It is a set of rules or principles agreed upon by the SADC member states on how to integrate and cooperate among themselves in order to commonly conserve and manage the SADC forests and woodlands for the benefit of the SADC people. The Protocol recognises the trans-boundary nature of these forests, the importance of trans-boundary management strategies, the vital role of forests in protecting water catchments particularly of shared water courses and understands that potential harm to these forests is not limited by national boundaries. One of the objectives of the protocol is “effective protection of the environment” and the ways listed to achieve the objectives include “harmonising approaches to sustainable forest management, forest policy, legislation and enforcement. . .”.¹⁷ The guiding principles include the obligation of member states to “facilitate, promote and continually improve policy and legal frameworks that promote sustainable forest management”¹⁸.

Forests are home to a rich biodiversity, and millions of people live within the forests and woodlands which directly support their livelihoods. Forest products from which the population can benefit include charcoal, honey, bush meat, and construction materials amongst many others. Thus, the trans-boundary conservation and management of forests are essential contributions to the protection and conservation of the environment and its biodiversity, and ultimately, to poverty alleviation. Regional approaches for policy harmonisation and trans-boundary forest conservation and sustainable use concepts are important mechanisms to

17 Article 3(1)(f) of the Protocol.

18 Article 4(4) of the Protocol.

attain regional integration. Recognising the essential role which forests play with regard to maintaining the earth's climate, controlling floods and erosion, and as sources of food, wood and other forest products, the Protocol's primary objective is to promote the development, conservation, sustainable management and utilisation of all types of forests and forest products in order to alleviate poverty and generate economic opportunities. To this end, the Protocol *inter alia* addresses issues of common concern including deforestation, genetic erosion, climate change, forest fires, pests, diseases, invasive alien species, and law enforcement.

Furthermore, states are called upon to facilitate the gathering and monitoring of information, and the sharing and dissemination of information, expertise and technology concerning forests; and to harmonise approaches to sustainable forest management, forest policy, legislation and enforcement, and issues of international concern. Trade and investment are to be promoted based on the sustainable management and utilisation of forests and the rights of communities are to be strengthened by facilitating their participation in forest policy development, planning, and management. The Protocol emphasises that traditional forest-related knowledge must be protected and requires mechanisms to ensure the equitable sharing of benefits from forest resources. SADC is currently in the process of drafting a SADC Regional Forestry Strategy and implementation plan.

4.2.4 The Protocol on Health

The Protocol on Health was primarily adopted in order to enhance cooperation in addressing the health problems and challenges facing member states through effective regional collaboration and mutual support. As a clean environment can provide best for the health of the region's population, member states undertake to collaborate, co-operate and assist each other in a cross-sectoral approach in addressing regional environmental health issues and other concerns, including toxic waste, waste management, port health services, pollution of air, land and water, and the degradation of natural resources (Article 23).

Health largely depends on a minimum protection from diseases and unhealthy lifestyles. Many people in southern Africa are particularly vulnerable with regard to health threats as these threats are usually greater for poor people in rural areas, particularly children, women and indigenous groups due to malnutrition, insufficient access to health services, lack of clean water and other basic necessities.¹⁹

4.2.5 The Protocol on Mining

The SADC region is extremely rich in natural resources, including minerals, which can contribute to accelerating economic and social development and growth. The Protocol on Mining strives to harmonise national and regional policies and strategies related to the development and exploitation of mineral resources through developing human and technological capacity, including collaboration between the mining industry and training institutions, *inter alia*.

19 UNDP (2008).

SADC states must ensure a balance between mineral development and environmental protection, including conducting environmental impact assessments (especially in shared systems and cross border projects), and sharing information on environmental protection and rehabilitation (Article 8). According to the ‘fixed stock paradigm’ mining is unsustainable because it is an unavoidable fact that resources will eventually be exhausted.²⁰ According to the ‘opportunity cost paradigm’ mining can be sustainable because the costs caused by resource depletion will be counter-acted by new technology and future developments.²¹ With regards to the latter argument, foreign investment certainly plays a key part in the development of SADC’s mining sector and effective mining policies and legal frameworks must ensure the best possible outcomes in terms of sustainability of the mining sector in the region.²²

4.2.6 The Revised Protocol on Shared Watercourses

The Revised Protocol on Shared Watercourses of the Southern African Development Community repeals and replaces the 1995 Protocol on Shared Watercourse Systems.

This Protocol recognises international consensus on a number of concepts and principles related to water resource development and management in an environmentally sound manner. The policy acknowledges the Helsinki Rules, the UN Convention on the law of the Non-Navigational Uses of International Watercourses and Agenda 21 concepts and facilitates the establishment of shared water agreements.²³

The scarcity of water restricts “economic development and social upliftment” in the SADC region.²⁴ Successfully managing water resources in southern Africa will contribute in reaching SADC’s vision of sustainable development in the region:

The people of southern Africa call for a desirable future in which the region’s environment is conserved among all the competing uses of water, recognising the constraints inherent in natural ecosystems so that the environment can be sustainably improved, used and managed in the spirit of social and environmental justice.²⁵

The Protocol aims to foster closer cooperation for judicious, sustainable and coordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation. In order to achieve the objective, this Protocol, by virtue of Article 2, seeks to promote and facilitate the establishment of shared watercourse agreements and shared watercourse institutions for the management of shared watercourses; advance the sustainable, equitable and reasonable utilisation of the shared watercourses; promote a coordinated and integrated environmentally sound development and

20 Tilton (2009:7).

21 Ibid.

22 Frick (2002:2).

23 See Ruppel/Bethune (2007).

24 SADC (undated).

25 Ibid.

management of shared watercourses; promote the harmonisation and monitoring of legislation and policies for planning, development, conservation, protection of shared watercourses, and allocation of the resources thereof; and promote research and technology development, information exchange, capacity building, and the application of appropriate technologies in shared watercourses management.

Recognising the principle of the unity and coherence of each shared watercourse, SADC States undertake to harmonise the water uses in the shared watercourses and to ensure that all necessary interventions are consistent with the sustainable development of all watercourse states and observe the objectives of regional integration and harmonisation of their socio-economic policies and plans. The utilisation of shared watercourses (including agricultural, domestic, industrial, navigational and environmental uses) within the SADC region is open to each watercourse state, in respect of the watercourses within its territory and without prejudice to its sovereign rights, in accordance with the principles contained in the Protocol.

Member states are obliged to respect the existing rules of customary or general international law relating to the utilisation and management of the resources of shared watercourses. According to Article 3.4 of the Protocol, member states commit themselves to maintain a proper balance between resource development for a higher standard of living for their people and conservation and enhancement of the environment to promote sustainable development.

Watercourse states in their respective territories undertake to utilise a shared watercourse in an equitable and reasonable manner taking into account the interests of the watercourse states concerned, consistent with adequate protection of the watercourse for the benefit of current and future generations, and they participate in the use, development and protection of a shared watercourse in an equitable and reasonable manner. Such participation includes both the right to utilise the watercourse and the duty to co-operate in the protection and development thereof, as provided in this Protocol. Furthermore, the Protocol states that member states have to take all appropriate measures to prevent the causing of significant harm to other watercourse states. Where significant harm is caused to another watercourse state, the state whose use causes such harm is to take all appropriate measures to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation. Disputes between member states regarding the interpretation or application of the provisions of the Protocol which are not settled amicably, are to be referred to the SADC Tribunal under the SADC Treaty.

The Protocol established several SADC Water Sector Organs (Committee of Water Ministers, Committee of Water Senior Officials, Water Sector Coordinating Unit, and Water Resources Technical Committee and sub-committees) and Shared Watercourse Institutions. The Committee of SADC Water Ministers met in Maseru, Lesotho, in September 2011, where it has been stated that:

... climate change has also seen us facing more intense and frequent extremes of weather such as droughts and floods, thus necessitating coordinated management of our shared water courses and resources. For the SADC region with its multiplicity of shared watercourses, issues of cooperation and joint planning and management of the development and utilisation of our shared resources is of paramount importance.²⁶

Various bilateral and multilateral water commissions within the SADC region have been established,²⁷ which include the following:

- The Permanent Joint Technical Commission (PTJC) is an agreement between the governments of the People's Republic of Angola and the Republic of Namibia to endorse and affirm the old agreements between the colonial powers, Portugal and South Africa, in order to re-establish the Permanent Joint Technical Commission (PJTC) and the Joint Operating Authority on the Cunene River.
- The Joint Permanent Water Commission (JPWC) is an agreement between the governments of the Republic of Botswana and the Republic of Namibia on the establishment of a Joint Permanent Water Commission (JPWC). The agreement relates to water matters of common interest. The Commission concentrated its Policy and Legislative Review of Wetland Use and Management in Namibia activities mostly on the Kwando – Linyanti – Chobe River System, a tributary of the Zambezi River that forms the border between Botswana and Namibia in the eastern part of the Caprivi Region in Namibia, and included work on the Okavango River. The Commission became inactive due to the Kasikili/Sedudu Island border dispute between Namibia and Botswana and the fact that the Permanent Okavango River Basin Water Commission (OKACOM), established in September 1994, took over the responsibility of advising the respective governments on issues and developments related to the Okavango River. The negotiations leading to the establishment of the Zambezi River Commission (ZAMCOM) further reduced the need for the JPWC to meet because the Kwando – Linyanti – Chobe River System is a tributary of the Zambezi River and can thus be included under the ZAMCOM.
- The Permanent Water Commission (PWC) is an agreement between the governments of the Republic of Namibia and the Republic of South Africa on the establishment of a Permanent Water Commission (PWC) on water matters of mutual interest, concentrating at present on the lower Orange River. This Commission is active and responsible for the development of the lower Orange River where it forms the common border between South Africa and Namibia.
- The Vioolsdrift and Noordoewer Joint Irrigation Scheme is an agreement between

26 Opening Remarks by the Deputy Executive Secretary – Regional Integration Eng. Joao Caholo at the SADC Ministers Responsible for Water Meeting and the Regional Strategic Water Infrastructure Investor/Donors Conference http://www.sadc.int/files/1013/1678/2942/REMARKS_BY_DES_AT_SADC_MINISTERS_OF_WATER_MEETING_and_DONORS_CONFERENCE_MASERU_SEP_2011_22h00.pdf; accessed 20 October 2011.

27 For more information see Ruppel/Bethune (2007).

the governments of the Republic of South Africa and the Republic of Namibia on the Vioolsdrift and Noordoewer Joint Irrigation Scheme (on the lower Orange River). The agreement provides for the establishment of a Joint Irrigation Authority (JIA) responsible for the management of the joint irrigation scheme on both sides of the lower Orange River at Noordoewer in Namibia and Vioolsdrift in South Africa.

- The Permanent Okavango River Basin Water Commission (OKACOM) is an agreement between the governments of the Republic of Angola, the Republic of Botswana and the Republic of Namibia, on the establishment of a Permanent Okavango River Basin Water Commission (OKACOM). This Commission is active and the objective is to act as technical adviser to the parties on matters relating to the conservation, development and utilisation of water resources of common interest and to perform such other functions pertaining to the development and utilisation of such resources as the parties may agree to assign to the Commission. The vision of the Commission is to develop an integrated management plan for the Okavango Basin.²⁸
- The Orange-Senqu River Commission (ORASECOM) is an agreement between the governments of the Republic of Botswana, the Kingdom of Lesotho, the Republic of Namibia and the Republic of South Africa on the establishment of the Orange-Senqu River Commission (ORASECOM). This Commission is active and responsible for advising the governments on developments related to the Orange River Basin.
- The Zambezi River Commission (ZAMCOM) is an agreement between the governments of the Republic of Angola, the Republic of Botswana, the Republic of Malawi, the Republic of Mozambique, the Republic of Namibia, the United Republic of Tanzania, and the Republic of Zimbabwe on the establishment of the Zambezi River Commission (ZAMCOM).

4.2.7 The Protocol on Tourism

Considering that the tourism sector is one of the largest and fastest growing sectors in the region, the SADC Protocol on Tourism was primarily adopted to increase regional tourism trade and to utilise the wide range of natural, cultural and historical sites in the region as a means to achieve sustainable social and economic development. In order to achieve these objectives, the Protocol requires member states to better use resources through collective efforts and co-operation in an environmentally sustainable manner. Environmentally and socially sustainable tourism development based on sound management practices is to be promoted. The Protocol puts an emphasis on preserving the natural, cultural and historical resources of the region (Article 11).

²⁸ The Future Okavango Project (TFO) analyses ecosystem functions and services within this trans-boundary basin, inter alia focusing on the influence of existing economic, legal, and social institutions on individual or collective action in land, forest, pasture, wildlife, and water management in the Okavango River Basin. Cf. http://www.future-okavango.org/subproject_SP07_tfo.php?PHPSESSID=pmd19856fi9q6lrd7pj1h8j2o3; last accessed 20 October 2011.

4.2.8 The Protocol on Trade

The primary objective of the Protocol on Trade is to liberalise intra-regional trade in goods and services to ensure efficient production within SADC, reflecting the dynamic comparative advantages of its members states, contributing towards the domestic, cross-border and foreign investment climate, and enhancing the development, diversification and industrialisation of the region. Environmental conservation is integrated in that the Protocol provides for general exceptions from the Protocol's principles in order to ensure the conservation of exhaustible natural resources and the environment (Article 9(h)). Furthermore, member states undertake to make compatible their respective standards-related measures, so as to facilitate trade in goods and services within SADC, without reducing the level of protection of human, animal or plant life or health, or of the environment (Article 17).

Regional trade can be a powerful source of economic growth. But trade does not automatically mean economic growth, let alone poverty reduction or sustainable development. The ability to benefit from regional trade and foreign investment is dependent on a number of factors, particularly the quality of the policies and institutions on the ground. Thus, trade should be considered a means to an end, but not as the end in itself. An effective SADC trade regime must first and foremost be friendly to the environment, address poverty reduction and promote sustainable development.

4.2.9 The SADC Protocol on Wildlife Conservation and Law Enforcement

The Protocol on Wildlife Conservation and Law Enforcement of SADC aims to establish within the framework of the respective national laws of each member state common approaches to the conservation and sustainable use of wildlife resources and to assist with the effective enforcement of laws governing those resources.

The Protocol applies to the conservation and sustainable use of wildlife, excluding forestry and fishery resources. Each member state has to ensure the conservation and sustainable use of wildlife resources under its jurisdiction, and that activities within its jurisdiction or control do not cause damage to the wildlife resources of other states or in areas beyond the limits of national jurisdiction.

In line with Article 4 of the Protocol, appropriate policy, administrative and legal measures have to be taken to ensure the conservation and sustainable use of wildlife and to effectively enforce national legislation pertaining to wildlife. Cooperation among member states is envisaged to manage shared wildlife resources as well as any trans-frontier effects of activities within their jurisdiction or control. To achieve its overall objectives, the Protocol is to promote the sustainable use of wildlife, harmonise legal instruments governing wildlife use and conservation, enforce wildlife laws within, between and among member states, facilitate the exchange of information concerning wildlife management, utilisation and the enforcement of wildlife laws, assist in the building of national and regional capacity for wildlife

management, conservation and enforcement of wildlife laws, promote the conservation of shared wildlife resources through the establishment of trans-frontier conservation areas, and facilitate community-based natural resource management practices for management of wildlife resources.

The Protocol establishes the Wildlife Sector Technical Coordinating Unit; the Committee of Ministers responsible for Food, Agriculture and Natural Resources; the Committee of Senior Officials; and the Technical Committee. The Wildlife Conservation Fund is established by Article 11.

4.2.10 The SADC Protocol on Transport, Communications and Meteorology

Member states acknowledge that they are members of the World Meteorological Organisation (WMO) and, through their national meteorological services, constitute an integral part of the regional and global system or network of the WMO's programmes and structures, in particular the World Weather Watch programme (Article 12.1). Within the regional and international cooperative system of the WMO, members are encouraged to provide adequate legal frameworks and appropriate financial support to the national meteorological services to establish an integrated network of observation, data processing and communications systems; and enhance the provision of meteorological services for general and specialised applications in the region and internationally (Article 12.2). Such co-operation framework obliges member states to inter alia strengthen their weather and climate monitoring systems, improve public and specialised weather services, promote sustainable development with the emphasis on climate change and protection of the environment, and strengthen meteorology research capacity in the region. The Protocol emphasises that sustainable development is to be promoted with an emphasis on climate change and protection of the environment. These aims are to be achieved by means of strengthening the capabilities of national meteorological centres in climate applications and advice; enhancing existing environmental monitoring activities; optimising the use of regional structures; and fostering an awareness of the contributions which can be made by national meteorological centres to planning sustainable development in agriculture, forestry and related areas (Article 12.7).

4.3 Other SADC Legal and Institutional Instruments Relevant for the Environment

4.3.1 The Regional Indicative Strategic Development Plan (RISDP)

Apart from the Treaty and protocols, SADC also provides other instruments at different levels. These are not binding and do not require ratification by SADC member states. In March 2001, the Heads of State and Government met at an Extraordinary Summit in Windhoek and approved the restructuring of SADC institutions by means of a Regional Indicative Strategic Development Plan (RISDP). The RISDP reaffirms the commitment of SADC member states

to good political, economic and corporate governance entrenched in a culture of democracy, full participation by civil society, transparency and respect for the rule of law. With regard to monitoring the implementation of the RISDP, the Summit exercises oversight through progress reports from the SADC Secretariat.²⁹

The focal point of the RISDP is thus to provide strategic direction with respect to SADC programmes and activities, and to align the strategic objectives and priorities of SADC with the policies and strategies for achieving its long-term goals. The RISDP is indicative in nature, merely outlining the necessary conditions that should be realised towards achieving those goals. The purpose of the RISDP is to deepen regional integration in SADC. The RISDP has identified gaps and challenges in the current policies and strategies, and used them to reorient those policies and strategies. In light of the identified gaps and challenges, Chapter 4 focuses on a number of priority intervention areas of both cross-sectoral and sectoral nature that are critical for the achievement of SADC's objectives, in particular in promoting deeper regional integration, integrating SADC into the world economy, promoting equitable and balanced development, eradicating poverty and promoting gender equality, protecting the environment and strengthening sustainable development.

In order to attain these goals, SADC will *inter alia* need to harmonise policies, legal and regulatory frameworks for the free movement of factors of production and to implement policies to attain macroeconomic stability and build policy credibility. Although it has to be emphasised that RISDP it is not a binding instrument, at every Summit in recent years member states reaffirmed their commitment to regional integration as per the RISDP, which has identified environment and development as cross-sectoral priority intervention areas, as environment and sustainable development present opportunities for the region to advance its programme of action in environment and natural resources management and forge harmonisation of and compliance with environmental policies, standards and guidelines by pursuing the strategic objectives outlined in the RISDP.³⁰

With regard to environment and sustainable development, the RISDP has elaborated the following areas of focus:

- Creating the requisite harmonised policy environment, as well as legal and regulatory frameworks to promote regional cooperation on all issues relating to environment and natural resource management including trans-boundary ecosystems;
- Promote environmental mainstreaming in order to ensure the responsiveness of all SADC policies, strategies and programmes for sustainable development;
- Regular assessment, monitoring and reporting on environmental conditions and trends in the SADC region;
- Capacity building, information sharing and awareness creation on problems and perspectives in environmental management; and

29 Cf. 'Introducing SADC' <http://www.sadc.int/index/browse/page/106>; last accessed 14 September 2011.

30 Cf. Regional Indicative Strategic Development Plan <http://www.sadc.int/index/browse/page/104>; last accessed 13 September 2011:66ff.

- Ensuring a coordinated regional position in the negotiations and implementation of Multilateral Environmental Agreements (MEAs), and other agreements.³¹

4.3.2 The SADC Declaration on Agriculture and Food Security

With the 2003 Declaration on Agriculture and Food Security, Heads of State and Government gave substantial means to some specific objectives laid down in Article 5 of the SADC Treaty, namely the promotion of sustainable and equitable economic growth and socio-economic development to ensure poverty alleviation, with the ultimate objective of its eradication and the achievement of sustainable utilisation of natural resources and effective protection of the environment. With this Declaration, SADC member states committed themselves to promote agriculture as a pillar of strength in national and regional development strategies and programmes, in order to attain their short-, medium-, and long-term objectives on agriculture and food security.

The Declaration covers a broad range of human-rights-relevant issues including the sustainable use and management of natural resources and human health. This is because increasing temperatures and declining precipitation in the region resulting from climate change are likely to reduce yields for primary crops in the next decades, changes which will have a substantial impact on food security in SADC, although the extent and nature is still uncertain.³² Periods of drought and flooding will have an impact on food availability, food access, and on nutrient access.³³ It is predicted that the impacts of climate change, such as sea-level rise, droughts, heat waves, floods and rainfall variation, could push millions of people into malnutrition and increase the number of people facing water scarcity.³⁴

4.3.3 The SADC Charter of Fundamental and Social Rights

The 2003 Charter of Fundamental and Social Rights in SADC, although not legally binding, is an important human rights document that specifies the objectives laid down in Article 5 of the SADC Treaty for the employment and labour sector. The Charter enshrines the right to a safe and healthy environment, amongst others. To mobilise the policy value, and indeed the legal force, of a right to a safe and healthy environment in the SADC regime requires the introduction of likely human rights impacts and outcomes. For instance, are the specific rights potentially affected by climate change – the rights to food, water, shelter, and health or rights associated with gender, children and indigenous peoples – addressed in context? The right to a safe and healthy environment become highly relevant to the design and implementation of approaches to adverse environmental effects in policy and legal terms. This dimension includes arguments based on human rights obligations of SADC members under a variety of international law instruments. These range from the integration of human rights into country strategies in terms of priority entitlements or more procedural rights that

31 Ibid.

32 Boko *et al.* (2007).

33 Ziervogel *et al.* (2006b).

34 UNDP (2008).

are relevant to the design and implementation of national policies (e.g. right to information, participation, or access to decision-making). Recognition of the link between the abuse of the human rights of various vulnerable communities and related damage to their environment is expressed in the concept environmental justice.³⁵ Internationally, the experience of courts that have been asked to decide on cases with regard to environmental rights shows that the judiciary is crucial when it comes to interpreting existing law and policy in a way that takes into account environmental concerns. In the 2009 South African case of *Lindiwe Mazibuko and Others v City of Johannesburg and Others*, O’Reagan J held that –

[t]he purpose of litigation concerning the positive obligations imposed by social and economic rights should be to hold the democratic arms of government to account through litigation. In so doing, litigation of this sort fosters a form of participative democracy that holds government accountable and requires it to account between elections [for] specific aspects of government policy. When challenged as to its policies relating to social and economic rights, the government agency must explain why the policy is reasonable [...].³⁶

The aforementioned reasoning does not only apply to the domestic level and should thus in future also be considered on the regional level. This shall become even clearer in the passage below dealing with SADC law enforcement and relevant case law.

5 SADC Law Enforcement and Relevant Case Law

Other SADC provisions than those of the Treaty and the protocols are beyond any doubt important mechanisms for practically improving the state of the environment and the managing thereof within SADC. However, given that, in the legal sense, only provisions of a binding nature can be enforced, the SADC Treaty and its protocols are pivotal to enforcing environmental provisions within SADC.

5.1 The SADC Tribunal

The supreme judicial institution within SADC is the SADC Tribunal, which was established in 1992 by Article 9 of the SADC Treaty. The inauguration of the Tribunal and the swearing in of its members took place on 18 November 2005 in Windhoek, Namibia. The Council also designated the Seat of the Tribunal to be in Windhoek. The judicial body began hearing cases in 2007. The Tribunal has the mandate to adjudicate disputes between states, and between natural and legal persons in SADC. Furthermore, the Tribunal has jurisdiction over all matters provided for in any other agreements that member states may conclude among themselves or within the community, and that confer jurisdiction to the Tribunal.³⁷ In this context, the SADC Tribunal also has jurisdiction over any dispute arising from the interpretation or application of environmentally relevant protocols. The Tribunal was primarily set up to resolve disputes

35 Ruppel (2010i:323).

36 *Lindiwe Mazibuko and Others v City of Johannesburg and Others* Case CCT 39/09 [2009] ZACC 28.

37 Article 15(2), Protocol on the Tribunal and Rules of Procedure thereof.

arising from closer economic and political union.³⁸ However, cases before the Tribunal³⁹ have demonstrated that it can also be called upon to consider other implications of economic policies and programmes.

In August 2010, it was decided that “a review of the role, functions and terms of reference of the SADC Tribunal should be undertaken and concluded within six months”⁴⁰ and the SADC Tribunal was suspended. At an Extraordinary Summit of Heads of State and Government in May 2011, the following was decided:⁴¹

- The Summit reiterated the moratorium on receiving any new cases or hearings of any cases by the Tribunal until the SADC Protocol on the Tribunal has been reviewed and approved;
- The Summit decided not to reappoint members of the Tribunal whose term of office expired on August 31, 2010;
- The Summit decided not to replace members of the Tribunal whose term of office will expire on October 31, 2011;
- And the Summit mandated the Ministers of Justice/Attorneys General to initiate the process aimed at amending the relevant SADC legal instruments and submit a progress report at the Summit in August 2011 and the final report to the Summit in August 2012.

These decisions are closely related to the cases below and subject to critical debate.⁴²

At the recent 32 Session of the Summit of the Heads of State and Government of the Southern African Development Community (SADC), which was held in Maputo, Republic of Mozambique on 17 and 18 August 2012, it was *inter alia* concluded as follows:

24. Summit considered the Report of the Committee of Ministers of Justice/Attorneys General and the observations by the Council of Ministers and resolved that a new Protocol on the Tribunal should be negotiated and that its mandate should be confined to interpretation of the SADC Treaty and Protocols relating to disputes between Member States.

De facto, the aforementioned decision means a drastic limitation of the competence (if not paralysis) of the SADC Tribunal as it was initially provided with the competence to deal with proceedings initiated by private parties against either the community or member states. Without the competence to deal with proceedings initiated by private parties the ‘new SADC

38 Viljoen (2007:503).

39 Such as *Mike Campbell and Another (PVT) Limited v The Republic of Zimbabwe* SADC (T) 2/2007.

40 SADC ‘Communiqué of the 30th Jubilee Summit of SADC Heads of State and Government’ SADC (17 August 2010); <http://www.sadc.int/index/browse/page/782>; accessed 25 September 2011).

41 Communiqué of the Extraordinary Summit Heads of State and Government of The Southern Africa Development Community Windhoek, Republic of Namibia, 20 May 2011; <http://www.swradioafrica.com/Documents/SADCSummit240511.pdf>; accessed 10 May 2012.

42 For a critical view on these decisions see for example Pillay (2011) as well as the letter to the Executive Secretary of SADC by former president and members of the SADC Tribunal A.G. Pillay, R. Kambovo and O.B. Tshosa dated 13 June 2011 available at <http://www.az.com.na/fileadmin/pdf/2011/az/SADC-Letter-06-24-11.pdf>; accessed 10 May 2012.

Tribunal’ will only operate with its wings cut and most likely become unemployed, due to the fact that basically all proceedings before the ‘old SADC Tribunal’ had so far been initiated by natural or legal persons.’

Instead of strengthening the mandate of the ‘new SADC Tribunal’ it has been weakened at the cost of national sovereignty thinking. The fear of loss of state autonomy, the lack of vision and the unwillingness to compromise are obstacles that prompted SADC to decide against strengthening SADC citizens’ rights in the regional community. The following cases with some environmental and human rights impact reflect the promising beginnings of the SADC Tribunal before it had been cut its wings.

5.2 Mike Campbell: An Environmentalist

In 2005, the Constitution of Zimbabwe was amended. The Constitutional Amendment (No. 17) Act 2005 allowed the government to seize or expropriate farmland without compensation, and it bars courts from adjudicating on legal challenges filed by dispossessed and aggrieved farmers. The practical implications of the Amendment Act resulted in farm seizures, where the majority of the approximately 4,000 white farmers were forcibly ejected from their properties with no compensation being paid for the land. On 11 October 2007, Mike Campbell (Pvt) Ltd, a Zimbabwean-registered company, and others instituted a case with the SADC Tribunal to challenge violations by the expropriation of agricultural land in Zimbabwe by that country’s government.⁴³ Mike Campbell had purchased the farm in question on the open market in 1980, after Zimbabwe’s independence.

On 28 November 2008 the SADC Tribunal in its final decision ruled in favour of Mike Campbell and other white commercial farmers.⁴⁴ In its decision the Tribunal held that the Republic of Zimbabwe was in breach of its obligations under Articles 4(c) and 6(2) of the SADC Treaty and that the applicants had been denied access to the courts in Zimbabwe;⁴⁵ and the applicants had been discriminated against on the ground of race.⁴⁶ The Tribunal further directed the Republic of Zimbabwe to take all necessary measures to protect the possession, occupation and ownership of the lands of those applicants who had not yet been evicted, and to pay fair compensation to those who had already been evicted. The ruling was considered to be a landmark decision expected to shape the legal landscape in the SADC region.⁴⁷ Despite

43 For more information on the *Campbell Case*, cf. Ruppel (2012a, 2011a, 2009a,b,c,k) and Ruppel/Bangamwabo (2008).

44 *Mike Campbell (Pvt) Ltd and Others v The Republic of Zimbabwe* SADC (T) Case No. 2/2007.

45 *Mike Campbell (Pvt) Ltd and Others v The Republic of Zimbabwe* SADC (T) Case No. 2/2007.

46 The issue of racial discrimination was decided by a majority of 4 to 1. Judge OB Tshosa, in his dissenting opinion, concluded that ‘Amendment 17 does not discriminate against the applicants on the basis of race and therefore does not violate the respondent obligation under Article 6(2) of the Treaty’. He argues that “the target of Amendment 17 is agricultural land and not people of a particular racial group and that – although few in number – not only white Zimbabweans have been affected by the amendment”. Cf. *Mike Campbell (Pvt) Ltd and Others v The Republic of Zimbabwe* SADC (T) Case No. 2/2007, dissenting opinion of Hon. Justice Dr Onkemetse B. Tshosa.

47 Cf. Ruppel (2009k).

the rule that the Tribunal's decisions are final and binding,⁴⁸ the Zimbabwean government never accepted the Tribunal's judgement in the Campbell case.⁴⁹ Subsequently, the farm of Mike Campbell was invaded.⁵⁰ This raised the question of how the Tribunal's judgements were to be enforced. In early April 2011 the South African Advocate Jeremy Gauntlett filed an urgent application before the SADC Tribunal on behalf of Mike Campbell and another against the Summit of the Heads of State or Government of SADC, the Presidents of its 15 countries, the Council of Ministers of SADC and the Republic of Zimbabwe. The application requested an order that ensures that "the [SADC] Tribunal continues to function in all respects as established by Article 16 of the Treaty".⁵¹ On 9 April 2011, the South African *Sunday Times* newspaper published the following:

Mike Campbell, 78, the commercial farmer who made legal history when he took President Mugabe to the Southern African Development Community (SADC) Tribunal in 2007 and won the case a year later, died at his temporary home in Harare this week.⁷

It is further reported that:

Campbell never recovered from the abduction and brutal beatings meted out to him, his wife Angela and son-in-law Ben Freeth by ZANU-PF thugs [...]. The 78-year-old farmer sustained severe head injuries, which resulted in brain damage, broken ribs and damage to his lower limbs [...].⁵²

The dealings around the Campbell case reflect that the rule of law is in a state of flux in SADC and the recent dissolution of the SADC Tribunal is obviously linked to the continued Zimbabwean non-compliance with the Tribunal's judgments.

In March 2012, the African Commission on Human and Peoples' Rights decided to register and consider a complaint about the suspension of the SADC Tribunal. The claimants requested the African Commission to refer their communication to the African Court of Justice so it can order the SADC Summit and its member states to lift, with immediate effect, the suspension of the tribunal; to reappoint the tribunal's judges and to give the tribunal the funding it needs to get on with its work.

48 Article 16(5), SADC Treaty.

49 On 28 February 2009, Zimbabwe's President Robert Mugabe said that '[t]here is no going back on the land reforms', and that '[s]ome farmers went to the SADC tribunal in Namibia but that's nonsense, absolute nonsense, no one will follow that [...]. We have courts here in this country that can determine the rights of people. Our land issues are not subject to the SADC tribunal' - Mugabe says Zim land grabs will continue *The Namibian* (2 March 2009).

50 On 25 February 2009, Michael Campbell and his wife had to leave the farm in fear of their safety after a group of two vehicles led by Peter Chamada, nephew of Cabinet Minister Nathan Shamuyarira, claiming to be from the Lands Office, came to the farm and said that they did not care about the law or the police, and that they had come to take over the land - Cf. Campbell flees farm invasion in Zimbabwe *The Namibian* (27 February 2009).

51 See <http://www.radiovop.com/national-news/5978-new-application-to-sadc-tribunal-makes-history.html> accessed 4 April 2011.

52 See <http://www.timeslive.co.za/sundaytimes/article1010628.ece/Farmer-who-took-Mugabe-to-court-dies-from-injuries>; accessed 9 April 2011.

In any event, it will be interesting to see if the SADC leadership will be progressive enough to take appropriate initiatives ensuring judicial stability in the region. With regard to the question whether it can still realistically be expected that SADC will take appropriate action against Zimbabwe, one can only refer to the late Mike Campbell and conclude without reservation that ‘justice delayed is justice denied’. Mike Campbell was an environmentalist as has been eloquently reflected in the following press passage:

Campbell was an early conservationist, and after Zimbabwe gained independence in 1980, the purchase of a neighbouring farm provided the space to introduce giraffe, impala and eland. Wildlife drew visitors to the family’s Biri River safari lodge. He grew tobacco and maize and raised a resilient herd of Mashona-Sussex cattle, while mangoes from the 40,000 trees generated foreign currency from sales in British supermarkets. The government-sanctioned invasion of white-owned commercial farms began in earnest two decades after independence. Mugabe promised a ‘fast-track’ redistribution of 3,000 farms to landless black people. Mount Carmel was a plum target. [...] The documentary ‘Mugabe and the White African’ (2009), which won a British independent film award, depicts Campbell and his wife enjoying a sundowner as a farm worker comes to warn that an armed gang is headed for the house. In a moment worthy of Sir Francis Drake on Plymouth Hoe, he tells his wife, Angela, he will deal with them “when I have finished my drink”. Campbell refused to hand over his farm to the so-called war veterans (few were old enough to have featured in the war), and instead gave them a shed to live in, as he did not want them “chopping down trees to build your huts”. The invaders moved to Bruce’s house, and in time burned down the safari lodge, poached the wildlife and slaughtered or rustled the cattle. Not even a warthog remained, he said later.⁵³

5.3 Swissbourgh and the Lesotho Highlands Water Project (LHWP)⁵⁴

This case is also relevant to a discussion of the SADC Tribunal, the environment and common economic goals of the SADC region. The case was heard in the High Court and Court of Appeal of Lesotho as well as the High Court of South Africa. Nine years after it was first heard it was brought before the SADC Tribunal. In August 2010 it was decided that “a review of the role, functions and terms of reference of the SADC Tribunal should be undertaken and concluded within 6 months”⁵⁵ and the SADC Tribunal was suspended. On 25 January 2011, the South African based Josias van Zyl and the Swissbourgh Group filed an application with the SADC Tribunal to set aside the SADC Summit decision to suspend the Tribunal. The Swissbourgh Group claimed that Lesotho, South Africa and Zimbabwe are facing massive financial claims resulting from their respective international law violations stemming from a case in which the Swissbourgh Group launched against the Kingdom of Lesotho for compensation and damages suffered following the expropriation of its mineral rights in the execution of the Lesotho Highlands Water Project (LHWP) Treaty. The 1986 Treaty is a contractual agreement governing the design, construction, operation, and maintenance of the

53 Cf. <http://www.guardian.co.uk/world/2011/apr/24/mike-campbell-obituary>; accessed 14 October 2011.

54 *Swissbourgh Diamond Mines & Others v The Kingdom of Lesotho* Case No. SADC (T) 04/2009.

55 SADC ‘Communiqué of the 30th Jubilee Summit of SADC Heads of State and Government’ *SADC* (17 August 2010) <http://www.sadc.int/index/browse/page/782>; accessed 25 September 2011.

Project, as well as the export of water to South Africa.⁵⁶ The suspension of the SADC Tribunal brought the case of the Swissbourgh Group to a halt.⁵⁷ The case has not been resolved.

6 SADC and Cross-cutting Regimes

6.1 The Southern African Customs Union (SACU) and SACU Related Trade Agreements

Having celebrated its 100th anniversary in 2010, the Southern African Customs Union (SACU) is the world's oldest customs union.⁵⁸ SACU has five members, namely South Africa, Botswana, Lesotho, Namibia, and Swaziland. All five SACU member states are also members of the SADC configuration. One objective of SACU is to facilitate the cross-border movement of goods between the territories of the member states. In order to achieve trade liberalisation, the free movement of domestic products is part of the SACU Treaty (Article 18). Goods grown, produced or manufactured in the Common Customs Area are generally free of customs duties and quantitative restrictions within the Common Customs Area. However, member states have the right to impose restrictions on imports or exports in accordance with national laws and regulations for the protection of health of humans, animals or plants, the environment or intellectual property rights and exhaustible natural resources.

In 2006, SACU signed an FTA with European Free Trade Area (EFTA) states (Iceland, Liechtenstein, Norway and Switzerland).⁵⁹ SACU and the EFTA states have laid down in Article 28 of the Free Trade Agreement on investment that "it is inappropriate to encourage investment by relaxing health, safety or environmental standards". The broad nature of environmental protection is reflected in the somewhat vague formulation of Article 31, which provides that the conservation of the environment has to be taken into account in the "implementation of assistance in the various sectors to which it is relevant".

As a first step towards the creation of a Free Trade Area between the Mercado Común del Sur (MERCOSUR) and SACU, SACU has signed a Preferential Trade Agreement (PTA) with MERCOSUR countries⁶⁰ in 2009.⁶¹ Trade liberalisation is the focus of this agreement and read together with its annexes, specific preferences are granted by MERCOSUR to SACU and vice versa. The PTA only indirectly refers to environmental concerns in making reference to the general exceptions provision in the General Agreement of Tariffs and Trade (GATT) Article XX.

56 See <http://www.lhwp.org.ls/overview/treaty.htm>; last accessed 21 April 2011).

57 See Sasman (2011).

58 For further details on SACU see Ruppel (2010k).

59 For the text of the Agreement, which came into force in 2008, see <http://www.sacu.int/docs/tradenegefta-fta2006.pdf>; accessed 20 May 2010.

60 Common Market of South America, consisting of Argentina, Brazil, Paraguay and Uruguay.

61 For text of the Agreement see http://www.tralac.org/cause_data/images/1694/I_Texto_Principal.pdf; last accessed 24 March 2011.

In 2008, SACU⁶² and the United States signed a Trade, Investment and Development Cooperation Agreement (TIDCA) in order to “to promote an attractive investment climate and to expand and diversify trade between SACU and the United States”.⁶³ As laid down in the Preamble, the parties of the TIDCA recognise the “importance of protecting and preserving the environment in accordance with each Party’s environmental laws, and desiring to ensure that trade and environmental policies are mutually supportive in the furtherance of sustainable development”.

6.2 The EAC-COMESA-SADC Tripartite Initiative

In October 2008, the Heads of State of the member states of SADC, the Eastern African Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA) negotiated a communiqué as the basis of the Tripartite Partnership. Therein the Heads of State representing all three regional economic communities agreed that the communities should merge into a single market in order to promote the rapid social and economic development of the region.⁶⁴ With the 2011 Second Tripartite Communiqué the respective Heads of State adopted the following developmental approach to the Tripartite Integration process:

... that will be anchored on three pillars [...]: Market integration based on the Tripartite Free Trade Area (FTA); Infrastructure Development to enhance connectivity and reduce costs of doing business as well as Industrial development to address the productive capacity constraints [...].⁶⁵

According to the Communiqué, the Tripartite initiative incorporates 26 countries, almost half of the African Union, with 600 million people and a Gross Domestic Product (GDP) of approximately US\$1.0 trillion. A Tripartite Free Trade Area is envisaged by 2016. The negotiations are expected to take place in two phases. Whereas in the first phase trade in goods and free movement of business people will be addressed, in the second phase trade in services, intellectual property rights, competition policy, trade development and competitiveness will be discussed. The outcomes of both phases have great significance for the environment in the single market and it remains to be seen whether the Tripartite initiative will also bring prosperity to the people that have so far been left behind in sub-Saharan Africa. Transforming society will require comprehensive legal, political, social, and economic reforms and development initiatives, such as investing more in education, public services, and infrastructure, enhancing participation in trade and protecting the environment for present and future generations. Moreover, it also remains to be seen whether the Tripartite

62 For text see <http://www.sacu.int/docs/tidca/agreement.pdf>; accessed 24 March 2011.

63 Article 1, TDCA.

64 Cf. First Communiqué of the COMESA-EAC-SADC Tripartite Summit of Heads of State and Government *COMESA EAC SADC TRIPARTITE* (2008) <http://www.comesa-eac-sadc-tripartite.org/sites/default/files/documents/Final%20Communiqué%20-%20The%20Tripartite%20Summit%202008.pdf>; accessed 19 October 2011.

65 Cf. Second Communiqué of the COMESA-EAC-SADC Tripartite Summit of Heads of State and Government *COMESA EAC SADC TRIPARTITE* (2011) <http://www.comesa-eac-sadc-tripartite.org/sites/default/files/documents/Communiqué%20of%20the%202nd%20Tripartite%20Summit%20-%20English%20-%2012.06.2011.pdf>; last accessed 19 October 2011.

initiative will push the regional integration agenda to empower the poor and reduce pressures such as under-development, unemployment, environmental neglect, health emergencies, and strife.

The approach of the 2010 draft agreement establishing the COMESA, EAC and SADC Tripartite Free Trade Area to protect the environment is congruent with that followed by the WTO. Environmental interests are considered within the system of general exceptions. The draft agreement in its Article 40 provides for a number of general exceptions to the basic principle of non-discrimination to allow countries in certain circumstances to take account of economic and/or noneconomic interests and values that compete with free trade. Amongst others, these exceptions justify measures necessary to protect human, animal or plant life or health as well as measures relating to the conservation of exhaustible natural resources, provided that “such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade”.

The draft agreement also follows the WTO approach with regard to the system of dispute settlement. According to Article 38 of the draft agreement and Annex 13 on the Tripartite Dispute Settlement Mechanism, a panel is to be established for the purposes of dispute settlement, where an amicable resolution is not achieved over disputes dealing with the implementation of the provisions of the agreement.

The East African Community (EAC), the Common Market for Eastern and Southern Africa (COMESA) and the Southern African Development Community (SADC) have already initiated discussions towards the establishment of the COMESA-EAC-SADC Tripartite climate change programme to facilitate their long-term vision of working together.⁶⁶

6.3 The BRICS Partnership

The BRICS partnership is a grouping of leading emerging economies, namely Brazil, the Russian Federation, India, China and South Africa, playing a key role in the world economy.⁶⁷ BRICS is neither an international organisation nor a trade bloc in terms of a regional (or preferential) economic community. So far BRICS is merely a forum that is considered to become an economic powerhouse in future, seeing as it covers an enormous population. And while China and India are considered to be the ‘world’s factory’ and the ‘world’s office’, respectively,⁶⁸ Russia has come to be known as the ‘world’s gas station’ and Brazil as the ‘world’s farm’. In this context, South Africa could serve as the ‘gateway to Africa’ and its rich natural resources.⁶⁹

66 See Chapter on SADC & Climate change in this book.

67 Prior to South Africa’s first attendance of the summit in 2011, the group was named BRIC (Brazil, Russian Federation, India and China). South Africa had received a formal invitation to join from China in 2010. The first BRIC summit was held in 2009 in Yekaterinburg in Russia, the second BRIC summit in 2010, in Brasília, Brazil.

68 Fujita (2006).

69 Van den Bosch (2011).

Most foreign direct investment attracted by African states relates to natural resources.⁷⁰ Two of the three sub-Saharan states currently receiving the largest amount of investment from China include South Africa and the Democratic Republic of Congo.⁷¹ South Africa is China's second largest source of imports dominated by mineral resources.⁷² Since Chinese and African populations together constitute about one fourth of the global community⁷³, aspects of this relationship have a major impact on global sustainable development. It is vital for SADC to have the policies, laws and regulations effectively in place to propel development, but also provide protection against overuse, abuse and pollution of non-renewable natural resources by foreign investors.⁷⁴

On 14 April 2011, the leaders of the five so-called BRICS states (Brazil, the Russian Federation, India, China and South Africa) signed a joint declaration on the global economy, international financial issues and developmental affairs, in Sanya, China.⁷⁵ With South Africa joining the BRICS, the commitments of this grouping become relevant for the entire SADC region, at least indirectly. BRICS considers itself to be “a platform for dialogue and cooperation amongst countries that represent 43% of the world's population, for the promotion of peace, security and development in a multi-polar, inter-dependent and increasingly complex, globalising world.”⁷⁶

The Sanya BRICS Declaration contains various linkages with regard to trade and the environment. The declaration emphasises that “[I]n the economic, financial and development fields BRICS serves as a major platform for dialogue and cooperation” and the group has agreed to continue further expanding and deepening economic, trade and investment cooperation among BRICS countries. Furthermore, BRICS countries, by signing the declaration have committed themselves “to assure that the BRICS countries will continue to enjoy strong and sustained economic growth supported by our increased cooperation in economic, finance and trade matters, which will contribute to the long-term steady, sound and balanced growth of the world economy.”⁷⁷ The declaration refers to environmental matters with climate change leading the way as climate change is considered to be “one of the global threats challenging the livelihood of communities and countries.”⁷⁸ In this regard and highlighting the principle of equity and common but differentiated responsibilities, BRICS leaders have committed themselves “to work towards a comprehensive, balanced and binding outcome to strengthen the implementation of the United Nations Framework Convention on Climate Change and its Kyoto Protocol”⁷⁹ and to enhance “practical cooperation in adapting our economy and

70 Marafa (2009:13).

71 Scissors (2011); see also Van der Lugt *et al.* (2011).

72 Marafa (2009:10).

73 Marafa (2009:8).

74 Susswein (2003:297,309).

75 Sanya Declaration <http://www.bricsindia.in/thirdSummit.html>; accessed 08 April 2012.

76 See para 3 of the Delhi Declaration at <http://www.bricsindia.in/delhi-declaration.html>; last accessed 09 April 2012.

77 See para 13 of the Sanya Declaration at <http://www.bricsindia.in/thirdSummit.html>; last accessed 08 April 2012.

78 See para 22 of the Sanya Declaration at <http://www.bricsindia.in/thirdSummit.html>; last accessed 08 April 2012.

79 Ibid.

society to climate change.”⁸⁰ Moreover cooperation has been envisaged in order to “reach new political commitment and achieve positive and practical results in areas of economic growth, social development and environmental protection under the framework of sustainable development.”⁸¹

According to the Declaration, BRICS is generally committed to support a strong, open, rules-based multilateral trading system embodied in the World Trade Organisation (WTO) and a successful, comprehensive and balanced conclusion of the Doha Development Round. Yet, after more than 10 years of repeated negotiation failures the Doha Development Round is unlikely to be concluded in the near future. Some even contend that the “WTO risks its future by keeping Doha alive”.⁸²

Concerning excessive volatility in commodity prices, BRICS supports the international community in strengthening cooperation to ensure stability and development of physical market by reducing distortions and further regulating financial markets. BRICS considers safe nuclear energy as an important element in future energy supply and supports the development of renewable energy as being a part of a future energy mix in and for BRICS countries. Accelerating sustainable growth of developing countries is one of the major world challenges and therefore BRICS sees growth and development as central to addressing poverty and to achieving the United Nations Millennium Development Goals (MDG). Infrastructure development in Africa and its industrialisation within the framework of the New Partnership for Africa’s Development (NEPAD) is a major objective of the BRICS members.

In its fourth Declaration signed in New Delhi in March 2012⁸³, the BRICS states have again emphasised their strong commitment to enhancing sustainable development by also focusing on environmental protection. In the Declaration the BRICS states affirm their commitment towards the implementation of the UNFCCC and the CBD, amongst others. It is specifically pointed out that “sustainable development should be the main paradigm in environmental issues, as well as for economic and social strategies”⁸⁴. Noteworthy is that the Delhi Declaration points out the commitment of the BRICS states towards environmental protection and respective MEAs, just as the achievement of the MDGs but the Declaration is also very clear regarding the responsibilities of developed nations and the need to ensure that growth in non-developed countries is not affected.⁸⁵

80 Ibid.

81 Ibid at para 23.

82 Cf. <http://www.taipeitimes.com/News/editorials/archives/2011/12/31/2003522031>; last accessed 3 January 2012

83 Delhi Declaration at <http://www.bricsindia.in/delhi-declaration.html>; last accessed 09 April 2012.

84 Ibid at para 32.

85 See for example Delhi Declaration paras 29, 30, 31, 33, 34, 35.

7 Concluding Remarks

SADC's vision includes a "common future" that will ensure economic and social well-being for all the people of Southern Africa.⁸⁶ The objectives of the SADC Treaty in particular include "promotion and equitable economic growth and socio-economic development that will ensure poverty alleviation with the ultimate objective of its eradication".⁸⁷ Although a basic legal framework is in place these objectives stand largely unfulfilled at present. Unsustainable development in SADC is a reality due to "economic and sectoral policies which are too narrowly conceived and focused and which neglect the negative consequences on the people and the environment."⁸⁸ Other obstacles in SADC include "duplication and fragmentation of authority" and "institutional failure [...] caused by policies that are not backed up by legislation and therefore cannot be legally enforced".⁸⁹

The SADC legal framework provides for a broad bandwidth of provisions with high relevance for environmental protection and it cannot be overemphasised that the rule of law, good governance and the protection of the environment play an essential role in economic development which again contributes to growth, productivity and employment creation, all being essential for sustainable reductions in poverty. However, a major part of any successful legal strategy towards sustainable development includes enforcement. The rule of law means nothing without effective access to justice, without compliance with and enforcement of judgments made by legitimate courts. With regards to the recent dissolution of the SADC Tribunal the legal fraternity in the region responded as follows:

Heads of State from the Southern African Development Community (SADC) have unlawfully sabotaged the SADC Tribunal and undermined the right of citizens to access justice [...] by violating regional laws and acting unconstitutionally [...].⁹⁰

Having said this, it must be concluded that the dissolution of the SADC Tribunal violates the right to a fair trial, non-discrimination, access to justice and effective legal remedies.

86 Cf. <http://www.sadc.int/index/browse/page/715>; last accessed 19 June 2011.

87 Article 5, Amended Declaration and Treaty of SADC 1992.

88 Susswein (2003:297).

89 Susswein (2003:303).

90 See <http://www.thezimbabwean.co.uk/news/zimbabwe/35444/sadc-leaders-undermine-regional-tribunal.html>; accessed 20 August 2011.

CHAPTER 6

ENVIRONMENTAL LAW IN NAMIBIA: AN OVERVIEW

Oliver C. Ruppel

The objective of this chapter is to give a broad overview of the general foundations and sources of national environmental law.¹ It should be noted, that the subsequent Chapters will then provide a more in-depth legal analysis of specific topics.

The root causes for environmental degradation as experienced worldwide also apply to Namibia. Environmental degradation is closely related to human actions, economies and policies. The direct causes for environmental degradation include overexploitation, overconsumption, pollution and a wide range of activities that have a direct impact on the environment. The major threats to the Namibian environment include unsustainable harvesting of wild plants and wildlife, soil erosion and water pollution, climate change but also alien invasive organisms that threaten the survival of indigenous species.

The aim of environmental protection can be achieved by different means. Traditional legal methods include the establishment of protected areas, the regulation of harvesting and trade in certain species, the management of habitats and ecosystems, and the prohibition of alien and invasive species. Pollution control and the management of hazardous substances are other effective ways to contribute to the preservation of the environment. The success of Namibia's efforts to sustainably use, control, manage and safeguard its natural resources depends to quite some extent on the different legal instruments that are available and on an interdisciplinary approach to develop a target-oriented environmental legislative framework as knowledge from other disciplines – biology, chemistry, medical science, ecology, sociology and economy is a *conditio sine qua non* for the creation of environmental institutions and sound legislation.

1 The Namibian Constitution

The Namibian Constitution² or the Mother of All Laws, as Namibians have come to call this legal instrument is indivisibly linked to the founding of the Namibian state. The adoption of the Constitution on 9 February 1990 came about after a three-decade-long struggle for

1 For the sources of Namibian law in general see Amoo (2008a:53ff.).

2 It should be noted that according to Article 148 of the Namibian Constitution, “[T]his Constitution shall be called the Namibian Constitution.” Differing citations such as the Namibian Constitution Act, 1990, the Constitution of Namibia Act 1 of 1990 or the Constitution of the Republic of Namibia, 1990 (Act No. 1 of 1990) are strictly speaking incorrect, although these citations do occur in court processes, judgments, academic syllabi and academic publications.

Independence³ and many more decades of colonial and military rule.⁴ On 21 March 1990, Namibia became politically independent, with a basic legal framework drafted by the Constituent Assembly of Namibia. The liberation process was supported by the international community particularly the United Nations Security Council Resolution 435 of 1978, setting out the governing code for the decolonisation process. Resolution 435 could be implemented due to a tripartite agreement between South Africa, Cuba and Angola under the supervision of the UN.⁵ In 1982, the United Nations General Assembly requested the United Nations Institute for Namibia, which was established in 1976 by the United Nations Council for Namibia, to prepare, in cooperation with the South West Africa People's Organisation (SWAPO), the Office of the United Nations Commissioner for Namibia and the United Nations Development Programme, a comprehensive document on all aspects of socio-economic reconstruction and development planning for an independent Namibia.⁶ The first democratic and internationally recognised elections took place in November 1989 and a Constituent Assembly consisting of individuals from various political parties drafted the fundamental legal framework for the Republic of Namibia. The Constitution, which came into force on Independence Day 21 March 1990, was thus a result of joint efforts of and debates between the political parties represented in the Constituent Assembly, South Africa, the United Nations and the South West Africa People's Organisation (SWAPO).⁷

The Namibian Constitution has been hailed as one of the most democratic and liberal constitutions in the world.⁸ It shows a strong commitment to the rule of law, democratic government and respect for fundamental human rights and freedoms such as the protection of life, liberty, human dignity, equality, education, freedom from slavery, forced labour, and discrimination to name only a few rights enshrined in the Constitution. Furthermore, the Constitution contains mechanisms with regard to checks and balances between the three branches of government – the executive, legislative branches, and the judiciary. Principles of state policy, which guide the government's legislative processes are provided in Chapter 11 of the Constitution. That the protection of the environment is not only a concern, but a constitutional issue in Namibia will be outlined in the following paragraphs.

According to Article 1(6) of the Namibian Constitution, the latter is the law above all laws. Therefore, all legislation ought to be consistent with the provisions of the Constitution. The Constitution lays the foundation for all policies and legislation in Namibia and contains three key environmental clauses relevant to sustainable use of natural resources.

Article 100 of the Constitution vests all natural resources in the state, unless otherwise legally owned. Thus, unless legal ownership of natural resources in a specific locality is

3 On the struggle for liberation see Katjavivi (1988).

4 For a detailed analysis of the background and origin of the Namibian Constitution see Diescho (1994:8ff.) and Erasmus (2002).

5 Diescho (1994:17f.).

6 UNIN (1986).

7 Diescho (1994:8f.).

8 Schmidt-Jortzig (1991:71ff.); Schmidt-Jortzig (1994:309ff.); Van Wyk (1991:341ff.).

proven, such natural resources are owned by the state; the provision implies thus that natural resources can be legally owned as private property. Article 95(l) stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies which include the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians...". Through this particular Article, Namibia is obliged to protect its environment and to promote a sustainable use of its natural resources. Furthermore, Article 91(c) stipulates that one of the functions of the Ombudsman is

the duty to investigate complaints concerning the over utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.

Further to these environmental key provisions, Article 144 must again be pointed out as the constitutional link to international environmental law applicable in Namibia.⁹

2 Roman-Dutch and Common Law

Roman-Dutch law is based on Roman law as it was applied by the courts of Holland and other provinces in the Netherlands; it was developed by writers such as Hugo de Groot and Simon van Leeuwen in the 17th and 18th centuries.¹⁰ Roman-Dutch law came to the Cape of Good Hope, when Dutch East India Company under its local governor Jan van Riebeeck established a refreshment post – today's Cape Town in 1652. Roman-Dutch Law in South Africa was subject to further developments under the influence of particularly English law.¹¹ With the effect of Proclamation 21 of 1919, the Roman-Dutch law developed by the South African courts became the common law of the territory, binding on the Namibian courts until Independence.¹² This position was affirmed by Article 66(1) of the Namibian Constitution of 1990, which provides that

both the customary law and the common law of Namibia in force on the date of Independence shall remain valid to the extent to which such customary or common law does not conflict with this Constitution or any other statutory law.

Common law¹³ refers to law and the corresponding legal system developed through court decisions and similar tribunals, rather than through statutory enactment. Common law is created and refined by judges: a decision in the case currently pending depends on decisions in previous cases and affects the law to be applied in future cases. When there is no authoritative statement of the law, judges have the authority and duty to make law by creating precedent.

9 Article 144 reads as follows: „Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia.”

10 Du Plessis (1999:40ff.).

11 Du Plessis (1999:49ff.).

12 See Amoo (2008a:60ff.).

13 For further details on the common law in Namibia see Amoo (2008a:62ff.).

According to Article 66 of the Namibian Constitution, the common law in force on the date of Independence remains valid to the extent that the same is not in conflict with the Constitution or any other statutory law.¹⁴

Several common law doctrines are relevant in terms of environmental protection.¹⁵ For example, the common law rule of delict can be applied with regards to wrongful acts or omission; fault, either intended or through negligence; or harm to person or property (patrimonial loss).¹⁶ The law of nuisance, including public and private nuisance is equally applied in cases with environmental impact and the neighbour legal principle of *sic utere tuo ut alienum non laedas* (use your property in a way which does not harm another) is considered to be one of the roots of environmental protection. The remedies available under the common law are self-help, an abatement order, action for damages and an interdict. The principal remedies for preventing or restraining an environmental nuisance or delictual conduct are an interdict and, where harm has already been caused, a claim for damages in terms of Aquilian action.¹⁷

Especially from a common law perspective, environmental litigation is an important facet for the vital development of environmental law. Judicial intervention related to environment-related issues arises when persons resort to court action to seek redress for a grievance. Court action can be either of civil or of criminal nature. While civil action is typically resorted to by private parties, criminal action is generally the preserve of public authorities. Judicial decisions in environment-related decisions are scarce in Namibia, which is no surprise given the novelty of environmental law and Namibia's tender age.¹⁸ However, being a plural legal system with substantive common law elements, Namibia can greatly benefit from the experience with environment related cases in other countries.¹⁹

Over all, it can be concluded, that the common law rules complement environmental statutory enactments; this is also true, when it comes to their application and interpretation. It is this gradual convergence of conventionally disparate legal families that leads towards a system that recognises the complementary roles of legislation and judicial precedents as sources of law. In this context, the role of judges in the development of the common law and – at the

14 Cf. Ruppel (2009d).

15 Under Roman law, several provisions have been applied for the protection of natural resources. See Wacke (2002); Van den Bergh (1999:495ff.).

16 Kidd (2008:133).

17 For further literature and South African case law references on the common law and other remedies in environmental law, cf. Paterson / Kotzé (2009).

18 Environment-related cases in Namibia are mostly of criminal nature and fall under the scope of the Nature Conservation Ordinance No. 4 of 1975. The cases include but are not limited to the following: *S v Ngombe* 1990 NR 165 (HC); *S v Machinga* 1990 NR 157 (HC); *Skeleton Coast Safaris v Namibia Tender Board and Others* 1993 NR 288 (HC); *S v Makwele* 1994 NR 53 (HC); *S v Koortzen* 1994 NR 356 (HC); *S v Kau and Others* 1995 NR 1 (SC); *S v Vorster* 1996 NR 177 (HC); *S v Seibeb and Another*; *S v Eixab* 1997 NR 254 (HC); *S v Maritz* 2004 NR 22 (HC); *S v Aukemeb* 2009 (1) NR 19 (HC); *Van Rensburg and Another v Government of the Republic of Namibia* 2009 (2) NR 431 (HC); *Uffindell t/a Aloe Hunting Safaris v Government of Namibia and Others* 2009 (2) NR 670 (HC).

19 For a collection of environmental decisions see UNEP (2001 and 2005).

same time – the judicial interpretation of statutes should not be underestimated. However, where pollution is, for example, expressly prohibited by means of legislation, it is usually the state that has the responsibility “to take the necessary steps to put a stop to the action or to prosecute the offender”, whereas under common law the plaintiff needs to take up the matter and therefore has to carry the “burden of expense, time and other pressures”.²⁰

3 Statutory Law

The Constitution provides the framework and Independence created the opportunity to revise a wide range of national policies and laws. This, together with the emphasis placed on environmental concerns at the Rio Summit in 1992 and increased awareness triggered widespread legislative reform, particularly in terms of natural resource management.

In Namibia, a wide number of enactments have had an impact – directly or indirectly – on the environment. Environmental framework legislation of cross-sectoral nature such as the Environmental Management Act²¹ or the Nature Conservation Ordinance²² are rather broad in scope, while sectoral legislation such as the Forest Act²³ or the Water Management Act²⁴ cover specific environmental issues. The following list, which is not considered to be comprehensive, shows the scope of environmental legislation in Namibia. The substantial number of enactments shows the relevance of environmental concerns in Namibia. Only some of the listed statutory laws can be introduced briefly.

20 Kidd (2008:134).

21 No. 7 of 2007.

22 No. 4 of 1975.

23 No. 12 of 2001.

24 No. 24 of 2004.

Selected Environmental Legislation in Namibia

- Agricultural (Commercial) Land Reform Act No. 6 of 1995
- Agricultural Pests Act No. 3 of 1973
- Animals Protection Act No. 71 of 1962
- Atmospheric Pollution Prevention Ordinance No. 11 of 1976
- Atomic Energy and Radiation Protection Act No. 5 of 2005
- Biosafety Act No. 7 of 2006
- Communal Land Reform Act No. 5 of 2002
- Controlled Game Products Proclamation No. 42 of 1980
- Diamond Act No. 13 of 1999
- Environmental Management Act No. 7 of 2007
- Environment Investment Fund of Namibia Act No. 13 of 2001
- Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act No. 36 of 1947
- Forest Act No. 12 of 2001
- Game Products Trust Fund Act No. 7 of 1997
- Hazardous Substances Ordinance No. 14 of 1974
- Inland Fisheries Resources Act No. 1 of 2003
- Livestock Improvement Act No. 25 of 1977
- Marine Resources Act No. 27 of 2000
- Minerals (Prospecting and Mining) Act No. 33 of 1992
- Mountain Catchment Areas Act No. 63 of 1970
- Namibia Wildlife Resorts Company Act No. 3 of 1998
- National Fishing Corporation of Namibia Act No. 28 of 1991
- National Heritage Act No. 27 of 2004
- Nature Conservation Ordinance No. 4 of 1975
- Petroleum (Exploitation and Production) Act No. 2 of 1991
- Petroleum Products and Energy Act No. 13 of 1990
- Plant Quarantine Act No. 7 of 2008
- Prevention and Combating of Pollution of the Sea by Oil Act No. 6 of 1981
- Soil Conservation Act No. 76 of 1969
- Water Act No. 54 of 1956
- Water Management Act No. 24 of 2004

3.1 The Environmental Management Act ²⁵

The Environmental Management Act is an important tool in terms of environmental protection. On 6 February 2012, Government gazetted several notices related to the Environmental Management Act.²⁶ It has *inter alia* been determined that with publication in the Gazette, the Environmental Management Act becomes operational.²⁷ The Act requires adherence to the principle of optimal sustainable yield in the exploitation of all natural resources. The Act gives effect to Article 95 (l) of the Namibian Constitution by establishing general principles for the management of the environment and natural resources. It promotes the coordinated and integrated management of the environment and sets out responsibilities in this regard. Furthermore, it intends to give statutory effect to Namibia's Environmental Assessment Policy; further, it enables the minister responsible for the environment to give effect to Namibia's obligations under international environmental conventions; and provides for associated matters. The Act promotes inter-generational equity in the utilisation of all natural resources. Environmental impact assessments and consultations with communities and relevant regional and local authorities are provided for to monitor the development of projects that potentially have an impact on the environment.

²⁵ No. 7 of 2007.

²⁶ See Government Gazette No. 4878, Notices 28-30; available at http://www.the-eis.com/data/literature/Commencement_of_the_Environmental_Management_Act.pdf; last accessed on 03 May 2012.

²⁷ Government Notice No. 28, Commencement of the Environmental Management Act, 2007; Government Gazette No. 4878; available at http://www.the-eis.com/data/literature/Commencement_of_the_Environmental_Management_Act.pdf; last accessed on 03 May 2012.

According to the Act, Namibia's cultural and natural heritage is required to be protected and respected for the benefit of present and future generations. A Sustainable Development Advisory Council is to be established²⁸ to advise the minister on issues that promote cooperation and coordination between organs of state, non-governmental organizations, community based organisations, the private sector and funding agencies, on environmental issues relating to sustainable development. Moreover, the Council advises the minister on the development of a policy and strategy for the management, protection and use of the environment, and on the conservation of biological diversity, access to genetic resources in Namibia, and the use of components of the environment, in a way and at a rate that does not lead to the long-term decline of the environment.

The Environmental Management Act establishes further institutions responsible for the different concepts under the Act. These include the Environmental Commissioner and the Environmental Officers. By appointing the Environmental Commissioner in February 2012 as required by Section 16 of the Environmental Management Act, the full operationalisation of the Environmental Management Act has been underlined.²⁹ The functions and duties of the Environmental Commissioner include advising government bodies on the preparation of environment plans, receiving and recording all applications for environmental clearance certificates, determining whether a particular listed activity requires an environmental assessment, reviewing environmental assessment reports, issuing environmental clearance certificates and conducting inspections to monitor compliance with the Environmental Management Act. In order to promote the sustainable management of the environment and the use of natural resources, the Environmental Management Act has established a bundle of principles for decision-making on matters affecting the environment. The objective of the Act is laid down in its Section 2:

The object of this Act is to prevent and mitigate, on the basis of the principles set out in section 3, the significant effects of activities on the environment by -

- (a) ensuring that the significant effects of activities on the environment are considered in time and carefully;
- (b) ensuring that there are opportunities for timeous participation of interested and affected parties throughout the assessment process; and
- (c) ensuring that the findings of an assessment are taken into account before any decision is made in respect of activities.

The principles of environmental management have to be applied by government institutions and private persons including companies, institutions and organisations,

28 In February 2012, the Government of Namibia gazetted the Regulation for the implementation of Environmental Management Act No. 07 of 2007. Subsequently, the Ministry of Environment and Tourism invited nominations for appropriate persons from the public, organisations, associations or institutions to sit on the Sustainable Development Advisory Council. The closing date for nominations was 30 April 2012. See <http://www.met.gov.na/Pages/Consultancies.aspx>; last accessed on 03 May 2012.

29 In February 2012, Cabinet appointed Teofilus Nghitila as Namibia's Environmental Commissioner.

when doing or planning things which may have a significant effect on the environment. These principles are well elaborated in Section 3 (2) of the Act:

- (a) renewable resources must be used on a sustainable basis for the benefit of present and future generations;
- (b) community involvement in natural resources management and the sharing of benefits arising from the use of the resources, must be promoted and facilitated;
- (c) the participation of all interested and affected parties must be promoted and decisions must take into account the interest, needs and values of interested and affected parties;
- (d) equitable access to environmental resources must be promoted and the functional integrity of ecological systems must be taken into account to ensure the sustainability of the systems and to prevent harmful effects;
- (e) assessments must be undertaken for activities which may have a significant effects on the environment or the use of natural resources;
- (f) sustainable development must be promoted in all aspects relating to the environment;
- (g) Namibia's cultural and natural heritage including, its biological diversity, must be protected and respected for the benefit of present and future generations;
- (h) the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term must be adopted to reduce the generation of waste and polluting substances at source;
- (i) the reduction, re-use and recycling of waste must be promoted;
- (j) a person who causes damage to the environment must pay the costs associated with rehabilitation of damage to the environment and to human health caused by pollution, including costs for measures as are reasonably required to be implemented to prevent further environmental damage;
- (k) where there is sufficient evidence which establishes that there are threats of serious or irreversible damage to the environment, lack of full scientific certainty may not be used as a reason for postponing cost-effective measures to prevent environmental degradation; and
- (l) damage to the environment must be prevented and activities which cause such damage must be reduced, limited or controlled.

To achieve this, the Act provides for administrative mechanisms such as the necessity of environmental clearance certificates and environmental assessments. The impact of activities on the environment has to be considered and interested or affected parties have to be given an opportunity to participate in environmental assessment when government institutions or private persons are intending or planning anything likely to have a significant effect on the environment. With regard to such activities, environmental assessments have to be conducted before any decisions are made. For specific activities or projects having an environmental impact, an environmental clearance certificate is required.

To obtain an environmental clearance certificate, a person who wants to carry out an activity listed according to Section 27 of the Environmental Management Act must follow a multi-

stage process inline with Sections 32-37 of the Environmental Management Act³⁰ and with the regulations for the implementation of the Environmental Management Act as gazetted in February 2012 which have listed certain activities that may not be undertaken without an environmental clearance certificate.³¹ Environmental clearance certificates are required for specific activities in the following sectors:

- energy generation, transmission and storage activities
- waste management, treatment, handling and disposal activities
- mining and quarrying activities
- forestry activities
- land use and development activities
- tourism development activities
- agriculture and aquaculture activities
- water resource developments
- hazardous substance treatment, handling and storage
- infrastructure
- other activities

All activities which need an environmental clearance certificate must follow the Regulations for Environmental Impact Assessments³², which have been made according to section 56 of the Environmental Management Act. These require inter alia that the proponent of an activity designates an environmental assessment practitioner (EAP) to manage the assessment process and ensures that the environmental assessment procedures, specified in the Environmental Management Act, the regulations and guidelines, are followed. The application for an environmental clearance certificate must be submitted to either the Environmental Commissioner, or to any other organ of state, if so required by section 30(1) of the Environmental Management Act. The submission of the application is followed by a public consultation process and the preparation of a scoping report according to section 8 of the regulations. Whether or not the proposed activity needs an assessment is then decided by the Environmental Commissioner. Environmental assessments are conducted in order to

- ensure that activities which may have a significant effect on the environment follow the principles of environmental management planning and development process;
- analyse the possible environmental impacts of activities, and look at ways to decrease negative impact and increase positive ones;
- make sure that the environmental effects of activities are given adequate consideration

30 See MET (2008:32ff). For further details see also the Regulations for Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) and the Procedures and Guidelines for Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) drafted by the Ministry of Environment and Tourism in 2008.

31 Government Notice No. 29, List of activities that may not be undertaken without Environmental Clearance Certificate: Environmental Management Act, 2007; Government Gazette No. 4878 available at http://www.the-eis.com/data/literature/Commencement_of_the_Environmental_Management_Act.pdf; last accessed on 03 May 2012.

32 Government Notice No. 30, Environmental Impact Assessment Regulations: Environmental Management Act, 2007; Government Gazette No. 4878 available at http://www.the-eis.com/data/literature/Commencement_of_the_Environmental_Management_Act.pdf; last accessed on 03 May 2012.

- before the activities are carried out; and to
- provide an opportunity for public participation in considering the environmental impact of a project.³³

If such an assessment is required, the Environmental Commissioner decides on the scope and procedure for the assessment and informs the proponent on the requirements and time frame for the assessment. The assessment has to be carried out according to these requirements and an assessment report has to be submitted to the Environmental Commissioner. Public participation is ensured in that it is required, that persons who may be affected by the activity applied for must be notified and given a chance to inspect the assessment report and make submissions on it. Upon review of the assessment report, the Environmental Commissioner decides whether or not to grant an environmental clearance certificate. The Commissioner's decision may be subject to appeal to the Minister of Environment and Tourism according to Section 50 of the Environmental Management Act.

One further mechanism aiming at the realisation of the objectives of the Act is the provision for environmental plans to ensure better co-ordination amongst Government agencies. Organs of state which exercise functions that may affect the environment are supposed to make environmental plans in order to minimise the duplication of procedures and functions and to promote consistency in the exercise of functions that may affect the environment. The Organs of State that are supposed to draft such management plans are to be listed by the Ministry of Environment and Tourism in the Government Gazette.

3.2 The Nature Conservation Ordinance³⁴

One of the major biodiversity related laws in Namibia is the legislation governing the conservation of wildlife, and protected areas, the Nature Conservation Ordinance 4 of 1975. With the introduction of communal conservancies, amendments to the ordinance and its regulations were made and came into effect in 1996. The amendments were made to take into account the establishment of conservancies and Wildlife Councils. In terms of the amendment, rural communities have to form a conservancy in order to be able to acquire the use-right over wildlife. Wildlife conservancies are gaining importance granting communities custodianship of their natural resources particularly wildlife and fish.

Although efforts are currently in progress to repeal this piece of legislation in its entirety, the Nature Conservation Ordinance is still one of the most comprehensive environment-related legal instruments in Namibia.

The Ordinance is arranged as follows: Chapter I establishes the Nature Conservation Board. Chapter II deals with game parks and reserves, and in particular its Section 13 is about the Etosha National Park. The Ordinance provides for a restriction of the right to enter game parks

33 MET (2008:29).

34 No. 4 of 1975.

and nature reserves under specific conditions and prohibition of certain acts therein. One of the most important provisions with regard to the protection of game is Section 20, which prohibits hunting in game parks and nature reserves. With regard to plant protection, Section 24 prohibits the picking of indigenous plants in private nature reserves. Chapter III of the Ordinance on wild animals inter alia regulates hunting of specifically protected and protected game and of huntable game, game birds, exotic game and other wild animals. Provision is also made for the lease of hunting rights in Section 35. An own Chapter of the Ordinance is on problem animals, which are wild animals, declared as problem animals by the Executive Committee by respective notice in the Government Gazette. The provisions of Chapter V on the protection of fish in inland waters have been repealed by the Inland Fisheries Resources Act. Chapter VI aims at the protection of indigenous plants. The Minister of Environment and Tourism, who is responsible for the preservation of wild animals, exotic game, fish and plants may destroy decrease or eliminate any species that is detrimental to any other species, undertake research and surveys on any species, take the measure for the control of aquatic vegetation and issue regulations with regard to the import, cultivation and control of any plant, indigenous or not detrimental to, any wild animal, fish or indigenous plant. Chapter VII of the Ordinance contains several general provisions of more procedural and administrative nature, and focuses on permits, licences, registrations, approvals, permissions, exemptions and criminal implications and consequences for those who trespass specific provisions of the Ordinance. The Schedules of the Ordinance amongst others, list specially protected game, protected game, huntable game, huntable game birds, and protected plants. The Ordinance is considered to be the most important environmental law in Namibia with regard to case law.³⁵ Unfortunately, this legal instrument is not equipped with adequate enforcement mechanisms, and the penalties attached to the offences hardly have a deterring effect.

3.3 Legislation on Water

The Water Act³⁶ remains in force until the new Water Resources Management Act comes into force upon signature by the Minister. Although the new Water Resources Management Act was approved by parliament in 2004 it has yet to be signed by the Minister and is currently being amended to take into account practical aspects of implementation. Thus the Water Act of 1956 is generally referred to as the old Water Act and often in the past tense, although strictly speaking it remains applicable until it is officially repealed. This Act gives the Minister the power to, amongst others, investigate water resources, plan water supply infrastructure, develop water schemes, control water pollution, protect, allocate and conserve water resources, inspect water works, levy water tariffs and advise on all matters related to the water environment in general. It basically makes the Department of Water Affairs responsible

35 S v Ngombe 1990 NR 165 (HC); S v Machinga 1990 NR 157 (HC); Skeleton Coast Safaris v Namibia Tender Board & Others 1993 NR 288 (HC); S v Makwele 1994 NR 53 (HC); S v Koortzen 1994 NR 356 (HC); S v Kau & Others 1995 NR 1 (SC); S v Vorster 1996 NR 177 (HC); S v Seibeb & Another; S v Eixab 1997 NR 254 (HC); S v Maritz 2004 NR 22 (HC); S v Aukemeb 2009 (1) NR 19 (HC); Van Rensburg & Another v Government of the Republic of Namibia 2009 (2) NR 431 (HC); Uffindell t/a Aloe Hunting Safaris v Government of Namibia & Others 2009 (2) NR 670 (HC).

36 No. 54 of 1956.

for the use, allocation, control, and conservation of Namibia's surface and groundwater resources. It makes provision for the protection of river catchments, drilling of boreholes and making of wells, it controls effluent discharge into rivers and weather modifications such as cloud seeding and outlines regulations that govern the optimal use of water resources. It clearly defines the interests of the state in protecting water resources.

The **Water Resources Management Act**³⁷ has been approved and published in the Government Gazette. However, it has not yet come into force as a date for commencement of the Act as prescribed by Section 138(1)(b) of the same Act has not yet been determined by the Minister. Once the Act is in force, the Water Act of 1956 will be repealed as whole. The Act is based on the National Water Policy and provides for the management, development, protection, conservation, and use of water resources. It establishes the Water Advisory Council, the Water Regulatory Board and the Water Tribunal; and it provides for incidental matters. The objective of this Act is to ensure that Namibia's water resources are managed, developed, protected, conserved and used in a sustainable manner for the benefit of every Namibian.

3.4 Legislation on Fisheries and Marine Resources

The **Marine Resources Act**³⁸ provides for the conservation of the marine ecosystem and the responsible utilisation, conservation, protection and promotion of marine resources on a sustainable basis. For that purpose it provides for the exercise of control over marine resources and for matters connected therewith. It replaces the Sea Fisheries Act 29 of 1992, which in turn replaced the Sea Fisheries Act 58 of 1973.

The **Aquaculture Act**³⁹ regulates and controls aquaculture activities and the sustainable development of aquaculture resources. It allows the Minister to formulate policies based on social, economic and environmental factors, as well as the best scientific information and advice from the advisory council to promote sustainable aquaculture and manage, protect and conserve aquatic ecosystems.

The **Inland Fisheries Resources Act**⁴⁰ deals with the conservation and utilisation of inland fisheries resources and allows for the updating and development of new policies for the conservation and sustainable utilisation of Namibia's inland fisheries. It encourages cooperation with neighbouring countries regarding the management and conservation of shared waterways. No fishing is allowed in parks nor by net within 100m from a bridge, culvert or spillway or in a manner obstructing more than half the width of any watercourse. Furthermore it prohibits the use of destructive fishing methods such as the use of poisons, explosives and night lights and the introduction and/or transfer of non-indigenous fish species.

37 No. 24 of 2004.
38 No. 27 of 2000.
39 No. 18 of 2002.
40 No. 1 of 2003.

Fines or imprisonment are prescribed, for destructive fishing and the use of nets where they are banned.

The **Prevention and Combating of Pollution at Sea by Oil Act**⁴¹ prohibits the discharge of oil from ships, tankers or off-shore installations and gives the state certain powers to prevent such pollution and to deal with the removal of oil spills. Whereas this Act is applicable to coastal waters, inland water pollution is covered by the Water Act.

3.5 Legislation on Land and Agricultural Production

The **Communal Land Reform Act**⁴² provides for the allocation and administration of all communal land and makes provision for the prevention of land degradation and for mitigating the impact of mining, prospecting, road works and water provision on the natural environment. The Act gives certain rights to communal farmers and traditional authorities, and states that future regulations will address issues pertinent to the conservation and sustainable management of water and watercourses, of woods and to the combating and prevention of soil erosion, the protection of pastoral resources, such as the grazing of stock, and any other matter as the Minister may consider necessary or expedient.

The **Agricultural Pests Act**⁴³ has been repealed by the Plant Quarantine Act⁴⁴. The Agricultural Pests Act dealt with the registration of nurseries, the control and eradication of plants, insects and diseases at nurseries, the control and eradication of exotic (vertebrate) animals (excluding farm animals) and plants infected by insects or plant diseases, control of plant, insect and plant disease imports, honey bees, honey and exotic animals, the eradication of plant diseases, insects and locusts as well as defining the powers of inspectors.

The **Plant Quarantine Act**⁴⁵ provides for the preventing, monitoring, controlling and eradication of plant pests. The Act deals with the movement of plants, plant products and other regulated articles within and into or out of Namibia and provides for the certification of the phytosanitary standards of plants and plant products exported from Namibia. The Act makes provision with respect to the prevention and control of pests affecting plants. To this end, quarantine control measures and places restrictions on the importation of plant and plant material are introduced. The Minister may appoint plant protection officers and may declare areas or pests for purposes of quarantine control. The Ministry, or such other authority as the Minister by Notice in the Gazette may designate, has the authority and responsibility to function as the official national plant protection organization of Namibia for the purposes of the International Plant Protection Convention. In June 2012, the Ministry of Agriculture,

41 No. 6 of 1981.

42 No. 5 of 2002.

43 No. 3 of 1973.

44 No. 7 of 2008. The Plant Quarantine Act came into operation on 01 July 2012. Cf. GN No 157, 2012, GG No. 4975.

45 No. 7 of 2008. The Plant Quarantine Act came into operation on 01 July 2012. Cf. GN No 157, 2012, GG No. 4975.

Water and Forestry has made and gazetted regulations⁴⁶ relating to issuing of import permits, examination of imported plants, diseases or insects and lodging of appeals.

The **Soil Conservation Act**⁴⁷ makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and resources. The **Second Soil Conservation Amendment Act**⁴⁸ applies the Soil Conservation Act to Namibia and deals mainly with soil conservation, soil stabilisation and fire protection. This Act is being revised by the Ministry of Agriculture, Water and Forestry as part of the new Conservation of Agricultural Resources Bill.

3.6 Legislation on Forestry

The **Forest Act**⁴⁹ consolidates the laws relating to the use and management of forests and forest produce; it provides for the control of forest fires and creates a Forestry Council. It replaces the Preservation of Trees and Forests Ordinance⁵⁰ and the 1968 Forest Act⁵¹. The 2001 Forest Act defines forest produce in very broad terms as anything that grows or is naturally found in a forest. The Act is formulated around the tenets of sustainable management of forests, and the purpose for which forest resources are managed and developed. This also includes the planting of trees where necessary, as well as soil conservation, the safekeeping of water resources and the maintenance of biological diversity.

3.7 Legislation on Energy and Mining

The **Minerals Prospecting and Mining Act**⁵² makes it illegal for any person to prospect and mine without a licence, as such may have a negative impact on the environment. Section 122 stipulates that the Minister may, for the protection of the environment or the natural resources of Namibia or the prevention of pollution or damage, declare that certain explorative and mining processes may not be carried out or only with special permission.

The **Petroleum (Exploration and Production) Act**⁵³ was enacted to provide for the reconnaissance, exploration, production and disposal of, and the exercise of control over, petroleum. Production licences must be obtained to carry on reconnaissance operations and according to Section 71, rights-holders are held responsible for the pollution of the environment or other damages or losses caused.

The **Diamond Act**⁵⁴ contains several provisions aimed at protecting the environment. Section

46 See GN No. 158 GG No. 4975.

47 No. 76 of 1969.

48 No. 38 of 1971.

49 No. 12 of 2001.

50 No. 37 of 1952.

51 No. 72 of 1968.

52 No. 33 of 1992.

53 No. 2 of 1991.

54 No. 13 of 1999.

55 is of specific importance as it prohibits the removal of sand, soil, clay, gravel, stone and rock from restricted areas unless specific permission is obtained. Section 56 prohibits the exportation of such items.

4 Selected Environmental Legislation in Preparation

The **Protected Areas and Wildlife Management Bill** of 2005 has not been enacted as of yet.⁵⁵ It will protect all indigenous species and control the exploitation of all plants and wildlife. The Preamble to this Bill states its intention to give effect to paragraph (l) of Article 95 of the Namibian Constitution. In it the state undertakes to establish a legal framework that provides for and promotes the maintenance of ecosystems, essential ecological processes and the biological diversity of Namibia and to promote the mutually beneficial co-existence of humans with wildlife, to give effect to Namibia's obligations under relevant international legal instruments, including the Convention on Biological Diversity and the Convention on International Trade in Endangered Species of Wild Fauna and Flora. In case the proposed Act comes into force, it repeals the Nature Conservation Ordinance 4 of 1975.

In its Principles of Conservation (Section 3) the Bill recognises that biological diversity must be maintained, and where necessary, rehabilitated; and that essential ecological processes and life support systems must be maintained.

The **Pollution Control and Waste Management Bill** aims to promote sustainable development; to provide for the establishment of a Pollution Control and Waste Management Unit; to prevent and regulate the discharge of pollutants to the air, water and land, to regulate noise, dust and odour pollution, to make provision for the establishment of an appropriate framework for integrated pollution prevention and control, to establish a system of waste planning and management and to enable Namibia to comply with its obligations under international law in this regard.

The first **Access to Biological Resources and Associated Traditional Knowledge Bill** was drafted in 1998 and has since then undergone several changes. The objective of the envisaged piece of legislation is to protect biodiversity and traditional knowledge. The Bill applies to the derivatives of the biological resources, community knowledge and technologies, local and indigenous farming communities, and plant breeders. The benefit derived from the resource that is found within a specific area is limited to the inhabitants of that area. The Bill prohibits patents over life forms and biological processes. Furthermore, it recognises the rights of local and indigenous communities, and lays down a platform for the application of customary law to community rights. Local communities will be entitled to exercise their inalienable right to access, use, exchange, or share their biological resources in sustaining their livelihood systems, as regulated by their customary practices and laws. The Bill has

55 However, the Minister of Environment and Tourism has recently called for a finalisation of that law. Cf. <http://www.economist.com.na/general-news/777-environment-minister-calls-for-finalisation-of-laws>; last accessed 27 September 2012.

been put on hold but, an Interim Bioprospecting Committee (IBPC) was set up in 2007 until the bill is finalised.

5 Customary Law

Despite the legal influence of the ex-colonial powers, a large number of Namibians still live under indigenous customary law.⁵⁶ This makes the Namibian legal system an object of fascination to comparative lawyers as well as to legal ethnologists and sociologists. Legal pluralism prevails, hence two or more types of law or legal traditions operate simultaneously.⁵⁷ Before the arrival of the colonists the indigenous populations have lived for generations according to their own distinctive laws. Customary law was passed on – orally – from generation to generation. Article 66 of the Namibian Constitution lays the foundation for the constitutional recognition of customary law. It states that both the customary law and the common law of Namibia in force on the date of Independence shall remain valid to the extent that such customary or common law does not conflict with the Constitution or any other statutory law. Section 3 of the Traditional Authorities Act⁵⁸ gives certain powers, duties and functions to traditional authorities and members thereof. It is the overall responsibility of traditional authorities to supervise and ensure the observance of the customary law of that community by its members. As to nature conservation it is one of the duties of a traditional authority to ensure that members of the traditional community use the natural resources at their disposal on a sustainable basis and in a manner that keeps the environment and maintains the ecosystem for the benefit of all Namibians.⁵⁹ Customary law plays an important role in the sustainable development of natural resources and the protection of biological diversity as it incorporates a broad knowledge of ecosystems relationships.⁶⁰ Still, while most of the customary rules have been transmitted orally from generation to generation, the process of ascertaining customary law in Namibia is ongoing.⁶¹

6 Criminal Aspects of Environmental Law

Environmental crimes include violations of environmental laws attracting criminal sanctions. An environmental crime can be defined as an act or omission that damages or endangers the environment. Examples of environmental crimes are *inter alia* the illegal emission of hazardous substances into air, water or soil; illegal harvesting or hunting; dumping of waste and illegal trade in endangered species. Environmental crimes may be committed by enterprises in the widest sense or individuals. Enforcement efforts in terms of environmental duties are partially inadequate as compared with the magnitude of environmental and economic losses imposed by national and trans-national environmental crimes.⁶²

56 Hinz (2002a); Sippel (2003:69ff.).

57 Griffiths (1986:1ff.).

58 No. 25 of 2000.

59 See Hinz (2003:8ff.).

60 Hinz/Ruppel (2008b:57f.).

61 Hinz (2010a).

62 In this respect, the South African Government has taken a commendable initiative; cf. <http://www.environment.co.za/laws-and-procedures/stepping-up-law-enforcement>, last accessed 20 January 2011.

Therefore, national and international enforcement programmes are necessary, and adequate resources need to be available to enable them to succeed. Penal law within environmental law aims to protect the environment by deterring detected violators from violating again or deterring other potential violators from violating by sending a message that they too may experience adverse consequences for non-compliance.⁶³

Many of the environment-related national enactments cited in this publication contain criminal clauses in terms of environmental crimes. Such makes the Nature Conservation Ordinance 4 of 1975 inter alia provision for illegal

- hunting, catching or capturing protected game;
- placing, releasing or angling any fish in inland waters;
- picking, selling, donating, exporting and removing of protected plants.

The Communal Land Reform⁶⁴ Act may serve as one further example of legislation with the character of a criminal law for it contains criminal implications relating to illegal grazing and fencing. Despite the possibility of withdrawal of grazing rights, the respective penalties include fines up to N\$4,000 or imprisonment up to one year or both.

Sanctions can range from fines for petty offences to imprisonment for serious offences. Despite from these sanctions it may be appropriate to impose specific penalties in addition to the principal punishment. In some cases provisions are made for the forfeiture either of items used for an offence or for items resulting from an offence. Another appropriate measure might be the cancellation or at least suspension of permits or licences that have been granted. In some cases it might even be prescribed that permits or licences might not be renewed in future due to committed offences. Another additional penalty may be the confiscation of property used for the offence and some provisions also contain regulation as to specific compensation or reimbursement of expenses incurred as a result of the offence. Yet, the overall aim of criminal sanctions is deterrence rather than retribution.⁶⁵ Deterrence can, however, also be achieved by measures not including criminal sanctions. These are, to name but a few, administrative measures (directives and withdrawal of authorisation), civil measures (e.g. interdict), and economic or market based instruments etc.⁶⁶

63 Some relevant Namibian cases include the following: *S v Maritz* 2004 NR 22 (HC); *S v Kau and Others* 1995 NR 1 (SC); *Van Rensburg and Another v the Government of the Republic of Namibia* 2009 (2) NR 431 (HC); *S v Maseka* 1991 NR 249 (HC); *S v Eiseb and Another* 1990 NR 142 (HC); *S v Nangombe* 1990 NR 165 (HC); *S v Makwele* 1994 NR 53 (HC).

64 No. 5 of 2002.

65 Ruppel (2009d).

66 Cf. Kidd (2008:221) with further references.

7 Development Framework

7.1 Namibia's Green Plan

Namibia's Green Plan aims at securing – for present and future generations – a safe and healthy environment and a prosperous economy. It was compiled by the Ministry of Wildlife, Conservation and Tourism in consultation with various governmental and non-governmental organisations and first presented at the Rio Conference in 1992.⁶⁷ With the Green Plan, Namibia created a national common vision around its environmental issues, priorities and future actions. The Green Plan outlines needed policy and legislation, and strategies and recommendations for key areas such as the sustainable management of wildlife, tourism and fisheries as well as environmental education for sustainable development and links environment to socio-economic development. Thus, the Green Plan has laid the basis for a number of processes to conserve and manage resources for development.⁶⁸ Some substantive outputs of Namibia's Green Plan have been the Environmental Management Act, which provides the legal foundation for environmental protection in the country through Environmental Impact Assessments (EIAs) and Strategic Environmental Assessments (SEAs); Integrated Regional Land Use Plans; Community-based Natural Resource Management (CBNRM) including Namibia's world-renowned communal conservancies, community forests and community-based management of water resources and fisheries; a thriving nature-based tourism sector supported by a progressive policy framework on tourism, and tourism and wildlife concessions on state land; water demand management initiatives including water recycling, desalination and the establishment of basin management committees and transboundary basin commissions; a variety of renewable energy and energy efficiency initiatives; cleaner production and waste management; and natural resource accounting. One further outcome of Namibia's Green Plan was the establishment of the Environmental Investment Fund (EIF) of Namibia.

The Green Plan recognises that “the health of individuals, society and the economy are inextricably linked to the health of the environment. A healthy environment provides the opportunity of realising the full developmental potential of a region and country.”⁶⁹ Accordingly, the objective is to manage its natural resources for present use without jeopardising the future accessibility of these resources. Namibia's Green Plan is divided into Chapters as follows:

- Life's three essentials – clean air, water and land;
- Sustaining our renewable resources;
- Our special spaces and species;
- Namibia's unique stewardship: The Namib Desert;
- The importance of wetlands management in arid regions;
- The threat of desertification;

67 Brown (1992).

68 GRN (2012:27).

69 Brown (1992:1).

- Global environmental security; and
- Environmentally-responsible decision-making.

Namibia's Green Plan cautions that environmental policies must be based on the precautionary principle and that all major construction projects, especially in the water sector, should always be preceded by an Environmental Impact Assessment (EIA) in order to prevent or minimise the potential negative effects on the environment. Further to this, the plan makes provision for the protection of the country's genetic resources; also its rich biodiversity must be maintained.

Namibia's Green Plan has identified a multitude of actions needed to achieve sustainable development. These actions include helping to ensure that Namibia has clean air, water and land; supporting the sustainable use of natural resources; protecting Namibia's special spaces and species; highlighting the importance of wetlands in arid regions; promoting global environmental security; and encouraging environmentally responsible decision-making at all levels of society. The plan furthermore acknowledges that environmental as well as social requirements such as poverty reduction, education, public participation and a high level of primary health care must be addressed in order to achieve the interrelated objectives of wise environmental management and sustainable development.⁷⁰

Namibia's Green Plan at a very early stage of Namibian nationhood set out an ambitious national programme for achieving environmental protection in the country. The topics set out in the plan are still, or even more of concern in the country. Thus, Namibia's Green Plan remains a relevant basic document with regard to sustainable development and environmental protection in Namibia.

7.2 Vision 2030 and the National Development Plans

Namibia's Vision 2030 was launched in June 2004 by the Founding President, Dr Sam Nujoma.⁷¹ The vision's rationale is to provide long-term policy scenarios on the future course of development in the country at different points in time up until the target year of 2030. Vision 2030 regards the sequential five-year National Development Plans (NDPs) as the main vehicles for achieving its long-term objectives. Chapter 5 of Vision 2030 states the following:

The integrity of vital ecological processes, natural habitats and wild species throughout Namibia is maintained whilst significantly supporting national socio-economic development through sustainable low-impact, consumptive and non-consumptive uses, as well as providing diversity for rural and urban livelihoods.⁷²

70 Brown (1992:172ff.).

71 GRN (2004a).

72 Ibid:167.

Thus, one of the long-term aims of Vision 2030 is the availability of clean water, and productive and healthy natural wetlands with rich biodiversity.⁷³

The successive NDPs will contain the goals and intermediate targets (milestones) that will eventually lead to the realisation of Vision 2030. NDP2,⁷⁴ which spanned the period 2001/2–2005/6, sought sustainable and equitable improvement in the quality of life of all of the country's inhabitants. The national development objectives were to ⁷⁵

- reduce poverty;
- create employment;
- promote economic empowerment;
- stimulate and sustain economic growth;
- reduce inequalities in income distribution and regional development;
- promote gender equality and equity;
- enhance environmental and ecological sustainability; and to
- combat the further spread of HIV/AIDS.

NDP3 spans the five-year period 2007/8–2011/2.⁷⁶ The draft guidelines for the formulation of NDP3 were prepared in the latter part of 2006, and approved by Cabinet in December of that year.⁷⁷ The predominant theme of NDP3 is the accelerated economic growth through intensified rural development,⁷⁸ while the productive utilisation of natural resources and environmental conservation are key result areas. Principal environmental concerns include water, land, marine, natural resources, biodiversity and ecosystems, drought, and climate change. Waste management and pollution will grow significantly with increasing industrialisation. NDP3 recognises that with the country's scarce and fragile natural resource base, the risk of overexploitation is considerable, and that sustained growth is highly dependent on the sound management of these resources. The guidelines for preparing NDP3 stipulated that the renewable resource capital needs to be maintained in quantity and quality. This is to be achieved by reinvesting benefits into natural resources by way of diversifying the economy away from resource-intensive primary sector activities, and by increasing productivity per unit of natural resource input. Two NDP3 goals to ensure the protection of environmental concerns are the optimal and sustainable utilisation of renewable and non-renewable resources on the one hand, and environmental sustainability on the other.

Namibia's Fourth National Development Plan⁷⁹ was released in July 2012 and spans the period from 2012/2012 to 2016/2017. NDP4 differs essentially from its predecessors. NDP4 is more focused, in that fewer goals and target values have been adopted. However,

73 For more detailed information on wetlands in Namibia, Cf. Ruppel / Bethune (2007:14).

74 GRN (2002a).

75 Ruppel/Bethune (2007:14).

76 GRN (2007a).

77 Ibid.

78 Ibid.

79 GRN (2012). NDP 4 and an executive summary are available at <http://www.npc.gov.na/npc/ndp4info.html>; last accessed 04 September 2012.

from an environmental perspective, NDP4 has sustained some losses. While the optimal and sustainable utilisation of renewable and non-renewable resources, and environmental sustainability had been set forth as goals within NDP3, the three overarching goals of NDP 4 are high and sustained economic growth, increased income equality, and employment creation. Four sectors, which will enjoy priority status are logistics, tourism, manufacturing, and agriculture.

Environment and climate change are, however, recognised under the category of values and principles⁸⁰, which Namibia cherishes as a nation:

Our environment is clean, and we will continue to keep it so. We expect all elements of society, and businesses in particular, to support a precautionary approach to environmental challenges and alterations of the natural world contributing to climate change, undertake initiatives to promote greater environmental responsibility, and encourage the development and diffusion of environment-friendly technologies.

Furthermore, NDP4 recognises that

environmental management is both an enabler and driver of economic development. The issue of environmental management is firmly anchored in Namibian laws and policies whose roots are in the Namibian Constitution and has earned the country an excellent reputation internationally for prudent environmental management based on innovative and progressive legislative framework.

In order to achieve one of the desired outcomes of NDP4, namely to become the most competitive economy in the SADC region according to the standards set by the World Economic Forum by the year 2017, the environmental strategy during NDP4 and beyond includes:

- the implementation and enforcement of the Environmental Management Act of 2007, particularly the use of strategic environmental assessments to guide development decision-making, the development of an integrated (including spatial) planning;
- the implementation of the CBNRM programme;
- improving and implementation policy and legislative frameworks;
- increase public access to environmental information;
- strengthen inter-ministerial, non-governmental, donor coordination and harmonisation;
- adopt Public-Private-Community-Partnerships; and
- develop new initiatives such as a Natural Resources and Environmental Governance Programme.

⁸⁰ The other values and principles which are contained in NDP4 are: National sovereignty and human dignity; upholding the Constitution and good governance; partnership; capacity enhancement; comparative advantage; people-centred economic development; gender equality and the empowerment of women; sustainable development; and peace and security.

The strategy identified to address Namibia's vulnerability to climate change is to make use of strategic environmental assessments to guide development decision-making.

7.3 Funding Mechanisms

Besides the broad number of environmental projects funded by international donors such as the GEF, a variety of government-sponsored funds are in place to facilitate social equity and the promotion of sound environmental management.⁸¹ The Solar Revolving Fund is one example. With regard to funding for environmentally relevant projects, the Environmental Investment Fund of Namibia (EIF) is of particular importance. The legal foundation of the EIF is the Environmental Investment Fund of Namibia Act⁸². The EIF became operational in 2011 after the board and the Chief Executive Officer had been appointed and was officially launched in February 2012. The EIF aims to promote sustainable economic development of Namibia through investment in and promotion of activities and projects that protect and maintain the natural and environmental resources of the country. To this end, the EIF procures funds from international donors for the maintenance of an endowment that will generate a permanent stream of income, and procure funds within Namibia on an annual basis from conservation fees and levies. With the generated funds investments in the following areas will be made:

- sustainable use and management of environmental and natural resources;
- maintenance of the natural resource base and ecological processes;
- maintenance of biological diversity and ecosystems for the benefit of all Namibians; and
- economic improvements in the use of natural resources for sustainable rural and urban development.

8 Policy Framework

A policy is a deliberate plan of action to guide decisions and achieve rational outcomes. Policies differ from rules or law. While law can compel or prohibit behaviours (e.g. a law requiring permits for specific actions) policy merely guides actions to achieve a desired outcome.

Environmental policy determines the objectives guiding, and the strategies to be used in order to strengthen the respect for environmental values, taking into account the existing social, cultural and economic situation. The foundation for the Namibian environmental policy framework is Article 95 (1) of the Constitution. It stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies which include the "maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefits of all Namibians...".

81 Cf. GRN (2012:71).

82 Act No.13 of 2001.

Although many policies have at least an indirect impact on the environment, only those considered to be most relevant are listed in the table below. A brief introduction to some of the policies listed forms part of the subsequent paragraphs.

Environmental Policies in Namibia

Environment and Wildlife

Namibia's Environmental Assessment Policy
Policy for Prospecting and Mining in Protected Areas and National Monuments
National Policy on Human Wildlife Conflict Management

Water and Fisheries

Water Supply and Sanitation Policy
The National Water Policy
Namibia's Draft Wetland Policy
Namibia's Aquaculture Policy – towards responsible development of aquaculture

Agriculture

The National Agricultural Policy
The National Drought Policy and Strategy
The Regional Planning and Development Policy
The National Seed Policy

Land

Land-use Planning: Towards Sustainable Development
The National Land Use Planning Policy
The National Land Policy
The National Resettlement Policy
The National Land Tenure Policy

Climate Change

Namibia's Draft Climate Change Policy

Forestry

Namibia Forestry Strategic Plan
Development Forestry Policy

Tourism

The Tourism White Paper
The Draft National Tourism Policy
The Community-Based Tourism Policy
Revised Draft Tourism Policy

Biotechnology

Enabling the Safe Use of Biotechnology Policy

8.1 Policies on Environmental Assessment and Biotechnology

The **Environmental Assessment Policy**⁸³ approved by Cabinet in 1994, obliges Namibia to place a high priority on maintaining ecosystems and related ecological processes, and to uphold maximum biological diversity. The Policy recognises that environmental assessments are a key tool towards implementing integrated environmental management. The policy has also gained legislative support by the Environmental Management Act⁸⁴.

The **National Policy on Enabling the Safe Use of Biotechnology**⁸⁵ was prepared by the Namibian Biotechnology Alliance and the Ministry of Higher Education, Vocational Training, Science and Technology in October 1999.⁸⁶ Pertinent to this review are two of the major objectives of this policy. The first is to guide the judicious use of modern biotechnology in Namibia for sustainable development in ways that do not in any way jeopardise human

83 GRN (1995b).

84 No. 7 of 2007.

85 GRN (1999a).

86 For environmental law and policy education in Namibia, see Ruppel (2008c).

and environmental health, including Namibia's biodiversity and genetic resources. A second objective is to ensure the effective control of trans-boundary movements of genetically modified organisms or products thereof resulting from modern biotechnology, inter alia through the exchange of information. The policy recognises that, in addition to a competent lead authority, cooperation from several other ministries is essential to ensure regulation. Several institutions will be involved in conducting risk assessments, advising on permit issues, and ensuring effective control and law enforcement.⁸⁷

8.2 Policies on Land and Agriculture

The **Land Use Planning Policy Document**⁸⁸ drafted by the Ministry of Environment and Tourism in 1994 defines five physiographic land forms, namely communal state land, privately owned commercial farmland, proclaimed state land, urban areas, and wetland systems, including their catchments. The policy emphasises the sustainability of natural resources, biodiversity and essential ecological processes.

In 1998, the Ministry of Lands and Resettlement issued the **National Land Policy**,⁸⁹ which is based on constitutional principles and on the national commitment to redress the social and economic injustices inherited from Namibia's colonial past. The policy calls for the establishment and proclamation of urban areas, and strives to promote decentralisation and community involvement. The policy proposes financial and tax incentives for the protection and rehabilitation of natural environments, e.g. planting of indigenous trees and using alternative energy to reduce rates of deforestation and pollution. In accordance with Article 95(1) of the Constitution, it promotes environmentally sustainable land use, stating that failure to demonstrate environmental sustainability may be grounds for the denying or termination of a title. One of the aims of this policy is to establish a Land Use and Environmental Board to promote environmental protection and contribute towards coordinated planning and management at national and regional levels. This Board is obliged to ensure that environmental protection is promoted in order to guarantee environmental, social and economic sustainability.

The **National Land Use Planning Policy**⁹⁰ was drafted by the Ministry of Lands and Resettlement in 2002. It provides a framework for the implementation of regionally integrated land use plans.

The 1997 **National Resettlement Policy**⁹¹ regulates that resettlement must be institutionally, socially, economically and environmentally sustainable, to enable the beneficiaries to become self-supporting.⁹²

87 GRN (1999a).

88 GRN (1994b).

89 GRN (1998b).

90 GRN (2002b).

91 GRN (2001c).

92 Woeller (2005:141).

The 2003 **National Land Tenure Policy**⁹³ covers all land tenure systems in urban, communal, commercial (freehold) and resettlement areas, and is intended to guide all land tenure rights in Namibia. The policy promotes the sustainable utilisation of land and other resources. By regulating different land tenure rights, it provides secure tenure for informal urban settlers, farm workers and occupiers (those who have been employed less than ten years on a single farm and do not have secure tenure elsewhere). Furthermore, it provides guidelines on compensation for occupiers of expropriated land. In line with the 1995 National Agricultural Policy,⁹⁴ the National Land Tenure Policy recognises the environmental limitations of the country. Some 22% of Namibia's land surface area is desert, receiving less than 100 mm of rainfall a year. Another 33% of the land is classified as arid, with an annual rainfall of between 100 to 300 mm. Some 37% of the land is semi-arid, meaning it receives between 300 and 500 mm rainfall a year, leaving only 8% classified as semi-humid and sub-tropical, i.e. with 500–700 mm annual rainfall.⁹⁵

The aims of the 1995 **National Agricultural Policy** are largely economic, focusing on increasing agricultural productivity. One of the policy's objectives is to promote national and household food security,⁹⁶ while recognising the limitations imposed by the country's climate and soils. The policy seeks to promote sustainable utilisation of the land and other natural resources within the context of a vulnerable ecosystem. Potential problems such as deforestation, soil erosion, bush encroachment and overgrazing are also addressed.

The **Regional Planning and Development Policy** was drafted by the National Planning Commission in 1997.⁹⁷ The policy acknowledges the trend of the increasing degradation of pastures, rangelands and woodland, with special attention to soil, water and forest management as development tools. The policy promotes strategies such as soil conservation and controlled grazing cycles, which are important to agriculture.

Namibia's Drought Policy and Strategy was drafted in 1997 and is concerned with developing an efficient, even-handed and sustainable approach to drought management. In line with Namibia's National Agricultural Policy, the Drought Policy recognises that aridity and highly variable rainfall are normal phenomena. Farmers must also take into account the risks associated with variable input and output prices, exchange and interest rates, in addition to weather conditions. The policy aims to shift responsibility for managing drought risk from government to the farmer, with financial assistance and food security interventions only being considered in the event of an extreme or disaster drought. The objectives of the policy are inter alia to ensure that household food security is not compromised by drought; to encourage and support farmers to adopt self-reliant approaches to the risk of drought; to

93 GRN (2002c).

94 GRN (1995c).

95 See World Bank (2007).

96 Jones (2000a:11).

97 GRN (1997c).

minimise the degradation of the natural resource base during droughts; to preserve adequate reproductive capacity in livestock herds in affected areas during drought periods; and to ensure the continuous supply of potable water to communities, and particularly to their livestock, schools and clinics.

8.3 Policies on Water

The following policy documents are the most relevant to water and wetland resources in Namibia:⁹⁸

The 1993 **Water and Sanitation Policy** deals with water supply and sanitation issues. It aims to improve sustainable food self-sufficiency and security, and provides a foundation for the equitable and efficient development of water supply in Namibia.⁹⁹ The policy promotes the supply of water, as well as, improved sanitation at an affordable cost to all Namibians. The objective here is to subject these developments to Environmental Impact Assessments to guarantee their sustainability. The policy states that improved provision of sanitation can contribute to improved health, ensure a hygienic environment, protect water sources from pollution, promote water conservation, and stimulate economic development. The policy laid the foundations for the establishment of a Directorate of Rural Water Supply, the community-based management of rural water supplies, and over 200 Water Point Committees countrywide. The policy grants communities the right, with due regard for environmental needs, to plan, maintain and manage their own water supply and choose their own solutions and levels of service. Yet, the policy makes it clear that this right is subject to the obligation that beneficiaries should contribute towards the cost of the water provision services. Furthermore, the policy stresses the environmentally sustainable development and utilisation of water resources. The Water Point Committees are obliged to raise concerns about any developments or alterations that may pose a threat to the water supply and their water resources. They are also responsible for implementing specific management measures, such as the strict allocation of an ecological water reserve and water demand management measures. With these provisions, the policy places strong emphasis on community involvement, participation and responsibility.

In 2002 Cabinet approved the **National Water Policy White Paper**,¹⁰⁰ which formed the foundation of the Water Resources Management Act¹⁰¹. The policy provides a framework for equitable, efficient and sustainable water resources management and water services, and stresses sectoral coordination, integrated planning and management as well as resource management aimed at coping with ecological and associated environmental risks. It states that water is an essential resource to life and that an adequate supply of safe drinking water is a basic human need. The policy makes it clear that water concerns extend beyond human needs for health and survival. Water is essential to maintain natural ecosystems, and the policy recognises that, in a country as dry as Namibia, all social and economic activity depends

98 Heyns (2005:89–106, at 95f and 105).

99 Ibid: 89–106, at 95.

100 GRN (2000a).

101 No. 24 of 2004.

on healthy aquatic ecosystems. The National Water Policy stresses that the management of water resources needs to harmonise human and environmental requirements, recognising the role of water in supporting the ecosystem. One of the strategies to ensure environmental and economic sustainability is that in-stream flows are adequate – both in terms of quality and quantity – to sustain the ecosystem.

The vision of the 2004 **Draft Wetland Policy**¹⁰² is to manage national and shared wetlands wisely by protecting their vital ecological functions and life-support systems for the current and future benefit of people's welfare, livelihoods and socio-economic development.¹⁰³ The objectives of the policy are to protect and conserve wetland diversity and ecosystem functioning to support basic human needs, to provide a framework for sustainable use of wetland resources, to promote the integration of wetland management into other sectoral policies, and to recognise and fulfil Namibia's international and regional commitments concerning shared wetlands and wetlands of international importance. The basic principles of the policy are intended to provide a framework for the development of all water-related policies. In terms of ecosystem values and sustainability, the Policy follows the Ramsar Convention on Wetlands' definitions and guidelines regarding the wise use of wetlands.¹⁰⁴

Namibia's 2001 **Aquaculture Policy**¹⁰⁵ deals with the responsible and sustainable development of farming aquatic plants, fish, molluscs and crustaceans. It advocates responsible aquaculture developments. This policy deals directly with the potential impact of alien and other invasive species and seeks to minimise their often destructive influence on aquatic ecosystems. Issues specifically mentioned include the release of introduced species and genetically modified organisms, the mixing of farmed and wild stock (genetic pollution), and the risk of disease transfer. The policy aims to ensure the protection of the living resources of national and international waters.

8.4 Policy on Forests

Biodiversity conservation is central to the 2001 **Development Forestry Policy for Namibia**,¹⁰⁶ which aims to reconcile rural development with biodiversity conservation by empowering farmers and local communities to manage forest resources on a sustainable basis. The policy identifies effective property rights; a supportive regulatory framework; good extension services; community forestry; and forest research, education and training as instruments essential to the successful implementation of sustainable forestry management in Namibia. The policy also paves the way for the establishment of community forests and their custodianship by the people most dependent on such resources. In 2005, the Ministry of Agriculture, Water and Forestry's Directorate of Forestry introduced the Community Forestry

102 GRN (2004c).

103 On wetlands in Namibia, Cf. Ruppel/Bethune (2007).

104 The text of the Ramsar Convention is available at <http://www.ramsar.org>.

105 GRN (2001b).

106 GRN (2001d).

Guidelines.¹⁰⁷ The main objective of these guidelines is to provide all stakeholders with a standard for establishing and managing community forests, by describing the legal procedures involved in setting up a community forest; describing the organisational arrangements and administrative procedures necessary for the sustainable management of community forests; and by specifying the respective roles of government forestry officials, communities and other stakeholders involved.¹⁰⁸

8.5 Policies on Tourism

The 1994 **Tourism White Paper**¹⁰⁹ commits the government to, *inter alia*, develop the tourism industry without threatening Namibia's biodiversity. It requires part of the income derived from tourism be reinvested in the conservation of natural resources, including those associated with wetlands. The policy identifies ecotourism for foreign visitors as the primary product, and assigns the Ministry of Environment and Tourism the lead role in coordinating inter-ministerial activities relevant to tourism and in cooperating with the private sector to create a national tourism identity.¹¹⁰

The 1999 draft **National Tourism Policy**¹¹¹ aims to secure and develop important tourism areas so that their value is not undermined by other, unsustainable land use options.

In 1995 the **Community-based Tourism Policy**¹¹² was developed by the Ministry of Environment and Tourism to recognise the fact that tourism could bring significant social and economic benefits to previously disadvantaged people, whilst also promoting biodiversity conservation. Under the terms of the policy, the Ministry of Environment and Tourism is obliged to ensure that development of the community-based tourism sector is environmentally sustainable, and that no development takes place without the participation of the people affected. This objective is geared to emphasise environmental sustainability, biodiversity conservation and community participation in tourism.

Finally, in 2001, the Ministry of Environment and Tourism issued the **Revised Draft Tourism Policy 2001–2010**.¹¹³ This policy stresses that no tourist development should be at the cost of biodiversity, and requires that some of the income derived has to be reinvested into natural resource conservation.

107 GRN (2005).

108 Ibid.

109 GRN (1994a).

110 Section 3.13 of the 1994 Tourism Policy.

111 GRN (1999b).

112 GRN (1995a).

113 GRN (2001e).

9 Selected Strategies and Action Plans

9.1 National Biodiversity Strategy and Action Plan

Namibia has taken up the challenge of conserving species and ecosystems to limit the increasing rate of loss of biological diversity by drafting the National Biodiversity Strategy and Action Plan. The aim of this document is to protect ecosystems, biological diversity and ecological processes through conservation and sustainable use, thereby supporting the livelihoods, self-reliance and quality of life of Namibians.¹¹⁴ The Action Plan intends to provide overall strategic guidance for the implementation of Article 95 (I) of the Constitution, and detailed, practical activities through which sustainable development can be achieved. Further to this, the Action Plan attempts to provide a national strategic framework for natural resource management activities, involving biological resource management, also including trade and economic incentives. It aims to prioritise activities and measures needed to implement this strategy effectively for the next decade.

The Action Plan also advocates the facilitation of sustainable natural resource management throughout Namibia as a fundamental theme for development planning; this it proposes to do through appropriate ecosystem management and land use practices, and the selective, sustainable harvesting of species. Government is urged to develop monitoring and incentive systems for sustainable natural resource use. It is proposed that the users themselves become the monitoring agents, practising adoptive management, since they are the custodians of resources. Incentive systems should be aimed at making the sustainable management of natural resources profitable.¹¹⁵

9.2 Namibia's Proposed Climate Change Strategy and Action Plan

Namibia's Proposed Climate Change Strategy and Action Plan was drafted in 2009 and provides a background to climate change impacts predicted globally, regionally and nationally.¹¹⁶ It highlights how vulnerable Namibia is in this regard and argues the need for climate change adaptation and mitigation. Guiding principles are proposed in the strategy to guide the planning, development, implementation and monitoring and evaluation of climate change response activities. The three main responses to climate change, namely adaptation, mitigation and tackling cross-cutting issues through adaptation and mitigation are highlighted from a Namibian perspective. Adaptation focuses on food security and a sustainable resource base, on sustainable water resources, on human health and well-being and infrastructure. Climate change mitigation is addressed through two themes namely sustainable energy provision and low-carbon development and transport. Cross-cutting issues particularly refer to capacity building, training and institutional strengthening, research and information needs, public awareness, participation and access to information, disaster reduction and risk

114 Barnard *et al.* (2000:13).

115 Sub-strategic aim 2.2 of the National Biodiversity Strategy and Action Plan.

116 Available at [http://www.met.gov.na/Documents/NAMIBIA-roposed%20Climate%20Change%20Strategy%20and%20Action%20Plan%20\(13\).pdf](http://www.met.gov.na/Documents/NAMIBIA-roposed%20Climate%20Change%20Strategy%20and%20Action%20Plan%20(13).pdf); last accessed 20 November 2010.

management, financial resource mobilisation and management, international cooperation and networking, technology development and transfer, and legislative development. The Action Plan outlines in detail specifically proposed activities to address each strategic aim through adaptation or mitigation.

9.3 Aquaculture Strategic Plan

Namibia's 2004 Aquaculture Strategic Plan¹¹⁷ was developed to provide guidance on the regulatory framework, business climate, public acceptability, also on strategies to ensure training, research, marketing and infrastructure development for aquaculture. The plan outlines targets for employment creation, investment, training and the value of production. Diverse needs call for sustainable economies in rural areas, both inland and coastal; improved viability of non-productive areas; poverty reduction; and pollution prevention supporting renewable natural resource-based food production. With regard to environmental considerations, the plan emphasises the importance of site selection prior to developing any aquaculture facility, and the permanent assessment of good water quality as the most important prerequisites for successful aquaculture.

9.4 Strategic Action Plan for the Implementation of Renewable Energy Policies

An important aspect of the meaningful and large-scale introduction of renewable energy technologies is to ensure sustainable development by promoting broad economic empowerment, socio-economic development and environmental protection. To this end, this Strategic Action Plan provides that the Renewable Energy and Energy Efficiency Institute should co-ordinate institutional cooperation on gender-based energy issues and promote regionally based broad economic empowerment. Environmental considerations should also form part of its responsibilities. The plan emphasises that increased population pressure results in increased pressure on natural resources as rural households often have no choice, but to rely heavily on wood for energy and shelter; this often happens at the expense of environmental sustainability. For this reason, it is proposed that the Renewable Energy and Energy Efficiency Institute assists in the establishment of environmental impact assessments that consider energy needs within a socio-economic framework. The institute intends to expand the scope of environmental impact assessments to consider the impact of, for instance, power stations' emissions to greenhouse gas development, respiratory diseases from household smoke, etc. within a national, sub-regional, regional and global perspective.

117 GRN (2004b).

9.5 Forestry Strategic Plan

The Forestry Strategic Plan was issued by the Ministry of Environment and Tourism in 1996.¹¹⁸ It is the major instrument for implementing the 2001 Development Forestry Policy. The plan aims to promote development of community level natural forest management, which includes the community management of riparian forests and woodlands.

118 GRN (1996).

CHAPTER 7

PRACTICAL IMPLICATIONS OF ENVIRONMENTAL MANAGEMENT IN NAMIBIA: THE CASE STUDY OF OHORONGO

Peter Koep & Meyer van den Berg

1 Background

The independence of the Republic of Namibia on 21 March 1990 brought with it increased attention and interest in the country, its people, its resources and its environment. Prior to independence it would have been unusual for a financier or developer to insist on an Environmental Impact Assessment (EIA) before agreeing to finance and/or develop a particular project. This changed with the independence of Namibia and the enactment of the Constitution, which specifically provides for the:

... maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living, natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory.¹

But not only was this introduced in Namibia, it was a trend which was adopted world-wide and with the increased demands made by a growing world population, the protection of the environment has taken on a different meaning in that an EIA is a *conditio sine qua non* for obtaining permission to proceed with a development that could alter the natural environment. Furthermore, financial institutions around the world are reluctant to finance a project which is not environmentally friendly and which has not received the approval by the appropriate authority.

The preparation of an EIA and to a greater extent the protection of the environment is a cost factor with which every developer has to contend. When instructing an environmental consultant, that consultant must on the one hand take into consideration the pressure which a developer exerts in wanting their development to become a reality, and to, above all, become profitable for its shareholders, while at the same time not putting their professional integrity on the line when it comes to making recommendations which may not be popular or which may make the whole scheme more expensive in order to protect the environment.

2 Ohorongo's mining activities

Ohorongo Cement (Pty) Limited obtained Mining Licence No. 153 on 14 July 2008. This entitled Ohorongo to prospect and mine for minerals necessary for the production of cement. A

¹ Article 95(1) of the Constitution of the Republic of Namibia.

cement plant was erected on the Farm Sargberg, situated approximately 30km north of Otavi and 40km south of Tsumeb, on the western side of the B1 north-south highway. The Mining Licence was only granted after the Ministry of Mines and Energy had studied and evaluated an EIA in respect of the proposed plant. The conditions of that Mining Licence are that:

The holder of the mining licence shall observe any requirements, limitations or prohibitions on his or her mining operations as may in the interest of the environmental protection, be imposed by the Minister.

The holder of the mining licence shall undertake an Environmental Impact Assessment over the area covered by the mining licence, formulate and forward to the Ministry of Mines and Energy for approval an Environmental Management Plan Report (EMPR) within six (6) months from the date of issue of the licence. The EMPR should specifically address, amongst others, the water supply and sustainability for the life of the mine.

The holder of the mining licence shall enter into an Environmental Contract with the Ministry of Environment and Tourism and that of Mines and Energy once the EMPR is approved.

The holder shall come up with a concise approach on how the land issue is going to be addressed and how mining operations are to be conducted in terms of land rehabilitation.

The holder of the mining licence shall create an Environmental Trust Fund for the purpose of Environmental Rehabilitation and aftercare.²

This must be read together with the obligations of holders of mineral licences contained in the Minerals (Prospecting and Mining) Act.³

3 The Environmental Impact Assessment

The EIA was drafted and compiled by Colin Christian & Associates CC. The approach to the Scoping Report was:⁴

1. Public participation meetings;
2. Consultations with Authorities;
3. Consultation with Specialists;
4. A field trip;
5. Review of literature;
6. The RSA DEAT (1992) checklist of Environmental Characteristics.

The most important issues that were identified in the Scoping Report and which would be the subject of the EIA, were:⁵

- the sustainable yield and potential impact on neighbouring farmers' boreholes;
- the potential impact on species of conservation importance in the quarry area as far as vegetation is concerned;

2 The terms of Mining Licence 153.

3 No. 33 of 1992. See Section 98 of the Act.

4 Colin Christian Environmental Scoping Report, page 4 ("the Report").

5 Page 23 and 24 of the Report.

- the potential impacts on animals and birds;
- air pollution, mainly dust from quarry area and any unpaved roads, for instance the access road;⁶
- noise from blasting, vehicles and the factory itself;
- the rehabilitation of the quarry area.

The other prerequisites are dealt with in the report itself.

The Environmental Impact Assessment and Management Plan was also prepared by Colin Christian & Associates CC in February 2008. It dealt with related matters as follows:

3.1 Water

As the site is situated within a subterranean water controlled area⁷, a permit would be required to drill boreholes and to utilise the water for industrial and domestic purposes.

A borehole was sunk into the dolomite formation and the water level was found at 31.52m below the ground surface. A yield of approximately 4m³ per hour was achieved and a draw-down of 9.72m was recorded. As the yield from one borehole would have been insufficient, it was suggested that another three boreholes be drilled in order to deliver approximately 70,000m³ per year. In fact, very little water would be used in the cement production process and it will only be used in the process of grinding the clinker. Most of the water consumption would, in fact, be for domestic use, such as the washing of vehicles, the courtyard, the gardens and for dust suppression (insofar as this may still be necessary).

3.2 Vegetation

It was noted that none of the species listed and found in the project area had a special status and it was found that no species would be regionally threatened by the project⁸.

Concomitantly, the report proposed that “trained personnel working with the machine on the ground [be used]” as a possible environmental harm mitigation method during the cement plant construction and installation phase. It goes on to suggest that “a person who is acquainted with the species of protected bushes and trees should walk ahead of the machine in order to identify to the operator protected species and so ensure their protection.”⁹

In order not to fall foul of any of the provisions of the Nature Conservation Ordinance of 1975, it was stated that the Operator (and Ohorongo) should take all possible steps to ensure that protected plant species, as well as the eggs of protected and huntable bird species, were not disturbed or destroyed.¹⁰

6 In the meantime the access road has been tarred.

7 GN 1969 of 13 November 2010 in terms of Proclamation 278 of 31 December 1976.

8 See page 10 of EIA.

9 See page 111 of the Report.

10 As this will be almost inevitable and impossible to ensure it may be advisable to apply for a permit from the Ministry of Environment & Tourism.

3.3 Animals

A separate study was undertaken by the zoologist M. Griffin, who found that there were a number of amphibians, reptiles and mammals in the area and he came to the conclusion that whereas 92 species of mammals were expected to occur within the cement plant development area, and that as the footprint of the proposed development was relatively small, the mammal fauna should not be affected enough to alter the national conservation status of any species. He recommended that effort should be made to prevent Ohorongó staff from collecting firewood and wildlife from the area adjacent to the development area and that the disruption of the natural surface substrate, in particular the rock outcrops, should be kept to a minimum. He also found that as far as amphibians, reptiles and mammals were concerned, no species were expected to be affected to the extent that their regional or national conservation status would be degraded.¹¹

3.4 Dust

As far as dust was concerned, all facilities would have de-dusting filters (baghouse filters with maximum dust emissions of 20mg per m³). The average was below approximately 10mg per m³.

Approximately 80% of the total dust emissions were less than 10um (PM10) (i.e. extremely small particles which have the potential for human health impacts if concentrations exceed international emissions standards for these small particles). The total dust emissions, including PM10, would be within the limits of international emissions standards (to question this in the light of tarring the road). All dust emissions levels would be according to international standards and/or far below European legal provisions. In fact, all the requirements of environmental principles as set out in ISA14001 would be implemented with technical equipment.¹²

3.5 Noise

Noise is from blasting, vehicles and the plant itself.

3.6 Air Pollution

In light of the fact that Ohorongó uses sophisticated filters, it is unlikely that it would commit an offence in terms of the Air Pollution Prevention Ordinance (APPO).

4 Rehabilitation

In terms of the Mining Licence, Ohorongó was compelled to register a Rehabilitation Trust into which sufficient funds would have to be transferred for the rehabilitation of the area on the eventual termination of the mining activities.

11 See the EIA, page 16 and the report referred to there.

12 See page 7 of the Report.

Even though the scoping report and the EIA referred to legal and policy requirements which had to be observed and taken into account, these were, it is submitted, insufficient in order to give legal force to implement the constitutional principles referred to earlier¹³. Namibia does not yet have a central environmental statute, or an overriding statute, covering all environmental sectors which clearly determine the principles of environmental policies, their aims and objectives and the control mechanisms. Much of the environmental legislation was inherited from South Africa at the time of independence and was therefore out-dated and fragmented.

The Minerals (Prospecting and Mining) Act¹⁴ was one of the few pieces of legislation which imposed various duties on the holder of a licence to, for example, prepare an EIA, provide details of the impact of mining activities on the environment, etc.¹⁵

The true value of any law lies in its efficacy and its enforcement. Laws which are not enforced or not enforced consistently lead to confusion and tend to be ignored by those against whom they should be enforced and for whom such laws were ultimately made. Whereas the Ministry of Mines and Energy previously had in their employ mining inspectors, whose duty it was to control the observance and implementation of the conditions contained in mineral licences, there were no longer such dedicated inspectors anymore. There were few, if any, known instances where these laws had been enforced and more specifically where damage had been done to the environment. In terms of the Minerals Act, the Minister has the authority to close a mine should it not adhere to the conditions of its licence or fail to comply with those directives.¹⁶

In an under-regulated society such as Namibia, it often depends on the integrity of the investor to what extent that investor takes it upon itself to comply with international environmental standards. An example of self-regulation, to be emulated, is that of the uranium mining industry, which had, as a result of poorly-constructed legislation prescribing regulation of the sector, implemented its own form of regulation. Every producer and most of the licence holders of nuclear fuels voluntarily became members and have contributed financially to the maintenance of the regulator and undertook to observe and adhere to agreed rules and regulations.¹⁷

The actual construction of the Ohorongo Cement plant was another example of self-regulation. As the site on which the plant was built is situated on agricultural land,¹⁸ the design and the construction was not subject to any building regulation other than those which the owners decided to impose upon themselves. The EIA also did not touch upon issues such as

13 Article 95(1) of the Constitution of the Republic of Namibia.

14 No. 33 of 1992.

15 For further details see Chapter 5 on Mining and Energy in Namibia.

16 Section 55 of the Act.

17 To obtain info, contact the Uranium Institute, c/o the Chamber of Mines, Swakopmund.

18 See Section 1 of the Agricultural (Commercial) Land Reform Act, Act 6 of 1995, as amended.

the building of sewers, the depth of foundations, height restrictions, etc. The decision to build the most modern plant using the best available technology by a world-renowned construction company was motivated by a commitment to professionalism and compliance with generally accepted standards, even though none of this was imposed by legislation.

From the outset, the promoters of the Ohorongo Cement Plant¹⁹ had a vision that alternative fuels should be used to fire the kiln of the plant. The promoters of the Ohorongo Cement Plant operated various cement plants in Europe, one of which was fired exclusively by alternative fuels while others used mostly alternative fuels.

In their endeavour to identify alternative fuels, the promoters struck upon the idea of using invader bush, so prevalent on much of the farmland in the northern parts of Namibia. Studies were conducted, samples of invader bush were taken to Germany, their energy content determined, and it was concluded that if sufficient amounts of invader bush could be harvested, it could be used to fire the kiln to such an extent that only 20% of the fuel required would consist of coal and that the remainder would consist of alternative fuels, mainly invader bush. In line with the modern approach and in keeping with the Namibian Constitution, and for this Energy-to-Fuel-Project, an EIA was prepared.²⁰The EIA described in some detail the most relevant aspects of the project environment and highlighted those parts of the environment, which could be affected, such as climate, topography, geology, soils, vegetation, animals, birds, arthropods as well as the socio-economic impact.²¹

Even though there have been many attempts to clear invader bush by various means, including mechanical, mechanical combined with manual labour, manual labour only and chemical, none had been as potentially invasive or on a similar scale to what was described in the EIA.

The scale of the bush-to-fuel project was a first of its kind in Namibia. The effects of the bush clearing and the methods used would be of importance to the future sustainability, not only of this, but also of other similar projects. Bush clearing activities were being used in order to generate electricity from invader bush. Other such projects are planned.²²

This project is of potential interest to the farmer/landowner, as it would open up areas for utilisation that were previously of little, if any, economic value. As a result of traditional energy resources becoming expensive and scarce, this has changed. All of a sudden a piece of land, which previously could not be used due to sometimes impenetrable invader bush, opened up new possibilities to its owner and to the parties wanting to make use of such bush.

19 Schwenk Zement International KG.

20 See Environmental Impact Assessment Report April 2010 prepared by Colin Christian & Associates CC.

21 Page iii of the Report.

22 There are bush clearing activities by the C.F.F.

However, here too there was another side to the coin, as not all was what as it appeared. The environmental impact assessment was then prepared for a company called Energy for Future (Pty) Limited (EFF), which was owned by the original proposer of the cement plant. Throughout the report, the author was careful to highlight the importance of what he referred to as the “aftercare” and the tension between the needs of EFF and the needs of farmers:

The services offered by EFF will be limited to cutting and transport of the material to the processing plant near the cement plant. EFF will not undertake any aftercare activities...

²³

For many cattle farmers the ideal would be to achieve a stable state of open savannah matrix with optimum grazing productivity. The degree to which they can achieve this ideal would depend, again, on species, environmental conditions, rainfall etc., but also the resources committed to aftercare, the methods used and time. To the extent that the farmer was successful in achieving the ideal of sustainable grazing, he would reduce the bush cutting potential of the area in question.²⁴

The author of the report goes into greater detail as far as aftercare was concerned:

The most important economic benefit is expected to be increased rangeland productivity for many commercial farmers. In order to optimise this benefit, farmers would be well advised to do aftercare to control the regrowth of encroacher bush species.....

.... aftercare is likely to deliver the best environmental outcomes and the more sustainable grazing resources.....

...If aftercare is not implemented especially where *sekelbos* is dominant, the result is often increased bush densities after a few years, resulting in a worse problem as before....²⁵

An important part of an EIA is to be able to hear, assess and report on the views of the public, especially those immediately affected by the activities of the company.²⁶

A description of the Public Participation Process was included in the Plant Report.²⁷

All previous attempts at bush clearing, apart maybe from the use of chemicals, did not require an EIA and whether or not there was compliance in all or some of the instances is uncertain.²⁸ As a result of a dearth of legislation regulating the clearing of invader bush, it has been left up to the farmer/landowner to employ those means which he/she can afford and the manner best suited to the particular circumstances. As a result, there was little if any scientific record available to guide EFF, or indeed the author of the EIA.

23 See page 88, 8.10.7 of the Report.

24 See page 89 of the Report It is submitted that this will be of little concern for EFF, as at harvesting rate of 4,250 ha/ year it would take 78 years before it would be necessary to return to the areas already harvested, see p. 90 of the Report.

25 Page 112 of the Report.

26 Part of the cement plant study.

27 Page 14.

28 Attempts to establish this from the responsible authorities proved impossible.

The Ohorongongo cement plant would have capacity of producing approximately 700,000 tonnes of cement per year. For this it would need between 70,000 to 75,000 tonnes of coal per year at full production. However, by substituting 85,000 tonnes with invader bush chips, it would be possible to save 55,300 tonnes of coal per annum, this being a saving of an estimated 73% to 79% per year²⁹.

Machines would be built, which would be track mounted, in order to be manoeuvrable and therefore be able to selectively harvest the bush. It would cut and shred the bush and blow the chips into a hopper which would be situated behind it. These wood chips would be stored and further processed to reduce the size, in order to be able to be blown into the furnace for rapid combustion in the kiln.

It was proposed that blocks of at least 200ha would be cut per farm per year, it being estimated that approximately 4,000ha per year would yield the required amount of bush chips.

The key motivations for the project were to:

- reduce the demand for imported coal (a non-renewable energy resource);
- contribute to reducing greenhouse gasses in the atmosphere (relative to fossil fuels);
- restore grazing potential leading to restored beef production;
- consequent benefits to meet industries and exports;
- management;
- potential restoration of biodiversity, assuming appropriate environmental groundwater recharge may also be improved in some cases.³⁰

It was estimated that it would take 75 years to clear 4,000ha per year of invader bush within a radius of 75km from the cement plant. This was without harvesting the same land twice during that period.

The idea to use invader bush as an alternative source of fuel and at the same time combating bush encroachment was an innovative idea which should benefit the shareholders of Ohorongongo, as well as farmers, as the techniques of combating invader bush develop.

29 See the report, page 2.

30 See EIA report, page 2.

CHAPTER 8

LEGAL PROTECTION OF BIODIVERSITY IN NAMIBIA

Manfred O. Hinz & Oliver C. Ruppel

1 Introduction

This Chapter intends to give a synoptic overview of biodiversity conservation under environmental law in Namibia.¹ The aim of this overview about the legal protection of biodiversity in Namibia is to describe in broad terms the legal framework in which efforts to protect biodiversity have to be understood. Prior to introducing specific international agreements applicable in Namibia connected to the protection of biodiversity, some general remarks on biodiversity and the legal protection thereof are provided. Then, relevant provisions in the Constitution of Namibia are highlighted before turning to statutory law pertinent to the protection of biodiversity. Chapter 6 in this publication deals extensively with customary law and the environment and focuses on biodiversity amongst others, customary law aspects of biodiversity protection will thus not form part of this Chapter.

2 Biodiversity in Perspective

In the 1980s, when the concept of biological diversity (now more commonly biodiversity) was in its infancy, biological diversity comprised an estimate of roughly 1.5 million described species living on earth. Today's estimates range widely, largely because most living species are micro-organisms and tiny invertebrates. Estimates range from 5 to 30 million species. Roughly 1.75 million species have been formally described and given official names. The number of unclassified species is much higher.² The coinage of the term biological diversity can be attributed to Lovejoy³, Norse and McManus⁴ and Wilson⁵. Lovejoy was probably the first person to use the term in 1980.⁶ Biological diversity can be defined as the variability among living organisms from all sources, including terrestrial, marine and freshwater ecosystems, which includes diversity within species, between species, and habitats or ecosystems.⁷ Biodiversity has also been defined as the "totality of genes, species, and ecosystems of a region". This describes most circumstances and presents a unified view of the traditional three levels at which biodiversity has been identified: Genetic diversity, referring to the diversity of genes within a species. There is a genetic variability among the populations and the individuals of the same species. Species diversity means the diversity among species in an ecosystem; and ecosystem diversity describes diversity at a higher level of organisation,

1 This Chapter is substantially based on the publications by Hinz/Ruppel (2008b and 2010), of the research done at the Faculty of Law of the University of Namibia within the ambit of the BIOTA project.

2 Heywood (1995).

3 Lovejoy (1980).

4 Norse/McManus (1980:32).

5 Wilson (1985:400).

6 Lovejoy (1980).

7 Article 2 of the 1992 Convention on Biological Diversity.

the ecosystem. Ecosystem diversity refers to all the various habitants, biological communities and biological processes as well as the variations and interconnections and interrelations between and or among various ecosystems.

As the fundamental building blocks for development, biological resources provide the basis for local food sufficiency, and a backbone for many countries' economies.⁸ At the same time, biological diversity is a global asset, and is expected to benefit people in all parts of the world.⁹ For millennia, people have relied on ecosystems to meet their basic needs such as food, water and other natural resources. Apart from these, there are a multitude of further benefits of biodiversity. For instance, a significant proportion of drugs are derived, directly or indirectly, from biological sources. As early as the mid-19th century, the Scottish adventurer and missionary David Livingstone brought plants from the African continent, hoping they would serve as a basis for medicinal drugs.¹⁰ Over the last decade, the interest in drugs of plant origins and their use in various diseases has increased in many industrialised countries since plants used in traditional medicine are more likely to yield pharmacologically-active compounds.¹¹ Indeed, in most cases, it is impossible to synthesise plant-based medicinal drugs in a laboratory setting. Higher biodiversity also controls the spread of certain diseases as viruses will need to adapt to infect different species. Moreover, a wide range of industrial materials are derived directly from biological resources. These include building materials, fibres, dyes, resins, gums, adhesives, rubber and oil. Many people also derive value from biodiversity through leisure activities. And finally, many cultural groups view themselves as an integral part of the natural world and show respect for other living organisms.

Biological diversity has to be safeguarded and conserved. The term conservation is defined as the management of human use of the biosphere, so that it may produce the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of the future generations. Thus, conservation embraces the preservation, maintenance, sustainable utilisation, restoration, and enhancement of the natural environment. While ecosystems may be used by present generations for their benefit, they should only be used in a way not depriving future generations of their right to use such ecosystems in the same manner for their survival. The maintenance of biological diversity at all levels is fundamentally the maintenance of viable populations of species or identifiable populations.¹² Efforts to maintain the diversity of biological resources are urgently required at local, national, and international level Southern Africa and Namibia, as part of this region, is no exception. Van Wyk and Gericke introduced their publication, titled *People's Plants*, by stating the following:¹³

8 Ruppel (2009h,j).

9 McNeely *et al.* (1990).

10 Blaikie (2004).

11 Paing *et al.* (2006:1).

12 Groombridge (1992:xvi). The book by Wulfmeyer (2006) is an interesting record on how this global task has been incorporated into Namibia's education system.

13 Van Wyk/Gericke (2000:7).

Southern Africa is exceptionally rich in plant diversity with some 30,000 species of flowering plants, accounting for almost 10% of the world's higher plants. The region also has great cultural diversity, with many people still using a wide variety of plants in their daily lives for food, water, shelter, fuel, medicine and the other necessities of life.

In the last few decades, the Southern African region has seen great changes in access to modern health care and education, shifts from rural to urban areas, changes from subsistence farming to cash-crop production, greater flows of migrant labour, and unprecedented environmental degradation. These changes in the socio-cultural and environmental landscape have severely eroded the indigenous knowledge base.

Namibia's biodiversity includes innumerable species of wild plants and animals. Indeed, as little as about 20% of Namibia's wildlife species have been captured scientifically to date. More than 13,000 species have been described, of which almost 19% are endemic or unique to Namibia.¹⁴ By 2006, the World Conservation Union (IUCN) had classified 79 species in Namibia as threatened, which includes those species listed as critically endangered, endangered or vulnerable.¹⁵ The 2011 IUCN Red list¹⁶ counts a total of 95 threatened (critically endangered, endangered and vulnerable categories only) species in Namibia (12 mammals, 25 birds, 4 reptiles, 1 amphibian, 27 Fishes and 26 plants).

Five major threats have been identified as threats to biodiversity:

- **Habitat loss, alteration, and fragmentation:** mainly through conversion of land for agricultural, aquaculture, industrial or urban use; damming and other changes to river systems for irrigation, hydropower or flow regulation; and damaging fishing activities
- **Over-exploitation of wild species populations:** harvesting of animals and plants for food, materials or medicine at a rate above the reproductive capacity of the population
- **Pollution:** mainly from excessive pesticide use in agriculture and aquaculture; urban and industrial effluents; mining waste; and excessive fertiliser use in agriculture
- **Climate change:** due to rising levels of greenhouse gases in the atmosphere, caused mainly by the burning of fossil fuels, forest clearing and industrial processes
- **Invasive species:** introduced deliberately or inadvertently to one part of the world from another; they then become competitors, predators or parasites of native species.¹⁷

14 GRN (2004a:164).

15 See composition of threatened species: mammals 10; birds 21; reptiles 3; amphibians 1; fish 20; plants 24; World Conservation Union (IUCN) Red List at <http://www.iucnredlist.org/info/tables/table5>; last accessed 21 October 2007.

16 IUCN Red List version 2011.2: Table 5; http://www.iucnredlist.org/documents/summarystatistics/2011_2_RL_Stats_Table5.pdf; accessed 15 May 2012.

17 WWF (2010:12).

For most of human history, the natural world has been protected from the most disruptive human influences by relatively humble technology; cultural-ecological factors, such as taboos preventing overexploitation; inter-tribal peace, maintained by keeping wide areas of wilderness 'buffer zones' between groups; land ownership by ancestors or lineages rather than individuals; relatively sparse human populations; and many other factors.¹⁸ All but a handful of countries have national parks and national legislation promoting conservation. Most governments have joined international conservation conventions, and built environmental considerations into the national education system. Non-governmental organisations (NGOs) are active in promoting public awareness of conservation issues, including those dealing with biological diversity. Still, devastation continues. Why?

Naturalists, including interested amateurs and trained biologists, have led the conservation movement. While their contributions have been fundamental, they are unable to fully address the basic problems of conservation because the problems are not only biological, but rather political, economic, social, and even ethical. Pressures influence the decisions, affecting the natural environment and incentives that go far beyond the relatively straightforward technical considerations of what might in theory be best for biological resources. Conservation action, therefore, needs to be based on the best available scientific information and be implemented by development practitioners, engineers, sociologists, anthropologists, agronomists, economists, lawyers and politicians. Local resource users are often the ones who make local-level decisions, and their decisions are, above all, affected by enlightened self-interest. Those seeking to conserve biodiversity need to be able to identify the legitimate self-interest of rural people, and design ways of ensuring that the interest of conservation and community coincides.

Namibia's large biodiversity endowment has been outlined by Namibia's Minister of Environment and Tourism Netumbo Nandi-Ndaitwah as follows:

Namibia has a large biodiversity endowment, which is of global significance. Although predominantly a semi-arid country, Namibia contains a remarkable variety of ecosystems, ranging from hyper-arid deserts with less than 10mm of rainfall to subtropical wetlands and savannahs receiving over 600mm of precipitation per annum. Four major terrestrial biomes exist, namely: Succulent Karoo, Nama Karoo, Desert and Tree and Shrub Savannah. On a finer scale, 29 different vegetation types are currently recognised, many of which are wholly unique to Namibia or to the southern African sub-continent. These biomes are storehouses of high species richness: the country harbours 4,000 species and subspecies of higher plants and 658 species of birds have been recorded, of which approximately 30% is migrant. 217 species of mammals are found including unique arid varieties of desert-adapted rhino and elephant. This biodiversity richness generates global and national benefits through protecting globally important ecosystems.¹⁹

Considering this, it becomes very clear, why biodiversity protection has been given high

18 McNeely *et al.* (1990:18).

19 Nandi-Ndaitwah (2010).

importance under environmental law in Namibia. But how can legal science contribute to the conservation of biodiversity in Namibia? The aim of environmental protection in general and biodiversity maintenance in particular can be achieved by different means.²⁰ Traditional legal methods, *inter alia*, include establishing protected areas, to regulate harvesting and trade in certain species, to manage habitats and ecosystems, or to prohibiting the introduction of new, alien or invasive species. Pollution control and the management of hazardous substances are other effective mechanisms to contribute to the preservation of biological diversity. Other innovative regulatory techniques or policies to preserve biological diversity include the access to genetic resources, biotechnology as well as access to and transfer of technology. All aforementioned methods are to a certain extent governed by legal mechanisms and the success of Namibia's effort to control, manage, and conserve the sustainable use of biodiversity depends to a large extent on the effectiveness of the different legal instruments in place.

3 International Environmental Law Pertinent to Biodiversity Protection in Namibia

It has been discussed in Chapter 2, how international law is applied in the national setup. On the global level, several multilateral environmental agreements have been established that directly or indirectly contain provisions relating to the protection of biological diversity. The Convention on Biological Diversity (CBD), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as the most relevant international biodiversity related agreements will be sketched in the following.²¹

There was no consensus regarding biodiversity among the nations of this world until the 1992 Earth Summit in Rio. It was at this Summit, the first of its kind at international level, where consensus was reached among scientists, policymakers and civil society that humanity was in the process of unconsciously depleting an invaluable important resource central to our food, health and economic security. The consensus reached at the Summit was in the form of a legal instrument, the Convention on Biological Diversity (CBD), which aims to regulate, protect and preserve global environmental resources. The CBD was signed by Namibia on 12 June 1992 in Rio de Janeiro and ratified on 18 March 1997. Accordingly, Namibia is obliged to ensure that its domestic legislation is in conformity with the objectives and obligations of the CBD. Namibia gives effect to the CBD *inter alia* by implementing the National Biodiversity Strategy and Action Plan and has issued its fourth national report under the CBD.²²

The CBD's Preamble affirms that biodiversity is humankind's common concern and that it has to be conserved for continued human survival. However, rather than lay down

20 Barnard (1998:283ff.).

21 Other international agreements which also relate to the protection of biodiversity include the UN Convention to Combat Desertification; the UN Framework Convention on Climate Change; the International Convention for the Protection of New Varieties of Plants (UPOV Convention); international conventions containing fishery provisions e.g. UN Convention on the Law of the Sea; the Ramsar Convention on Wetlands; and the Global Biodiversity Strategy.

22 GRN (2010a).

substantive rules, the CBD rather sets up overall principles, objectives and goals, leaving it up to the contracting states to develop and adopt detailed means to achieve these. It leaves it up to individual countries to determine exactly how to implement most of its provisions. Thus, major decision-making is placed at national level. The CBD provides guidelines and directions to state parties as to how they should use these resources in a conservative manner for the benefit of present and coming generations. The objectives of the CBD comprise the conservation of biodiversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources.

Methods applied to ensure the maintenance of biological diversity are *in situ* and *ex situ* conservation. *In situ* conservation is defined as being –²³

... where the maintenance and recovery of habitats, species and populations occur in their natural surroundings or, for domesticated or cultivated species, in the place where they developed their distinctive properties, ...

While *ex situ* conservation refers to the conservation of components of biodiversity outside their natural habitats, for example in zoos and aquaria.²⁴

The CBD provides that states have and should maintain their sovereign rights over their biological or generic resources, and they bear the power to determine access to these resources through established mechanisms for the fair and equitable sharing of benefits arising from their use. There was consensus on the need to protect, conserve and sustainably utilise the available biological diversity for the benefit of humanity.

Thus, the CBD becomes the basis of domestic legislation on the promotion, protection and preservation of biological diversity. It gives the green light to states to exercise full control over their natural resources, provided that proper mechanisms protecting biological diversity are in place. Article 8(j) of the CBD provides that a state is obliged,

... subject to its national legislation, [to] respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of benefits arising from the utilisation of such knowledge, innovations and practices.²⁵

23 Article 2 of the CBD.

24 Glazewski *et al.* (1998:281).

25 Cf. here also Articles 10(c), 17(1) and (2), and 18(4): The CBD does not differentiate between *indigenous*, *traditional* and *local*, although the terms may refer to different social situations. For example, compare the use of *indigenous* in the United Nations Declaration on the Rights of Indigenous People (to which we will refer below), which applies to specifically defined groups of people and not to all traditional communities – and certainly not to all that could be called *local*. For the purpose of this study, the term *traditional* is preferred unless there is a need to differentiate.

Although national sovereignty is recognised, states are obliged to conserve biodiversity and regulate the sustainable use of its component resources. They are also urged to cooperate with each other regarding areas beyond national jurisdiction and other matters of mutual interest. Article 5 of the CBD states that contracting parties are obliged to develop and adopt national biodiversity strategies, plans, or programmes, and integrate the conservation of biodiversity and the sustainable use of its components into relevant sectoral or cross-sectoral plans, programmes and policies.

Due to the fact that the trade in wild animals and plants crosses borders between countries, the effort to regulate it requires international cooperation to safeguard certain species from over-exploitation. CITES, a convention that is legally binding on its parties, was conceived in the spirit of such cooperation. Today, it accords varying degrees of protection to more than 30,000 species of animals and plants, whether they are traded as live specimens, fur coats or dried herbs. CITES was drafted as a result of a resolution adopted in 1963 at a meeting of members of IUCN (The World Conservation Union) and entered in force in 1975. CITES provides a framework to be respected by each party, which has to adopt its own domestic legislation to ensure that CITES is implemented at national level. To date, CITES has 175 parties.²⁶ Namibia acceded to the Convention in 1990, and the Convention came into force for Namibia in March 1991.²⁷ The commercialisation of goods and services derived from native biodiversity, referred to as biotrade, has become reasonably well established in Namibia. In 2008, exports of indigenous natural plants, the devil's claw in particular, were estimated to have contributed N\$24 million to GDP.²⁸ These developments in the biotrade sector have prompted Government to enhance its revenue collection by introducing differentiated rates on the export of all natural resources. The new taxes to be charged on biotic and abiotic natural resources destined for markets outside the country will range between 0% and 2% and will be introduced later in 2012.²⁹

One current issue in Namibia under the CITES convention is the production of high-value modern jewellery pieces containing traditional ivory amulets, known as *ekipas*. Such items have thus far used antique *ekipas* considered as pre-Convention ivory. Since the supply of antique *ekipas* has become severely limited, the Ministry of Environment and Tourism in collaboration with the jewellery industry of Namibia, has designed a control system for worked ivory and the legal production of new *ekipas* in particular. CITES approval was sought for the export of items of modern jewellery of high value, involving *ekipas* permanently mounted in precious metals and other materials and rendered uniquely identifiable through a combination of engraved marks, documentation and a photographic record of each item.³⁰ Major foundations of biodiversity protection on the African continental level are contained

26 For more information on CITES as well as the text of the Convention, see: <http://www.cites.org/>; last accessed 14 May 2012.

27 <http://www.cites.org/end/disc/parties/alphabet.shtml>; last accessed 20 January 2008.

28 GRN (2012:30).

29 GRN (2012a:24).

30 GRN (2004d) "Control system for worked ivory in Namibia" Doc CoPInf. 33; available at <http://www.cites.org/common/cop/13/inf/E13i-33.pdf>; last accessed 15 December 2010.

in the African Union's Convention on the Conservation of Nature and Natural Resources. The original African Convention on the Conservation of Nature and Natural Resources was adopted in Algiers, Algeria in September 1968 and entered into force in June 1969. Of the 53 member states 40, excluding Namibia, have signed the Convention of which 30 have ratified it. Recognising that soil, water, flora and faunal resources constitute a capital of vital importance to mankind, the Convention's fundamental principle is that the contracting states shall undertake to adopt the measures necessary to ensure conservation, utilisation and development of soil, water, flora and faunal resources in accordance with scientific principles and with due regard to the best interests of the people. The Convention contains several provisions related to the conservation and perpetuation of species. Special provisions as to protected species and trade in specimens are formulated.

The Revised African Convention on the Conservation of Nature and Natural Resources was adopted by the second ordinary session of the Assembly of Heads of States and Government of the African Union in Maputo, Mozambique, in July 2003. It commits parties in particular to manage their natural resources more sustainable. The convention has however not yet come into force, as the requirements for coming into force have so far not been fulfilled: According to Article 38 the Convention comes into force on the thirtieth day following the date of deposit of the fifteenth instrument of ratification, acceptance, approval or accession with the Depository. As of May 2012, 39³¹ of the 54 member states have signed the Convention, while only eight member states³² have deposited their instrument of ratification.³³ Provisions directly related to the protection of biodiversity are contained in Article IX on Species and Genetic Diversity; Article X on Protected Species; Article XI on Trade in Specimens and Products thereof; and Article XII on Conservation Areas.

The parties to the Convention shall maintain and enhance species and genetic diversity of plants and animals whether terrestrial, fresh-water or marine. They shall for that purpose, establish and implement policies for the conservation and sustainable use of such resources. Parties are obliged to undertake to identify the factors that are causing the depletion of animal and plant species which are threatened or which may become so, with a view to their elimination, and accord a special protection to such species. Furthermore, domestic trade in as well as the transport and possession of specimens and products must be regulated by the Parties' appropriate penal sanctions, including confiscation measures. To ensure the long-term conservation of biological diversity, the Parties shall establish, maintain and extend conservation areas.

31 The Convention has been signed by Angola, Benin, Burkina Faso, Burundi, Chad, Cote d'Ivoire, Comoros, the DRC, Congo, Djibouti, Equatorial Guinea, Ethiopia, Gambia, Ghana, Guinea-Bissau, Guinea, Kenya, Libya, Lesotho, Liberia, Madagascar, Mali, Mozambique, Namibia, Nigeria, Niger, Rwanda, São Tomé and Príncipe, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia and Zimbabwe.

32 I.e. Burundi, Comoros, Ghana, Libya, Lesotho, Mali, Niger and Rwanda.

33 See <http://www.africaunion.org/root/au/Documents/Treaties/List/Revised%20Convention%20on%20Nature%20and%20Natural%20Resources.pdf> (last accessed 25 October 2010).

Sub-regional agreements relevant for biodiversity protection in Namibia are the various protocols under the umbrella of the Southern African Development Community (SADC). The Parties may conclude Protocols as may be necessary in each area of cooperation, which shall spell out the objectives and scope of, and institutional mechanisms for, cooperation and integration. SADC Protocols of major concern with regard to biodiversity conservation are the Protocols on Fisheries; on Forestry; on Wildlife Conservation and Law Enforcement and on Shared Watercourse Systems. Furthermore, the Regional Indicative Strategic Development Plan (RISDP) of the SADC developed in 1999, recognises a need for policies and strategies to offset the high rate of natural resource degradation, focusing on biodiversity amongst others.

4 Biodiversity Protection under National Environmental Law

Namibian environmental law is a complex and interlocking system of statutes, policies, treaties, common, customary and case law with the Constitution as the supreme law of the land and therefore the ultimate source of law in Namibia. However, research done under the BIOTA project administered in the Faculty of Law of the University of Namibia has demonstrated that many obstacles prevent the societally expected degree of implementation. Statutory environmental law meets challenges from customary law.³⁴ Apart from this, environmental policies and their translation into law are, in general (and this applies in all parts of the world), faced with the economic interests of sections of society that are not easy to harmonise with each other.³⁵

According to its Article 1(6), the Constitution of the Republic of Namibia is the law above all laws. Therefore all legislations ought to be consistent with the provisions of the Constitution. Although the Constitution so far contains no enforceable environmental right as such, the foundation is laid for all policies and legislation in Namibia.³⁶ Two key “environmental clauses” relevant to sustainable use of natural resources are included in the Constitution. On the issue of biological diversity and its protection, the Namibian Constitution is very clear. It is one of the provisions enshrined under the Chapter on principles of state policy. The relevant clause is Article 95(1) which stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies which include the “...maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefits of all Namibians both present and future...”. With this particular Article Namibia is obliged to protect its biological diversity and to promote a sustainable use of its natural resources. Furthermore, Article 91(c) includes in the functions of the Ombudsman “the duty to investigate complaints concerning the over utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character

34 Cf. Hinz/Mapaure (2010); Ruppel (2009h).

35 How to balance environmental policies with economic interests, given the conditions of Namibia, is still an area where more research is needed. Groenewaldt (2008) submitted BIOTA-based legal research in which possibilities to provide incentives in support of individual measures to prevent land degradation were analysed.

36 Ruppel (2010i).

of Namibia.³⁷ In addition to these clauses it needs to be emphasised that Article 100 provides that all natural resources, including water, vest in the state, unless otherwise legally owned.

The Constitution sets the framework and Independence created the opportunity to revise a wide range of national policies and laws. This, together with the emphasis placed on environmental concerns at the Rio Summit in 1992, and the increasing awareness, triggered widespread legislative reform particularly in terms of natural resource management. Thus, recent policy and legislative reforms have created a unique opportunity for Namibia to incorporate environmental sensitivity, and as a result Namibian legislation is supported by sound policy direction regarding sustainable development and sustainable use of natural resources.³⁸

So far, no specific Act dealing with the conservation of biological diversity as a main topic has come into force. However, the Draft Bill on Access to Biological Resources and Associated Traditional Knowledge was formulated in 2000. This draft bill, which is aimed specifically at the protection of biodiversity and traditional knowledge, has not yet been passed in Parliament. The Government has, however, developed Namibia's 10-year National Biodiversity Strategy and Action Plan for Sustainable Development through Biodiversity Conservation (2001-2010), which is currently subject to review. Namibia, through the Ministry of Environment and Tourism has begun the review process and the second National Biodiversity Strategy and Action Plan (2011-2020) is being prepared. To this end, the Ministry of Environment and Tourism has established a multi-sectoral committee to facilitate, provide guidance and technical inputs. The group comprises technical staffs from several Ministries³⁹, the Office of the Prime Minister (OPM), the National Planning Commission (NPC), the Council of Traditional Authorities, the Namibia Association of Community Based Natural Resources Management Support Organisation (NACSO), the University of Namibia, the Polytechnic of Namibia and the United Nations Development Programme (UNDP). The committee's first meeting has taken place in May 2012.

The goal of the first Biodiversity Strategic and Action Plan was to protect ecosystems, biological diversity and ecological processes, through conservation and sustainable use, thereby supporting the livelihoods, self-reliance and quality of life of Namibians in perpetuity.⁴⁰ The action plan attempts to provide a national strategic framework for natural resource management activities involving biological resource management and the natural environment, including trade and economic incentives, and to prioritise, through detailed action plans, activities and measures needed to address this strategy effectively for the next decade, with cost estimates for each. The strategic aims include of this document include:

37 On the environmental mandate of the Ombudsman see chapter 19 in this publication.

38 Ruppel (2008a).

39 Including the Ministry of Agriculture, Water and Forestry (MAWF), the Ministry of Regional, Local Government, Housing and Rural Development (MRLGHRD), the Ministry of Mines and Energy (MME), the Ministry of Fisheries and Marine Resource (MFMR), the Ministry of Lands and Resettlement (MLR), and the Ministry of Education (MoE).

40 Barnard *et al.* (2000:13).

Conserving biodiversity in priority areas; sustainable use of natural resources; monitoring, predicting and coping with environmental change and threats; sustainable land management; sustainable wetland management; sustainable coastal and marine ecosystem management; integrated planning for biodiversity conservation and sustainable development; Namibia's role in the larger world community; and capacity building for biodiversity management in support of sustainable development.

As shown by the authors of this sub-Chapter, sectoral legislation covering the protection of biodiversity is wide ranging in Namibia.⁴¹ A myriad of legislative instruments provide for the equitable use of natural resources for the benefit of all. Only the most relevant legal instruments will be introduced briefly in the following paragraphs.

One of the major biodiversity related laws in Namibia is the legislation governing the conservation of wildlife, and protected areas, the Nature Conservation Ordinance⁴². The Ordinance was amended by the Nature Conservation Amendment Act⁴³. One of its major highlights is the creation of conservancies in communal areas. In terms of the amendment, rural communities have to form a conservancy in order to be able to acquire the use-right over wildlife. Conservancies can be defined as land units managed jointly for resource conservation purposes by multiple landholders, with financial and other benefits shared between them in some way. Conservancies occur in both communal and commercial land.⁴⁴ The Ordinance deals with *in situ* and *ex situ* conservation by providing for the declaration of protected habitats as national parks and reserves, and for the protection of scheduled species. It regulates hunting and harvesting, possession of, and trade in listed species. Under the existing laws Namibia has national parks zoos and safari areas to conserve biodiversity. Most people consider these areas as tourist areas but the same areas have a significant scientific significance as they allow for natural movement of large animals and to ensure that there is enough space and food for all of the species. In addition to the broader national agenda on conservation of biodiversity is the Community-Based Natural Resource Management (CBNRM). This has enabled local communities to do *in situ* conservation of natural resources hence biodiversity conservation.

The Environmental Management Act⁴⁵ requires adherence to the principle of optimal sustainable yield in the exploitation of all natural resources. The Act gives effect to Article 95(l) of the Constitution by establishing general principles for the management of the environment and natural resources. It promotes the coordinated and integrated management of the environment and sets out responsibilities in this regard. Furthermore, it intends to give statutory effect to Namibia's Environmental Assessment Policy, and to enable the minister

41 Hinz/Ruppel (2008b).

42 No. 4 of 1975.

43 No. 5 of 1996.

44 Barnard (1998:45). Moreover, Section 1(b) of the Amendment Act defines a conservancy. To mean any area declared a conservancy in terms of Section 24A.

45 No. 7 of 2007.

responsible for the environment to give effect to Namibia's obligations under international environmental conventions; and to provide for associated matters. The Act promotes inter-generational equity in the utilisation of all natural resources. Environmental impact assessments and consultations with communities and relevant regional and local authorities are provided for to monitor the development of projects that potentially impact on the environment.

The proposed Parks and Wildlife Management Act will protect all indigenous species and control the exploitation of all plants and wildlife. The preamble clearly states that the Bill is intended to give effect to paragraph (l) of Article 95 of the Constitution by establishing a legal framework to provide for and promote the maintenance of ecosystems, essential ecological processes and the biological diversity of Namibia and to promote the mutually beneficial co-existence of humans with wildlife, to give effect to Namibia's obligations under relevant international legal instruments including the Convention on Biological Diversity (CBD) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In keeping with the Constitution the principles underlying the draft Act, are simply that biological diversity and essential ecological processes and life support systems be maintained. In case the proposed Act comes into force, it repeals the Nature Conservation Ordinance⁴⁶.

Water-related legislation is manifold in Namibia.⁴⁷ Although the new Water Resources Management Act was approved by Parliament in 2004 the rather out-dated Water Act No. 54 of 1965 remains in force until the new act comes into force upon signature by the Minister. The new act is currently being amended to take into account practical aspects of implementing it. The Water Act of 1956 does not directly refer to the protection of biological diversity; it however contains provisions relating to water quality and conservation which are at least indirectly beneficial for the maintenance of biodiversity.⁴⁸

The Marine Resources Act⁴⁹ provides for the conservation of the marine ecosystem and the responsible utilisation, conservation, protection and promotion of marine resources on a sustainable basis. For that purpose it provides for the exercise of control over marine resources and for matters connected therewith. It replaces the Sea Fisheries Act,⁵⁰ which in turn replaced the Sea Fisheries Act.⁵¹

The Aquaculture Act⁵² regulates and controls aquaculture activities and the sustainable development of aquaculture resources.⁵³ All aquaculture ventures will be subject to strict

46 No. 4 of 1975.

47 See Ruppel/Bethune (2007).

48 Cf. a critical analysis of water law in the BIOTA project by Mapaure (2010a).

49 No. 27 of 2000.

50 No. 29 of 1992.

51 No. 58 of 1973.

52 No. 18 of 2002.

53 Bethune *et al.* (2004).

licensing. Section 27 is of most relevance for the protection of biodiversity. A person may not, without written permission granted by the Minister, introduce or cause to be introduced into Namibia or any Namibian waters any species of aquatic organism or any genetically modified aquatic organism or transfer any species of aquatic organism from one aquaculture facility to another or from any location in Namibia to another.

The Inland Fisheries Resources Act⁵⁴ deals with the conservation and utilisation of inland fisheries resources and allows for the updating and development of new policies for the conservation and sustainable utilisation of Namibia's inland fisheries. It encourages cooperation with neighbouring countries regarding the management and conservation of shared waterways.

Legislation on forest is one further important mosaic in the legal system of biodiversity conservation in Namibia. In 2005 almost 7.7 million hectares of Namibia's land were covered by forests, corresponding to 9.3% of the total land area.⁵⁵ Major threats to forests in Namibia include the expansion of land for agriculture; the use of fuel wood and charcoal for domestic use; tobacco curing and; land clearing for infrastructure development; uncontrolled wild fires; selective logging through timber concessions and unlicensed curio carving; and habitat destruction by elephants.⁵⁶ The Forest Act⁵⁷ consolidates the laws relating to the use and management of forests and forest produce, provides for the control of forest fires and creates a Forestry Council. Protection of the environment is found in part IV of the Act. This part of the Act deals with protected areas, protection of natural vegetation and control over afforestation and deforestation. Purpose of the Act is to conserve soil and water resources, maintain biological diversity and to use forest produce in a way that is compatible with the forest's primary role as the protector and enhancer of the natural environment.

In recognising the worldwide diversity situation, the Government of Namibia enacted the Biosafety Act⁵⁸ after having signed the Cartagena Protocol on Biosafety to the CBD, which was adopted in 2000. The Act provides for measures to regulate activities involving research, development, production, marketing, transport, application and other uses of genetically modified organisms and to establish a Biosafety Council. The objective of the Act is *inter alia* to introduce a system and procedures for the regulation of genetically modified organisms in Namibia in order to provide an adequate level of protection to the conservation and the sustainable use of biological diversity.

54 No. 1 of 2003.

55 FAO (2005).

56 Groenewaldt (2008).

57 No. 12 of 2001.

58 No. 7 of 2006.

CHAPTER 9

WATER AND FISHERIES RELATED STATUTORY LAW AND POLICY IN NAMIBIA

Shirley Bethune & Oliver C. Ruppel

Namibia is the driest country in sub-Saharan Africa. Less than 5% of the country is arable due to the low and erratic rainfall and scarce ground and surface water.¹ Fresh water scarcity thus remains a major environmental challenge in Namibia. Although NDP3's target of providing 95% of the population with sustainable access to safe water has been reached², sound water management ensuring social, economic and environmental benefits remains high on the agenda. Scarce water resources have to be shared between the growing population, an increasing number of livestock and crops, and an expanding industrial sector. In this sense, appropriate policy, legislation and regulation are of great significance.

1 The Policy Framework

1.1 The Water Supply and Sanitation Policy

The Water Supply and Sanitation Policy (WASSP) of 2008 is the main policy regarding water use and conservation in Namibia. This policy replaces the National Water Policy of 1992. Its principles are in line with the Integrated Water Resources Management plan, including a strong focus on water demand management.³ Generally, it aims at ensuring equitable access to water resources sufficient to maintain life, health and productive activities of citizens.

Under this policy the government is the custodian of all water resources and has the right to control all water use and disposal. Integrated supply and demand planning is required in both the short and long term. Further, the Policy promotes sustainable water utilisation through suitable pricing, promotion of water-efficient technology, public information and awareness programmes, information sharing and co-operation between parties, the promotion of wastewater re-use and active support of research and data gathering on water conservation. There is also provision made for subsidies to those who cannot afford to pay the full costs of water, however, not all communities who cannot pay receive subsidies.⁴

1.2 The National Water Policy White Paper

In 2002 Cabinet approved the National Water Policy White Paper⁵ that forms the basis for

1 World Bank (2009c:vii).

2 GRN (2012b:54).

3 GRN (2008).

4 Schachtschneider (2001).

5 White Paper on National Water Policy for Namibia (2000).

the new Water Resources Management Act⁶ that is currently being amended for ease of implementation. The policy provides a framework for equitable, efficient and sustainable water resources management and water services and stresses sectoral co-ordination, integrated planning and management and resource management aimed at coping with ecological and associated environmental risks. It clearly states that water is an essential resource to life and that an adequate supply of safe drinking water is a basic human need. The policy makes it clear that water concerns extend beyond human needs for health and survival, also recognising that water is essential to maintain natural ecosystems and that in a country as dry as Namibia, all social and economic activity depends on healthy aquatic ecosystems.

The National Water Policy includes a basic principle headed “Ecosystem values and sustainability” which stresses that the management of water resources needs to harmonise human and environmental requirements, recognising the role of water in supporting the ecosystem. One of the strategies provided to ensure environmental and economic sustainability is to ensure that in-stream flows are adequate both in terms of quality and quantity to sustain the ecosystem.

The National Water Policy was developed to guide water resources management in Namibia. It is based on the country’s physical and climatic setting, particularly its aridity, the legacy of the pre-independence era and current trends in development, specifically relating to Namibia’s water resources management. This policy clearly states that water concerns extend beyond human needs for health and survival, that water is essential to maintain natural ecosystems and that in a country as dry as Namibia, all social and economic activity depends on healthy aquatic ecosystems. This policy further recognises the need for inter-sectoral coordination between all stakeholders involved in using and managing water resources. Salient principles contained in the policy include:

- **Ownership of water** – Namibia’s limited and vulnerable water resources are an indivisible national asset, whose ownership is vested in the state on behalf of the whole society.
- **Shared watercourses** – Namibia should strive to promote the equitable and beneficial use of international watercourses based on generally accepted principles and practices of international law, respect the rights of upstream and downstream users in other countries, strive to harmonise domestic legislation with the tenets of international law and respect the right of all stakeholders including basin communities to participate in negotiations and consultations at international level.
- **Integrated management and planning** – Management and planning of water resources should be integrated across economic, environmental, and social dimensions.
- **Development and intergenerational equity** – The country’s water resources should be utilised, developed and managed in a way that promotes equitable and sustainable socio-economic development without prejudicing the benefits and opportunities of future generations.
- **Equity** – All Namibians should have the right of access to sufficient safe water for a

6 No. 4 of 2004.

healthy productive life.

- **Water for ecosystems** – Water resources management needs to harmonise human and environmental requirements and recognise the role of water in supporting ecosystems.
- **Recognition of economic value** – Economic value of water resources in Namibia should be recognised given their scarcity and vulnerability, and that abstraction, management, conservation and use should be efficient and cost effective.
- **Stakeholder involvement** – Water resources and services planning and management should take place within a framework that encourages awareness and participation among stakeholders at all levels.
- **Information exchange** – Water resources information systems should be developed and made accessible to the public, and that institutions involved in the management and provision of water services should do so in an open and transparent manner.
- **Decentralisation** – The management of water resources and water services should be decentralised to the lowest practicable level and recommends basin management.
- **Roles of institutions** – There is a need to have institutional functions clearly defined.
- **Capacity building** – Capacity building should be a continuous process of institutional and human development and should include participation from public, private, civil society and community structures.

The Policy recognises the need to promote equitable and beneficial use of international watercourses based on generally accepted principles and practices of international law. This realisation originated from the 1974 Water Master Plan that identified the need for Namibia to negotiate for access to shared perennial rivers to complement the internal water sources.

The policy proposes to protect water resources from pollution by enforcing the ‘polluter pays principle’ and regular water quality monitoring on all proposed projects. Furthermore, it proposes to improve knowledge on the vulnerability of critical wetland ecosystems and to develop strategies for their effective management. Two clauses within Sections 2.3 on Water Use and Conservation Principles and 2.5 on Legislative and Regulatory Principles are relevant to shared water resources:

Precautionary environmental protection: The resource base shall be protected against any kind of contamination or pollution that would render any part of it unfit for beneficial human, economic and environmental purposes....applying the precautionary principle.

Factoring environmental considerations in decision making: The need to protect the environment in general, and the aquatic ecosystems in particular, including their bio-diversity and the nation’s wetlands will be factored into the allocation of water resources for use and will include the prior assessment of the environmental impacts of proposed water uses.

The totality of the principles found in Namibia’s policy framework for water resources management satisfies the criteria for sustainable use of shared watercourse systems and

principles found in international law instruments that Namibia is party to and provides sound guidelines for future legislation and regulations.

1.3 Namibia's Draft Wetland Policy

Namibia's Wetland Policy Vision is to manage national and shared wetlands wisely by protecting their vital ecological functions, life support systems for the current and future benefit of people's welfare, livelihoods and socio-economic development. The objectives of the policy are to:

- protect and conserve wetland diversity and ecosystem functioning to support basic human needs;
- provide a framework for enduring use of wetland resources;
- promote the integration of wetland management into other sectoral policies; and to
- recognise and fulfil Namibia's international and regional commitments concerning shared wetlands and wetlands of international importance.

The basic principles used in Namibia's National Water Policy, which are intended to provide a framework for the development of all water-related policies, have been adapted for the Wetlands Policy in order to complement existing national policy instruments relevant to sustainable development and sound natural resource management and to help meet the national commitments as a signatory to the SADC (Southern African Development Community) Protocol on Shared Watercourse Systems, NEPAD (New Partnership for Africa's Development), several regional water commissions on shared river courses, the Ramsar Convention, the UNCBD (United Nations Convention on Biological Diversity), the UNCCD (United Nations Convention to Combat Desertification) and the UNFCCC (United Nations Framework Convention on Climate Change). It was prepared in consultation with all relevant ministries.

Recognising that wetlands often span two or more political regions within a single country or two or more sovereign states and that this can lead to conflicts of interest, duplication and possible habitat loss, a basin-wide approach to wetland management is advocated and to conserve shared wetlands, the establishment of trans-frontier protected areas is specifically stated.

Legislative and regulatory principles include the development of legislation to protect Namibia's diverse and vulnerable wetlands. Further to this, the need to protect the biodiversity and ecological functioning of wetlands will be factored into all new laws and policies as well as setting aside water for aquatic ecosystems (water for environmental flows). The right to consultation between all relevant stakeholders, including basin communities affected by development decisions occurring at the local, basin and international level shall be respected.

1.4 Namibia's Marine Resources Policy

Namibia's 2004 *Marine Resources Policy: Towards Responsible Development and Management of the Marine Resources Sector* states that Namibia is committed to observe the principle of optimum sustainable yield in the exploitation of marine resources, in line with the Constitution. The overall objective of the policy is to:

... utilise the country's fisheries resources on a sustainable basis and to develop responsible industries based on them in a way that ensures their lasting contribution to the country's economy and overall development objectives, as detailed in Vision 2030 and National Development Plans.

This objective is to be attained by means of the following main strategies:

- Maintaining an appropriate legislative, institutional and administrative framework;
- Conservation and responsible management of marine resources;
- Support for domestic catching, processing and marketing; and
- Enhanced participation for Namibians in all aspects of the marine resources sector.

The policy's fundamental principles include, inter alia, Namibia's commitment to responsible fisheries and to conduct the planning, management and development of the marine fisheries sector in accordance with international best practice. Furthermore, the precautionary approach to fisheries management is recognised and it is stated that such approach shall be applied as appropriate.

1.5 Namibia's Aquaculture Policy

The 2003 Aquaculture Policy deals with the responsible and sustainable development of farming with aquatic plants, fish, molluscs and crustaceans and advocates responsible aquaculture developments. This policy deals directly with the potential impacts of alien and other invasive species and seeks to minimise the impacts on aquatic ecosystems. Impacts specifically mentioned include the release of introduced species and genetically modified organisms, the mixing of farmed and wild stock (genetic pollution) and the risk of disease transfer.

One of the principles on which the policy is based is to ensure the protection of the living resources of national and international waters, both marine and freshwater, from possible adverse effects resulting from aquaculture activities, introductions and effluents. The strategies to address the stated objective of responsible and sustainable aquaculture development include maintaining genetic diversity and the integrity of aquatic ecosystems and ensuring responsible aquaculture production. The policy is firmly rooted in the internationally accepted ICES (International Council for the Exploration of the Seas) Code of Conduct on Responsible Fisheries, the Food and Agriculture Organisation (FAO) Technical Guidelines for Aquaculture Development as well as the Holmenkollen Guidelines and recognises international responsibilities in terms of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), Ramsar and other agreements

governing shared water resources. The policy recognises the need for specific aquaculture laws and regulations and lays the foundations for these. It thus provides a framework for the subsequent development of the Aquaculture Act to establish both the duties of the state and the responsibilities and the rights of aquaculturalists, and to identify the responsible authorities in terms of enforcement and clear procedures for conflict resolution.

The policy lays the foundations for a National Development Master Plan for Aquaculture and promotes support for communal aquaculture. It recognises the importance of environmental assessments under the authority of the Ministry of Environment and Tourism, particularly in designating aquaculture zones. It specifically states that the government may take measures such as the establishment of hatcheries, to reduce reliance on wild-caught juvenile indigenous fish and repeated introductions of exotics in order to protect genetic resources.⁷

The policy explicitly deals with maintaining genetic diversity and the integrity of aquatic ecosystems and stresses a precautionary approach.⁸ Any proposals for further introductions or translocations of freshwater aquatic organisms, particularly the introduction of exotics and potential transfer of disease organisms will be carefully examined and guided by a strict code of practice. Provision is made for lists of allowable and prohibited species to be compiled and regularly reviewed and if required to establish watershed zonation beyond which indigenous or exotic organic organisms may not be translocated. Preservation of genetic diversity will be promoted and care will be taken to limit adverse impacts on internationally shared waters. Responsible aquaculture production practices are outlined, firmly placing the responsibility with the aquaculturalists for safe and efficient farm management. It touches on quality, health and ethical concerns.⁹

2 The Statutory Framework

2.1 The Water Act¹⁰

This rather out-dated legislation remains in force until the new Water Resources Management Act comes into force upon signing by the line minister. Although the new Water Resources Management Act was approved by Parliament in 2004 it has yet to be signed by the Minister and is currently being amended to take into account practical aspects of implementing it.

The main purpose for passing the Water Act, as its preamble states, was to consolidate and amend the laws relating to the control, conservation and use of water for domestic, agricultural, urban and industrial purposes. The Act also aims to make provision for the control of the use of sea water for certain purposes, for the control of certain activities on or in water in certain areas and for the control of activities which may alter the natural occurrence of certain types

7 Cf. Section 3.1.11(d) of the policy.

8 Cf. Section 4 of the policy.

9 Cf. Section 5 of the policy.

10 No. 54 of 1956.

of atmospheric precipitation. It must be noted that this Act does not apply to Namibia in its entirety since certain sections were suspended or never applied to Namibia.¹¹ This reveals that this Act cannot cover all the areas of Namibian water law. For this reason, government drafted the Water Supply and Sanitation Policy (WASSP) which will be considered in brief below.

The Act distinguishes between private and public water. Private water is that which flows, naturally rises, falls or generally drains or is directed into land but is not available for common use.¹² Public water includes any water flowing or found in or derived from the bed of a public stream, whether visible or not.¹³ There is no private property right to public water,¹⁴ and the sole and exclusive use and enjoyment of private water is vested in the owner of the land on which such water is found.¹⁵ The Act thus gives preferential abstraction rights to the landowners on whose land such water is found.¹⁶

The private-public water dichotomy might be unconstitutional in the current constitutional dispensation because whereas the Act provides for private and public water, the Constitution regards natural resources as common resources thus they constitutionally belong to the state unless otherwise lawfully owned. Considering that all water is controlled by the state under the public trust doctrine emanating from Article 100 read together with schedule 5 of the Constitution all the water can be regarded as a common resource – hence public.¹⁷ The Act, however, has some balancing provisions whereby the Minister of Agriculture, Water and Forestry (MAWF) has the power to control the amount of water to be used by a person who has private water rights.¹⁸ Connected to this in terms of Section 21, the Minister has the power to order a person to purify water he has contaminated. A person can, however, apply for an exemption from this duty and the Minister has to use his/her powers to consider whether to grant the application or not.¹⁹

Section 23 prohibits pollution of public or private water, including underground water, or sea-water. Sections 27 to 55 deal with control and use of subterranean water. The President is

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- 11 Only the following provisions of the Act have been made applicable to Namibia: Sections 1-4, with effect from 25 June 1969 – according to Section 180(2) of the Act; Section 162, with effect from 1 April 1971, by Proclamation 281 of 1970 in terms of South African Government Gazette 2921 of 13 November 1970); Sections 5 to 7, 9A, 21 to 23, 26 (excluding paragraph (a)), 27, 28(1), 30, 34 to 43, 44(2), 45 to 51, 54 to 56, 57(1), 59(2), 66, 69, 70 (excluding paragraphs (d) , (f.) , (g) and (h)), 139 to 152, 164 *bis*, 164 *ter*, 165, 166, 170 (excluding sub-Section (3) and paragraph (c) of sub-Section (5)) and 171 - with effect from 26 June 1971 by Proclamation 151 of 1971 in terms of South African Government Gazette 3167 of 25 June 1971; and Sections 9B; 30A (a) and 170(3) with effect from 18 December 1985 by Act No. 22 of 1985.
- 12 Section 1.
- 13 Section 1.
- 14 Section 6.
- 15 Section 5.
- 16 Land-based entitlement: Rights to abstract and use public and private water is based on the riparian principle which means that the right to water usage is determined by the location of the water resources in relation to the land.
- 17 See similar arguments advanced in GRN (2000b).
- 18 Section 9A.
- 19 Section 21(5).

empowered to declare certain waters to be a subterranean water control area, if the Minister is of the opinion that it is in the public interest to do so.²⁰ Once proclaimed, Cabinet has extensive powers to determine how that water is going to be extracted and all concomitant matters.²¹

This Act gives the Minister the power to investigate water resources, plan water supply infrastructure, develop water schemes, control pollution, protect, allocate and conserve water resources, inspect water works, levy water tariffs and advise on all matters related to the water environment in general. It makes the Department of Water Affairs, in MAWF, responsible for the use, allocation, control, and conservation of Namibia's surface and groundwater resources.

2.2 The Water Resources Management Act²²

This Act has been approved and published in the Government Gazette;²³ however, it has not yet come into force. The new Act is currently being amended to take into account certain practical aspects of its implementation. Thus, the Water Act of 1956 is generally referred to as the 'old' Water Act and often in the past tense, although, strictly speaking, it remains applicable until officially repealed.²⁴ Once the Act is in force, the Water Act of 1956 will be repealed as whole. The Act is based on the National Water Policy and provides for the management, development, protection, conservation, and use of water resources. The new Act introduces equitable access to water resources for all population groups in Namibia. It provides an integrated, enabling legislative framework within which Namibian water resources can be managed, and water services can be provided. The objective of the new Act is to ensure that Namibia's water resources are managed, developed, protected, conserved and used in ways, which are consistent with or conducive to certain fundamental principles set out in section 3 of the Act. It must be consistent with and promote:

- equitable access to water resources by every citizen, in support of a healthy and productive life;
- access by every citizen, within a reasonable distance from their place of abode, to a quantity of water sufficient to maintain life, health and productive activities;
- essentiality of water in life, and safe drinking water a basic human right;
- harmonisation of human needs with environmental ecosystems and the species that depend upon them, while recognising that those ecosystems must be protected to the maximum extent;
- integrated planning and management of surface and underground water resources, in ways which incorporate the planning process, [and] economic, environmental and social dimensions;

20 Section 28(1) as substituted by sec 5 of Act No. 42 of 1975. Only this sub-Section is applicable in Namibia. The other sub-Sections including Section 29 are not applicable to Namibia.

21 See the powers in Section 30.

22 No. 24 of 2004.

23 GG 3357/2004.

24 The Water Act, No.54 of 1956, was still applied by the High Court in Windhoek in the case concerning the use of groundwater by the Valencia Uranium Mine; see Menges (2008).

- management of water resources so as to promote sustainable development;
- facilitating and encouraging awareness programmes and participation of interested persons in decision-making;
- prevention of water pollution, and the polluter's duty of care and liability to make good; and
- meeting Namibia's international obligations and promoting respect for Namibia's rights with regard to internationally shared water resources and, in particular, to the abstraction of water for beneficial use and the discharge of polluting effluents.

This reflects both the principles stated in the policy and the environmental clause in the Namibian Constitution. The Act provides for basic human and environmental water needs, although not as specifically as stated in the National Water Policy. Two of the general functions and powers of the Minister are to participate in consultations and negotiations with other countries regarding shared water resources, and to ensure that water resources management operates in accordance with the principles of environmental sustainability.

Water supply is a major challenge in Namibia, especially in the rural areas. The water supply infrastructure has to be maintained, facilities have to be managed, and fees are to be collected in order to organise the water supply.²⁵ According to part V of the Act,²⁶ Water Point User Associations²⁷ are established at community level, consisting of those rural community members who permanently use a water point. Their function is to operate and maintain the water point in question. Water Point User Associations are at liberty to make their own decisions about water use regulations. A Water Point Committee monitors and enforces compliance with such regulations. The ultimate punishment against any offence is the suspension of membership in the association, meaning exclusion from the water supply. In case of conflict, a mediator is appointed. Depending on the wishes of the residents, this may be a Traditional Authority, government officials, church leaders, or anyone else.²⁸

In keeping with the legislative and regulatory principles of the Water Policy, which clearly states that legislation will provide for determining an environmental reserve for freshwater sources before they can be used to supply any other demand than domestic and subsistence livestock watering, the Act contains Section 27, titled Reservation of Water Resources, which states that:

The Minister, with the concurrence of the regional councils concerned, may on recommendation of the Water Resource Management Agency or the Basin Management Committee, reserve part or all of the flow of a watercourse, including any groundwater resource and the water stored in a dam or lake to-

25 On water management problems, especially in the Kavango Region, see Falk (2008) and the following sub-chapter.

26 Sections 16–22 of the Act.

27 For more details on water point associations, see Falk (2008) and the following sub-chapter.

28 Cf. GRN (2001a).

- (a) meet the domestic use of the water users concerned and
- (b) reasonably protect aquatic and wetland ecosystems, including their biological diversity and to maintain essential ecosystem functions.

Regulations will need to be developed on how to determine these reserved water resources. It is assumed that this reserve will be based on the ecological environmental flow requirements and basic human water requirements pertinent to a particular river system or basin.

The Act provides for the establishment of a Water Resources Management Agency as well as Basin Management Committees to manage water resources sustainably.

Section 7 outlines the functions of the proposed Water Resources Management Agency which include integrated management of Namibia's water resources, the collection, analysis and sharing of data concerning the conservation and management of water resources and resource quality in Namibia, guiding, assisting and coordinating Basin Management Committees. According to the fundamental principle of integrated planning and management of surface and underground water resources, an Integrated Water Resources Management Plan for Namibia has been formulated by a consortium lead by Windhoek Consulting Engineers (WCE), in close cooperation with the Ministry of Agriculture, Water and Forestry (MAWF) and the Namibian National Water Partnership (NWP). The plan has not yet been approved.²⁹

Part IV of the Act paves the way for establishing basin management committees in order to promote the management of water resources on hydrological boundaries taking into account physical, climatic, ecological and human factors affecting the quantity and quality of water resources. By 2011, eight basin management committees had been established.³⁰ Section 13 endows a Basin Management Committee with the powers to protect, develop, conserve, manage and control water resources and water resource quality within its water management area in consultation with other water management stakeholders; and to promote community participation in the protection, use, development, conservation, management and control of water resources in its water management area through education and other appropriate activities. Other functions of the Committee include to provide input in the preparation of a water resources plan for the basin; to monitor and report on the effectiveness of policies and action in achieving sustainable management of the basin; and to collect, manage and share such data as are necessary to properly manage the basin in coordination with the Water Resources Management Agency.

It is assumed that the responsibility to protect the basin and its resources includes the requirement to do environmental impact assessments for all proposed development projects. The Basin Management Committees as proposed in this Act aim to involve all stakeholders in decisions regarding their water resources and to delegate the task to the most appropriate level of management.

It is assumed that the Agency will be responsible for determining water quality, pollution

29 GRN (2012:29).

30 GRN (2012:29).

control and environmental flow requirements to be prescribed in the regulations of the Act and that these will be subject to public consultation. Once agreed, the water standards, allocations, pollution control measures and determined environmental flow requirements should be taken into consideration when licenses for water abstraction, impoundment, inter-basin transfers and effluent discharges are issued. The requirement to conduct environmental impact assessments for water projects is adequately taken into account in the Environmental Management Act, and is also a requirement for water abstraction and effluent discharge permits under the Water Resources Management Act.

The Act specifically deals with the control of alien invasive species in Section 133 on regulations, stating that the Minister may declare any species to be alien invasive species and may make regulations for their eradication or control. Further, as the Act requires water resources management to operate according to the principles of environmental sustainability, this implies that where aquatic invasive species threaten water resources and wetland habitats they will be dealt with.

Another fundamental principle upon which the Water Resources Management Act is based is that Namibia meets its international obligations and promotes respect for its rights with regard to internationally shared water resources, resource quality and, in particular, to the abstraction of water for beneficial use and the discharge of polluting effluents. Part 10, on Internationally Shared Water Resources, recognises Namibia's obligations under international treaties, conventions, such as the UNCBD, and agreements and specifically mentions the Law of Non-Navigational Uses of International Watercourses and the revised SADC Protocol on Shared Water Resources. Regarding shared water courses, the minister is authorised to participate in the development of a common database, joint projects and conflict resolution and to establish institutional links and ensure stakeholder participation with neighbouring riparian states. The Act includes the obligation to collect and share data and information on internationally shared water resources and lists these in Section 55.

2.3 The Namibia Water Corporation Act³¹

The Namibia Water Corporation Act establishes the water utility company, NamWater, and places an obligation on NamWater to conduct its functions in an environmentally sustainable and sound manner, and specifies a duty to conserve and protect the environment. It should conduct all activities with due regard for the protection and conservation of ecological resources and habitats. Water is allocated through a permit regulatory system and NamWater is entitled to apply for a permit to impound surface runoff in ephemeral rivers, and to abstract water from perennial rivers as well as groundwater.

31 No. 12 of 1997.

2.4 Marine Resources Act³²

The Marine Resources Act provides for the conservation of the marine ecosystem and the responsible utilisation, conservation, protection and promotion of marine resources on a sustainable basis. For that purpose it provides for the exercise of control over marine resources and for matters connected therewith. The provisions of the Act do only apply to coastal waters. The Marine Resources Act replaces the Sea Fisheries Act³³, which in turn replaced the Sea Fisheries Act³⁴. It furthermore replaces the Sea Birds and Seals Protection Act³⁵, and the Fishing Boat and Factory Owners' Committee Ordinance³⁶. However, according to Section 64 (2) of the Marine Resources Act, regulations made under previous legislation remain in force. Many such regulations have been drafted, for example on the northern limit of Namibian waters; the licensing of foreign-flag vessels for the purpose of harvesting Namibia's marine resources; or the declaration on the Namibian Islands Marine Reserve. In 2001, regulations relating to the exploitation of marine resources³⁷ were made under Section 61 (1) of the Marine Resources Act. These regulations set forth procedures for granting rights or exploratory rights, allocating quotas and issuing licences; permits for fishing for recreational purposes; and for conservation measures such as the control of fishing gear used for harvesting for commercial purposes. Furthermore, the regulations contain provisions on the protection of the marine environment.

2.5 The Aquaculture Act³⁸

The Aquaculture Act regulates and controls aquaculture activities and the sustainable development of aquaculture resources. It allows the Minister to formulate a policy based on social, economic and environmental factors, the best scientific information and advice from the advisory council to *inter alia* promote sustainable aquaculture and manage, protect and conserve aquatic ecosystems. All aquaculture ventures are subject to strict licensing.³⁹ Important clauses are Sections 27 (1) and (3), dealing specifically with the introduction and transfer of aquatic organisms:

A person may not, without written permission granted by the Minister, introduce or cause to be introduced into Namibia or any Namibian waters any species of aquatic organism or any genetically modified aquatic organism or transfer any species of aquatic organism from one aquaculture facility to another or from any location in Namibia to another. The Minister must not issue any approval under this Section unless the impact of any introduction or transfer of any aquatic species or genetically modified aquatic organism has been assessed, if so required, in accordance with the legislation or policy dealing with environmental assessments.

32 No. 27 of 2000.

33 No. 29 of 1992.

34 No. 58 of 1973.

35 No. 46 of 1973.

36 No. 16 of 1968.

37 GN 241/2001 (GG 2657); In a recent report on Seal Harvesting in Namibia (cf. Office of the Ombudsman 2012), the Ombudsman of Namibia has recommended to amend regulations 18 and 20 to bring section 18 (1) of the regulations in line with section 32(1) of the Marine Resources Act and to ensure the humane killing of seals. For further details see also Chapter 19 of this Volume.

38 No. 18 of 2002.

39 Regulations related to licensing are contained in GN 246/2003 (GG 3104).

The import or export of aquatic organisms is subject to written permission from the Minister according to Section 28 (1).

2.6 The Inland Fisheries Resources Act⁴⁰

The Inland Fisheries Resources Act deals with the conservation and utilisation of inland fisheries resources and allows for the updating and development of new policies for the conservation and sustainable utilisation of Namibia's inland fisheries. It encourages cooperation with neighbouring countries regarding the management and conservation of shared waterways. No fishing is allowed in parks nor by net within 100m from a bridge, culvert or spillway or in a manner which obstructs more than half the width of any watercourse. Furthermore, it prohibits the use of destructive fishing methods such as the use of poisons, explosives and night lights and the introduction and/or transfer of non-indigenous fish species. Fines or imprisonment are prescribed for destructive fishing and the use of nets where they are banned. Of importance in terms of shared water resources is that it prohibits the introduction, transfer, import and export of any species of fish or crustacean without written permission (Section 19(a and b)) and that anyone convicted of this may be fined or imprisoned. The Act makes provision for the establishment of an Inland Fisheries Council and although no environmental officer is specified to serve on this, it makes provision for the appointment of honorary inspectors from the environmental affairs ministry. Section 23(2a) sets out the powers of fishery inspectors. The Act makes it compulsory to have a fishing licence to fish in any inland water body using any regulated fishing gear, specified as a rod, line, hook and/or nets and requires the registration of nets. The Act allows for the protection of endangered fish species as well as the declaration of fisheries reserve areas where no one may fish, pollute the water, dredge the area nor disturb the natural environment of fish and related ecosystems. The Act allows the Minister to make regulations necessary to manage inland fishery resources that range from methods allowed and gear limitations, through allowable fish sizes to types of surveys to be conducted and what data should be collected.

2.7 Prevention and Combating of Pollution at Sea by Oil Act⁴¹

This Act prohibits the discharge of oil from ship, tanker or any other offshore installation and gives the state certain powers to prevent such pollution and to deal with the removal of oil spills. The Act is applicable to coastal waters, while inland pollution is covered by the Water Act.

40 No. 1 of 2003.

41 No. 6 of 1981.

CHAPTER 10

REFORM OF RURAL WATER SUPPLY IN NAMIBIA

Thomas Falk, Bernadette Bock & Michael Kirk¹

Sufficient, safe, physically accessible and affordable water for personal and domestic use has become a nationally and internationally recognised human right.² It is one of the Millennium Development Goals (MDGs) to halve the number of people who do not have access to or can afford safe drinking water.³ In order to achieve this vision, decisions must be made about allocation mechanisms and conservation of water that are compatible with societal objectives such as economic efficiency, sustainability and the equity imperative.⁴

Namibian water policy is driven by these objectives. Water reforms became necessary because, historically, Namibian rural water supply was characterised by racially-based inequality and strong subsidising. This created a low-quality water sector, making the rural population highly dependent on government hand-outs and unaware of sustainability considerations.⁵ The reform of rural water supply fundamentally changes the paradigm of “control and command” by empowering water users and increasing water management efficiency. The main pillars of the reform are polycentrism and cost recovery. Both are meant to increase the natural resource management efficiency.

The currently implemented rural water supply reform has the objective to reverse the negative effects of the previous policy. The satisfaction of basic human needs and environmental ecosystems must be harmonised. This shall be achieved by the stronger involvement of different stakeholders and the empowerment of water users. Resulting incentives to save water and to maintain infrastructure are supposed to improve the ecological and financial sustainability of the water supply. Making better use of the capacities of different stakeholders would decrease the government’s burden concerning the supply of water allowing it to invest the saved funds in more efficient sectors.⁶

Various laws and policy papers address the water issue.⁷ In particular, the Water Resources Management Act⁸ provides the legal framework for the implementation of water reform.

1 This chapter is based on a study that was part of the BIOTA project, which was funded by the BMBF, the German Federal Ministry of Education and Research. Special thanks go to Mr. Clever Mapaire, who not only served as a research assistant in the aforementioned project, but also rendered editorial assistance in this sub-chapter.

2 GRN (2000b). The Water Resources Management Act No. 24 of 2004 and UN (2002).

3 UN (2000).

4 Bock/Kirk (2006).

5 Ibid.

6 See GRN (1997c); GRN (2000b).

7 See Article 100 and Schedule 5 of the Constitution of the Republic of Namibia, GRN (1997d); GRN (2000a); GRN (2008).

8 No. 24 of 2004.

The new legislation has not changed anything regarding the ownership of water resources, which still remain in the hands of the state. In this way the government can control and ensure that water is managed and used to the benefit of all people. This legal perception is not uncontested, because state ownership is in contradiction to the customary law of at least some ethnic groups. Customary law is recognised under the Namibian Constitution.⁹ Perceived overlapping jurisdictions of statutory and traditional authorities are a threat rather than an opportunity for improved water management in this unclear legal situation. Disregarding this centralised ownership constellation, community participation and subsidiarity are key strategies of the Namibian government in order to achieve the objective of economically, environmentally and socially sustainable water management.

The Water Supply and Sanitation Sector Policy of 2008 states that

...equitable improvement of water and sanitation services should be achieved by the combined efforts of the government and the beneficiaries, based on community involvement and participation, the acceptance of a mutual responsibility and by outsourcing services where necessary and appropriate, under the control and supervision of government....¹⁰

The commitment to a broad stakeholder involvement is a commitment to a polycentric reform approach. Reformed rural water supply is based on the following main principles: a) maximum involvement of users; b) delegation of responsibility to the lowest possible level; c) an environmentally sound utilisation of water resources; d) controlled out-sourcing; and e) cost recovery.¹¹ In 1997, it was decided that, within ten years, the responsibility for managing and paying for water services should be progressively devolved to community organisations.¹²

The core of the organisational framework consists of the bodies proposed by the Water Resources Management Act. Following subsidiarity principles, the Act strongly focuses on the establishment of Water Point User Associations (WPAs).¹³ These consist of those community members who permanently use a particular water point. The WPAs have the right and duty to operate and maintain their water points in order to foster a sense of ownership.¹⁴ Their constitutions contain stipulations on water use regulations and access. They are further given power to adopt measures to prevent the wastage of water and to protect water infrastructure against vandalism and other damages.¹⁵ A backbone of the reform lies in the empowerment of water users through capacity building on issues related to infrastructure operation and maintenance as well as water conservation.¹⁶

9 Article 66 of the Constitution of the Republic of Namibia; see Hinz (2000).

10 GRN (2008).

11 Ibid.

12 GRN (2000a).

13 Water Resources Management Act No. 24 of 2004.

14 Ibid.

15 Ibid.

16 GRN (2008).

The WPAs elect Water Point Committees for the day-to-day management and financial activities.¹⁷ Water Point Committees are empowered to monitor and enforce the compliance with regulations. Penalties against violations have to be specified in the Management Plan.¹⁸ Generally, the WPAs can incorporate various stakeholders, such as traditional authorities, government officials or church leaders in their committees.¹⁹ Such a polycentric approach makes use of existing structures and is intended to allow for efficient management, since an authority is chosen who best represents the interests of the local users. Social and moral-based institutions minimise the need for external enforcement. The list of authorities involved can be extended if one considers that legally recognising the rights of users creates overlapping responsibilities in a positive, hence subsidiary way. WPAs can in most cases use informal mechanisms to monitor and enforce their rules. When associations are overstrained, they have the power to call, *de jure*, on the judiciary and executive which would be obliged to assist in enforcing WPA rules. This is an important claim in terms of institutional sustainability.

At the top level the Ministry of Agriculture, Water, and Forestry, and in particular the Directorate of Rural Water Supply, has policymaking and strategic planning functions. The Minister establishes water management structures and has the power to register or deregister WPAs. A national Water Advisory Council will advise the Minister on water-related matters. Basin Management Committees will be set up to manage water catchments. One of their functions is to promote community participation in the protection, use, development, conservation, management and control of water resources.²⁰ Different government departments, even outside the Ministry of Agriculture, Water, and Forestry, are held responsible for various reform-related tasks.²¹

Policymakers are aware that water is a scarce and valuable resource. Therefore, an economic value is placed on water in order to include environmental externalities in the water costs and to encourage efficient and sustainable resource supply.²² Cost-effective water supply is one of the fundamental principles of the Water Resource Management Act and the Water Supply and Sanitation Policy.²³ However, the policy emphasises that there is a social responsibility to make water available to the poor. For communal farmers, the introduction of cost recovery means stronger self-support and more responsibility for water facilities, as it is recommended they own and operate their installations.²⁴

17 Water Resources Management Act No. 24 of 2004.
 18 GRN (2001f).
 19 GRN (2001a).
 20 Water Resources Management Act No. 24 of 2004.
 21 GRN (2008).
 22 GRN (2000b).
 23 Water Resources Management Act No. 24 of 2004. GRN (2008).
 24 GRN (2008).

CHAPTER 11

LAND AND AGRICULTURAL LAWS AND POLICIES RELEVANT FOR ENVIRONMENTAL PROTECTION IN NAMIBIA

Shirley Bethune & Oliver C. Ruppel

Land degradation is one of the major environmental concerns in Namibia as land is the basis for survival. Land degradation threatens environmental quality and has a negative economic impact. In Namibia, farming has deep cultural and social meaning. About 70% of the Namibian population depends on agricultural activities for a livelihood.¹ Thus, the conservation of land by legal means is of critical importance for the country.²

1 Land and Agricultural Policies

A number of policies impact on land and agriculture in general and they do have provisions dealing with environmental protection. These policies include the National Agricultural Policy, the National Drought Policy and Strategy, and the Namibia Forest Development Policy. To ensure environmental protection these policies promote Community-Based Natural Resources Management (CBNRM). This means that the role of the government is limited to regulatory functions and the provision of technical support that will enable farmers to improve their capacity to manage resources more effectively. The government provides the necessary fiscal and administrative support under these policies, while the farmers do the groundwork of managing their land and agricultural resources. However, issues such as bush encroachment require collaborative effort.

1.1 Land-use Planning: Towards Sustainable Development

This policy document drafted by the Ministry of Environment and Tourism in 1994 defines five physiographic land forms: Communal state land; privately-owned commercial farmland; proclaimed state land; urban areas; and wetland systems, including their catchment areas. The policy emphasises sustainability of natural resources, biodiversity and essential ecological processes.

1.2 The National Land Policy

The National Land Policy drafted in 1998 is based on constitutional principles and on the national commitment to redress the social and economic injustices inherited from Namibia's colonial past. The policy calls for the establishment and proclamation of urban areas as townships and municipalities and strives to promote decentralisation and community invol-

1 GRN (2007b:1).

2 This Chapter is based on Ruppel/Bethune (2007) and Hinz/Ruppel (2008b).

vement. This policy proposes financial and tax incentives for the protection and rehabilitation of natural environments (e.g. planting of indigenous trees and using alternative energy to reduce rates of deforestation and pollution). It states that, in accordance with Article 95(1) of the Constitution, the policy will promote environmentally sustainable land use, and goes further to state that failure to demonstrate environmental sustainability may be grounds for the denying or termination of a title.

One of the aims of this policy is to establish a Land Use and Environmental Board (LUEB) to promote environmental protection and contribute towards coordinated planning and management at national and regional levels. This LUEB shall ensure that environmental protection is promoted in order to guarantee environmental, social and economic sustainability.

1.3 The National Resettlement Policy

This policy provides for resettlement, which is institutionally, socially, economically and environmentally sustainable and will enable the beneficiaries to become self-supporting, in accordance with the basic objectives of the government.

1.4 The National Land Tenure Policy

The policy covers all land tenure systems in urban, communal, commercial (freehold) and resettlement areas and is intended to guide all land tenure rights in Namibia. The policy promotes sustainable utilisation of the nation's land and other resources, provides a way to regulate different land tenure right systems, provides secure tenure for informal urban settlers, farm workers and occupiers (those who have been employed less than ten years on a single farm and do not have secure tenure elsewhere), and provides guidelines on compensation for occupiers of expropriated land. In keeping with the National Agricultural Policy (1995), the policy recognises the environmental limitations of a country as dry as Namibia.

1.5 The National Agricultural Policy

The National Agricultural Policy of 1995 provides an enabling environment for increased food production by smallholder producers, as a means of improving employment opportunities, incomes, household food security and the nutritional status of all Namibians. In terms of the National Agricultural Policy, long-term or continuing subsidies will be avoided. However, the policy still allows for the possibility that well-targeted subsidies can play an important part in achieving short-term agricultural and socio-economic objectives. There is an apparent need for a well-formulated policy to provide for the management of the savannahs, whether on commercial or communal land. Such a policy has to create a socio-economic environment that provides incentives for farmers to improve the productivity of their pastures by controlling intruder bush and preventing re-infestation in an environmentally sustainable way.³ At the same time, improved pasture management practices need to be encouraged to minimise the risks of future land deterioration.⁴

3 Groenewaldt (2008).

4 Ibid.

The National Agricultural Policy regards land degradation as a serious problem and recognises that water resources in Namibia are limited and that growth within the agricultural sector should not be at the expense of the natural environment. Furthermore, it encourages the use of Environmental Impact Assessments for agricultural projects and proposes a review of legislation related to the use of agrochemicals. The aims of the National Agricultural Policy are largely economic and focus on increasing agricultural productivity and real farm income as a contribution to national and household food security. It recognises the limitations imposed by the Namibian climate and soils and seeks to promote sustainable utilisation of the land and other natural resources within the context of a vulnerable ecosystem. Potential problems such as deforestation, soil erosion, bush encroachment and over-grazing are addressed.

1.6 The National Drought Policy and Strategy

The National Drought Policy and Strategy of 1997 shifts the onus of drought management from government aided relief to appropriate farming techniques aimed at empowering farmers to better cope with droughts themselves. Although incentives such as the Forum for Integrated Resource Management (FIRM) promotes this actively in communal areas that participate in the National Programme to Combat Desertification (NAPCOD⁵) recent responses to crop failures in the north and north east have again reverted to relief programmes. Drought preparedness is one of the important aspects of sustainable resource use and strongly advocated in activities of conservancies elsewhere in the country.

1.7 The Regional Planning and Development Policy

This policy drafted in 1997 under the supervision of the National Planning Commission acknowledges trends of increasing degradation of pastures, rangelands and woodland and gives attention to soil, water and forest management as development tools. It promotes strategies such as soil conservation and controlled grazing cycles.

2 Land and Agriculture Related Legislation

2.1 The Communal Land Reform Act⁶

The Communal Land Reform Act provides for the allocation and administration of all communal land in the areas described in the first schedule to this Act or in any area declared to be communal land under Section 16(1)(a). The Minister is obliged to establish Communal Land Boards to perform the functions conferred on such a board by the Act within the area for which each board is established. The boards are to exercise control over the allocation and the cancellation of customary land rights by chiefs or traditional authorities. They have to consider and decide on applications for the right of leasehold, establish and maintain a register and a system of registration of customary land rights and leasehold rights, and give advice to the Minister.

5 Bethune (2003).

6 No. 5 of 2002.

The Act makes provision for the prevention of land degradation and for mitigating the impacts of mining, prospecting, road works and water provision. It provides for certain rights to communal farmers and traditional authorities and representation on Communal Land Boards. Of note is the provision of Communal Land Boards, with representation of officials from the Ministry of Environment and Tourism and the Ministry of Agriculture, Water and Forestry as well as representatives from any of the conservancies.

The President of Namibia may declare non-alienated state land to be a communal area. Communal areas are vested in the state, in trust, for the benefit of the traditional communities residing in those areas and for the purpose of promoting the economic and social development of the people of Namibia, especially the landless and those with insufficient access to land. Customary land rights are to be allocated upon application for a limited period. Only specific customary land rights may be allocated in respect of communal land, and size limits are imposed.

The Act also provides for the recognition of existing customary land rights, and the granting of a right of leasehold for agricultural purposes or a right of grazing on communal land. The Act makes provision for the prevention of land degradation and, therefore, indirectly contributes to the preservation of biological diversity. Fundamental environmental provisions of the Act refer to the allocation of customary land rights. If a land right is being used predominantly for a purpose not recognised under customary law, customary land rights may be cancelled according to Section 27 of the Act. Furthermore, special provisions are made with regard to grazing rights. A chief or traditional authority is vested with the power to prescribe conditions relating to the kind and number of stock that may be grazed on communal land, as well as to the section or sections of the commonage where stock may be grazed, and the grazing in rotation on different sections. This provision, in particular, ensures the sustainable use of grasses and herbs.

Section 45 of the Act addresses issues pertinent to the conservation and sustainable management of certain natural resources. The Minister may make regulations in relation to water-courses, woods and the use of water (Section 45 (g)) and to the combating and prevention of soil erosion, the protection of the pastoral resources and the limitation and control of the grazing of stock.

2.2 The Agricultural (Commercial) Land Reform Act⁷

Approximately 36.2 million hectares, representing 44 percent of the total land area or 52 percent of agriculturally utilisable land, continue to be held under freehold title. This land is commonly referred to as the commercial farming sector and it is regulated mainly by the Agricultural (Commercial) Land Reform Act of 1995. This Act, as its preamble states, was passed to provide for the acquisition of agricultural land by the state for the purposes of land reform and for the allocation of such land to Namibian citizens who do not own or otherwise

7 No. 6 of 1995.

have the use of any or of adequate agricultural land, and foremost to those Namibian citizens who have been socially, economically or educationally disadvantaged by past discriminatory laws or practices. The Act vests in the state a preferential right to purchase agricultural land and it empowers the state to compulsorily acquire certain agricultural land for the purposes of land reform. It also regulates the acquisition of agricultural land by foreign nationals and establishes a Lands Tribunal to adjudicate disputes that may arise in land matters.

2.3 In the Pipeline: The Land Act

In 2007, the process of reviewing and amending the Agricultural (Commercial) Land Reform Act⁸, and the Communal Land Reform Act⁹, into one Land Act was started. This process has by now been finalised in cooperation with relevant stakeholders and is now under scrutiny by appointed legal drafters. It is expected that the result will go to Parliament in the near future.¹⁰

2.4 The Agricultural Pests Act¹¹

This Act deals with the registration of nurseries, the control and eradication of plants, insects and diseases at nurseries, the control and eradication of exotic (vertebrate) animals (excluding farm animals) and plants infected by insects or plant diseases, control of plant, insect and plant disease imports, honey bees, honey and exotic animals, the eradication of plant diseases, insects and locusts, as well as defining the powers of inspectors. It is essentially aimed at preventing the introduction and spreading of plants, insects, non-farming exotic vertebrates and diseases that may prove detrimental to the agricultural sector. Section 9 provides for the destruction of exotic animals as well as any plants infected by insects or disease. Section 11 serves to regulate plant and exotic animal imports, prohibiting the import of plants, insects, plant diseases, honey bees, honey, beeswax or exotic vertebrates without permits, whilst Section 12 allows the importation of biological control agents needed for the control or eradication of weeds and pests. There is potential to amend this Act to incorporate a wider spectrum of alien invasive species and make use of the existing measures of inspection and enforcement administered jointly by Customs and Excise and the Phytosanitary Section in the Ministry of Agriculture. This Act will be repealed by the new Plant Quarantine Act¹² although any permits issued under Section 11(1) that are in force at the commencement of the new Act will remain valid and deemed to be permits as specified in Section 4(1).

2.5 The Soil Conservation Act¹³

The Soil Conservation Act makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and resources. Although the jurisdiction of the original Act was limited to commercial land,

8 No. 6 of 1995.

9 No. 5 of 2002.

10 GRN (2012d:7).

11 No. 3 of 1973.

12 No. 7 of 2008.

13 No. 76 of 1969.

the recent Communal Land Reform Act of 2002 specifically mentions it and requires compliance in terms of conservation and prevention of soil erosion (clause 31), implying that these measures apply to communal land areas too.

CHAPTER 12

MINING AND ENERGY

I. MINING AND ENERGY LAW IN NAMIBIA

Peter Koep & Meyer van den Berg

The searching for and extraction of mineral and petroleum resources, by their very nature, have an impact on the environment. Each type of mining method causes different forms of pollution and environmental degradation.¹ There are various legislative measures regulating the potential impact of searching for and extraction of minerals and petroleum resources on the environment.

1 The Environmental Management Act

The Environmental Management Act 7 of 2007 (“the EMA”) came into force on 6 February 2012. This Act will have a profound impact on the mining and energy industries in Namibia. In terms of section 27(1) of the EMA, the Minister of Environment and Tourism may list certain activities that may not be undertaken without an environmental clearance certificate. This list was published on 6 February 2012² and includes activities in respect of energy generation, transmission and storage³ and mining and quarrying activities.⁴ More specifically, the following activities may not be conducted without an environmental clearance certificate:

- The construction of facilities for the generation of electricity, the transmission and supply of electricity, the refining of gas, oil and petroleum products and nuclear reaction (including production, enrichments, processing, reprocessing, storage or disposal of nuclear fuels, radioactive products and waste).⁵ Generation of electricity means the production of electricity by way of natural or artificial processes.⁶ Transmission of electricity means the conveyance of electricity by means of a transmission system, which consists wholly or mainly of high voltage networks and electrical plan, from an energy source or system to a customer.⁷ Supply of electricity means the delivery of electricity to a customer as a commodity.⁸
- The construction of facilities for any process or activities which requires a licence, right or other form of authorisation (including renewal of such a licence, right or authorisation) in terms of the Minerals (Prospecting and Mining) Act 33 of 1992.⁹

1 Glazewski (2005:455).

2 GN 29 in GG 4878 of 06 February 2012.

3 Item 1 of GN 29 in GG 4878 of 06 February 2012.

4 Item 3 of GN 29 in GG 4878 of 06 February 2012.

5 Item 1 of GN 29 of GG 4878 of 06 February 2012.

6 See section 1 of GN 29 of GG 4878 of 06 February 2012.

7 See section 1 of GN 29 of GG 4878 of 06 February 2012.

8 See section 1 of GN 29 of GG 4878 of 06 February 2012.

9 Item 3.1 of GN 29 of GG 4878 of 06 February 2012.

- Other forms of mining or extraction of any natural resources, whether regulated by law or not.¹⁰
- The extraction of peat.¹¹
- Resource extraction, manipulation, conservation and related activities.¹²
- The extraction or processing of gas from natural and non-natural sources, including gas from landfill sites.¹³

The above activities may not be undertaken without an environmental clearance certificate.¹⁴ Failure to comply with this provision amounts to an offence. If found guilty, an offender may be liable to a maximum fine of N\$500,000 or to imprisonment for a maximum period of 25 years, or to both such fine and imprisonment.¹⁵

An organ of State which is responsible, under any law, for granting or refusing an authorisation, referred to as a “competent authority”, may not issue an authorisation unless the person proposing to undertake the listed activity (“the proponent”) has obtained an environmental clearance certificate in terms of the EMA.¹⁶ Therefore, the Minister of Mines and Energy, or one of his or her designated officials, may not issue a licence or claim in respect of minerals before the proponent has obtained an environmental clearance certificate. It should be noted that the prohibition only refers to the issuing of authorisations. Therefore, application may still be made for a licence or claim in respect of minerals, and the application may be granted, but the licence or claim may not be issued to the proponent until the proponent has obtained an environmental clearance certificate.

The process for applying for an environmental clearance certificate is discussed elsewhere in this publication.¹⁷ What is important to note is that the process involves consultation with all interested and affected parties. Their input has to be included in the application to the Environmental Commissioner. The Environmental Commissioner has to decide whether or not an environmental impact assessment is required or not. It should be noted that an environmental impact assessment is required in any event in terms of the Minerals (Prospecting and mining) Act.¹⁸ In terms of regulation 11 of the Environmental Impact Assessment Regulations,¹⁹ if an assessment in terms of any other law or policy and that other law or policy requires that information must be submitted or processes must be carried out that are substantially similar to information or processes required in terms of these regulations, the Minister must take steps to enter into a written agreement with the authority responsible for administering the law or policy in respect of the coordination of the requirements of the law, policy and

10 Item 3.2 of GN 29 of GG 4878 of 06 February 2012.
11 Item 3.5 of GN 29 of GG 4878 of 06 February 2012.
12 Item 3.3 of GN 29 of GG 4878 of 06 February 2012.
13 Item 3.4 of GN 29 of GG 4878 of 06 February 2012.
14 Section 27(3) of the EMA.
15 Section 27(4) of the EMA.
16 Section 31(1) of the EMA.
17 See pp. 108ff..
18 No. 33 of 1992.
19 The Regulations published in GN 30 of GG 4878 of 06 February 2012.

these regulations to avoid duplication in the submission of such information or the carrying out of such processes.²⁰

2 Mining Laws and Policy

The Minerals Act contains various provisions aimed at protecting the environment. Apart from the Minerals Act, the Minerals Policy for Namibia (“the Policy”) and the SADC Protocol on Mining (“the Protocol”) also contain provisions aimed at protecting the environment.

2.1 The Minerals (Prospecting and Mining) Act²¹

The Act came into force in 1994 and provides for the reconnaissance, prospecting and mining for, and disposal of, and the exercise of control over, minerals in Namibia and related matters. According to the Act, mining claims require an application process and restrictions and certain conditions may be fixed in the license in order to avoid environmental degradation.²² Particularly, when applying for an exclusive prospecting licence, mining licence, mineral deposit retention licence or the registration of a mining claim, the applicant must provide particulars of the condition of, and any existing damage to, the environment in the area to which the application relates, as well as an estimate of the effect which the proposed prospecting and /or mining operations may have on the environment and the proposed steps to be taken in order to minimise or prevent any such effect.²³ The same applies to an application for the renewal of a mineral licence or the registration of a mining claim.²⁴ However, the same does not apply to applications for non-exclusive prospecting licences or reconnaissance licences. This is probably an oversight by the legislature. It is submitted, however, that application for non-exclusive prospecting licences or reconnaissance licences or the renewal of these licences should include particulars of the condition of, and any existing damage to, the environment in the area to which the application relates, as well as an estimate of the effect which the proposed prospecting and/or mining operations may have on the environment and the proposed steps to be taken in order to minimise or prevent any such effect. This is in line with the general tenor of the Act, as well as international standards.

The Mining Commissioner may not grant the application for the registration of a mining claim unless the Commissioner is on reasonable grounds satisfied that in the course of any such mining operations or any prospecting operations which may be carried on in lieu of such mining operations appropriate measures will be taken to minimise or prevent any pollution of the environment.²⁵ Furthermore, it is a term and condition of the registration of a mining claim that the holder of such mining claim shall take all reasonable steps necessary to prevent or minimise any pollution of the environment.

20 Regulation 11 of the EIA Regulations.

21 No. 33 of 1992.

22 See Section 35(e)(iii).

23 Section 33(2)(e)(vi), Section 68(f.), Section 79(f.) and Section 91(f.).

24 Section 38(1) read with Section 33(2)(c)(vi), Section 72(1) read with Section 68(f.), Section 84(1) read with Section 79(f.) and Section 96(1) read with Section 91(f.).

25 Section 92(2)(c)(ii)(bb) of the Minerals Act.

If a mining claim, reconnaissance area, prospecting area, retention area or mining area is abandoned, the holder of the mining claim or mineral licence to which such area relates must take all such steps as may be necessary to remedy to the reasonable satisfaction of the Minister any damage caused by any prospecting operations and mining operations carried on by such holder to the surface of, and the environment on, the land in the area in question.²⁶ The Minister may, with due regard to good reconnaissance practices, good prospecting practices or good mining practices by notice in writing addressed and delivered to the holder of a mineral licence, give directions to such holder in relation to the protection of the environment.²⁷

It is a term and condition of every mineral licence that the holder must prepare an environmental impact assessment indicating the extent of any pollution of the environment before any prospecting operations or mining operations are being carried out and an estimate of any pollution, if any, likely to be caused by such prospecting operations or mining operations.²⁸ If any pollution is likely to be so caused, an environmental management plan indicating the proposed steps is to be prepared in order to minimise or prevent to the satisfaction of the Commissioner any pollution of the environment and consequence of any prospecting operations or mining operations carried on by virtue of such mineral licence.²⁹ Furthermore, the holder must from time to time as circumstances change revise such an environmental management plan either out of his/her own motion or as required by the Commissioner.³⁰

The Minister may by notice, if he/she deems it necessary or expedient for the protection of the environment or the natural resources of Namibia or the prevention of the pollution of such environment or damage to the natural resources, declare that any prospecting operations or mining operations may be carried on in, on or under any such land or area by any holder of a non-exclusive prospecting licence, mining claim, exclusive prospecting licence, mineral deposit retention licence or mining licence only with the special permission of the Minister and subject to such terms and conditions as may be determined by the Minister.³¹

If a non-exclusive prospecting licence or mineral licence or the registration of a mining claim has been cancelled or has expired or, if any area to which such licence or mining claim relates has been abandoned or has for any reason ceased to be part of the area to which such non-exclusive prospecting licence relates or of the prospecting area, mining area or claim area, as the case may be, the Minister may by notice in writing addressed and delivered to the person who was the holder of such licence or mining claim direct such person to take all such steps as may be necessary to remedy to the satisfaction of the Minister any damage caused by any prospecting operations and mining operations carried on by such holder to the surface of, and the environment in, such area.³² If the person fails to comply with a direction given in

26 Section 43(2)(c) and Section 54(2)(b) of the Minerals Act.

27 Section 57(1)(c) of the Minerals Act.

28 See Section 50(f.)(i) of the Minerals Act.

29 See Section 50(f.)(ii) of the Minerals Act.

30 See Section 50 (g) of the Minerals Act.

31 Section 122(2)(b) of the Minerals Act.

32 Section 128(1)(b) of the Minerals Act.

the notice, the Minister may cause such steps to be taken and recover the costs thereof from that person.³³

When in the course of any reconnaissance operations, prospecting operations or mining operations carried on under any non-exclusive prospecting licence, a mining claim or a mineral licence, any mineral or group of minerals is spilled in the sea or on land or in any water on or under the surface of any land or the sea or such land or water is otherwise polluted or any plant or animal life, whether in the sea, other water in, on or under land, is endangered or destroyed or any damage or loss is caused to any person, including the state, by such spilling or pollution, the holder of such licence or mining claim shall forthwith report such spilling, pollution, loss or damage to the Minister and take at his or her own costs all such steps as may be necessary in accordance with good reconnaissance practices, good prospecting practices or good mining practices or otherwise as may be necessary to remedy such spilling, pollution, loss or damage.

If the holder of a licence or mining claim fails to comply with these provisions within such period as the Minister may deem in the circumstances to be reasonable, the Minister may direct by notice in writing addressed and delivered to such holder to take within such period as may be specified in such notice such steps as may be so specified in order to remedy the spilling, pollution or damage or loss, and the Minister may, if such holder fails to comply with such directions to the satisfaction of the Minister within the period specified in such notice or such further period as the Minister may on good cause shown allow in writing, cause such steps to be taken as may be necessary to remedy such spilling, pollution or damage or loss and recover in a competent court the costs incurred thereby from such holder.³⁴

2.2 The Minerals Policy

In 2002, the Ministry of Minerals and Energy published a Minerals Policy for Namibia (“the Policy”). This policy states, in its foreword, that the government recognises the importance of the mining industry in the social and economic development of Namibia. The vision of the policy is

to achieve a high level of responsible development of national resources in which Namibia becomes a significant producer of mineral products while ensuring maximum sustainable contribution to the socio-economic development of the country [and] [t]o further attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation and marketing.³⁵

33 Section 128(2)(a) of the Minerals Act.

34 Section 130(2) of the Minerals Act.

35 Par 1.2 of the Policy.

The mission of the policy is stated as follows:

The Ministry of Mines and Energy (MME), as the custodian of Namibia's rich endowment of mineral and energy resources, facilitates and regulates the responsible development and sustainable utilisation of these resources for the benefit of all Namibians.³⁶

The Policy recognises the effect that mining has on the environment and the need for appropriate legislation to regulate the environment in mining. It furthermore recognises that there is little effective environmental management within the Namibian mining industry.³⁷ The policy attributes this to inadequate co-ordination between the Ministry of Mining and Energy and the Ministry of Environment and Tourism in relation to environmental legislation; a lack of public awareness, capacity weaknesses and education programmes focused on environmental issues; the absence of an environmental budget, and the public antagonism towards mining activities because of its negative effects on the environment.³⁸

The Policy further calls for clear funding mechanisms for environmental rehabilitation, management and control, which will be achieved through the development and implementation of internationally benchmarked Environmental Trust Funds or Bonds, and the implementation of industry good practices in respect of waste management.³⁹

The Government's policies with regard to the mining industry and the environment are summed up as follows:

- Government will ensure that the development of Namibia's mining industry proceeds on an environmentally sustainable basis.
- Government will enact exploration and mining legislation benchmarked against environmental global best practice.
- Government will ensure compliance during rehabilitation with national policies and guidelines, and where appropriate and applicable, with global best practice.
- Government, with relevant stakeholders, will investigate the establishment of financial mechanisms for environmental rehabilitation and aftercare.
- Government, in consultation with the mining industry, will develop waste management standards and guidelines for Namibia.

2.3 The SADC Protocol on Mining

The SADC Protocol on Mining ("the Protocol on Mining") states that member states must promote sustainable development by ensuring that a balance between mineral development and environmental protection is attained.⁴⁰ Member states must encourage a regional approach in conducting environmental impact assessments especially in relation to shared systems

36 Par 1.2 of the Policy.

37 GRN (2002e:26).

38 Par 5.2. of the Policy.

39 Par. 5.3. and par. 5.4. of the Policy.

40 Article 8(1).

and cross-border environmental effects.⁴¹ Member states must collaborate in the development of programmes to train environmental scientists in fields related to the mining sector.⁴² Through the Protocol on Mining, member states undertake to share information on environmental protection and environmental rehabilitation.

3 Energy Laws and Policy

3.1 The Petroleum (Exploitation and Production) Act⁴³

This Act regulates the upstream petroleum industry. It provides for the reconnaissance, exploration, production and disposal of, and the exercise of control over, petroleum.⁴⁴

Upon receipt of an application for, or the renewal or transfer of, petroleum licences, or for the approval for the granting, cession or assignment of interest in a petroleum licence, or an application to be joined as a joint holder of the licence, the Minister may, to enable him or her to consider the licence, require the applicant, by notice in writing, to carry out or cause to be carried out such environmental impact studies as may be specified in such notice and to furnish the Minister, within such period as may be specified in the notice, with such proposals, by way of alteration to or in addition to proposals set out in the application, as may be so specified.⁴⁵

An application for a reconnaissance licence, exploration licence or production licence must contain particulars of an estimate of the effect, which the proposed reconnaissance operations may have on the environment.⁴⁶ The same applies to an application for the renewal of a reconnaissance licence and exploration licence.⁴⁷

The Petroleum Act does not require that this information be included in an application for the renewal of a production licence. The applicant may, however, include matters in the application, which, in the opinion of the applicant company, is relevant to the application. It is submitted that the legislature's failure to include provide that particulars of an estimate of the effect which the proposed production activities may have on the environment does not absolve the holder from its obligation towards the environment. The holder is still bound to other legislation (which will be referred to later). Furthermore, the holder is also bound by the Petroleum Agreement, which is discussed below. The general tenor in the national and

41 Article 8(2).

42 Article 8(3).

43 No. 2 of 1991.

44 Petroleum is defined by Section 1 of the Act as "any liquid or solid hydrocarbon or combustible gas existing in a natural condition in the earth's crust and includes any such liquid or solid hydrocarbon or combustible gas which has in any manner been returned to such natural condition, but shall not include coal, bituminous shales or other stratified deposits from which oil can be obtained by destructive distillation, or gas arising from marsh or other surface deposits."

45 Section 12(2)(b) of the Petroleum Act.

46 Section 24(c)(iii), Section 32(1)(c)(iii) and Section 42(2)(i)(vii) of the Petroleum Act.

47 Section 25(c)(iii), Section 33(1)(c)(ii) of the Petroleum Act.

international energy sector is also sympathetic towards the environment and the impact of exploration and production activities on the environment. It would be wise for a holder of the licence, even *mero motu*, to include particulars relating to the impact of its activities on the environment.

It is a term and condition of an exploration licence that the holder thereof shall remove from such exploration area, or otherwise deal with, as directed by the Minister in consultation with the Minister or Ministers responsible for environment, fisheries and finance, all installations, equipment, pipelines and other facilities, whether on-shore or off-shore, not used or intended to be used in connection with such exploration operations.⁴⁸ Furthermore, there is an obligation of the holder of a production licence to:

- control the flow and prevent the waste, escape or spilling in the exploration area of petroleum, water or any gas;
- prevent the waste or spilling in the exploration area of water or drilling fluid or water and drilling fluid or any other substance extracted from a well drilled for purposes of or in connection with exploration operations or used in relation to the drilling of such a well;
- prevent damage to petroleum-bearing strata in any area outside the exploration area;
- prevent petroleum reservoirs in the exploration area or such water sources as may be determined by notice in writing by the Commissioner and addressed and delivered to such holder, from being connected with each other;
- prevent water or any other substance entering any petroleum reservoir through the wells in the exploration area, except if required by, and in accordance with, good oilfield practices;
- prevent the pollution of any aquifer, estuary, harbour, lake, reservoir, river, spring, stream, borehole and all other areas of water by the spilling of petroleum, drilling fluid, chemical additive, any gas or any waste product or effluent;
- furnish to the Commissioner prior to the drilling of any well a report containing particulars of the technique to be employed, an estimate of the time to be taken, the material to be used and the safety measures to be employed in the drilling of such well;
- not flare any combustible gas, except for purposes of testing such gas, or for operational reasons, or with the approval in writing, previously obtained in every particular case, of the Minister and in accordance with such terms and conditions as may be determined by the Minister;
- not abandon, close or plug a well without the approval in writing, previously obtained in every particular case, of the Minister and in accordance with such terms and conditions as may be determined by the Minister.⁴⁹

The Minister may, in consultation with the Minister of Fisheries and Marine Resources and the Minister of Environment and Tourism, for such period and on such conditions as may be determined by the Minister of Mines and Energy, by notice in the Government Gazette, ex-

48 Section 38(1)(d) of the Petroleum Act.

49 Section 38(2) of the Petroleum Act.

empt holders of exploration licences generally.⁵⁰ The Minister may also, in consultation with the Minister of Fisheries and Marine Resources and the Minister of Environment and Tourism, for such period and on such conditions as may be determined by the Minister of Mines and Energy, upon an application in writing by any holder of a licence, by notice in writing exempt any such holder in any particular case, from any one or more of the provisions above.⁵¹ In consultation with the Minister of Fisheries and Marine Resources and the Minister of Environment and Tourism means that there must be concurrence between the functionaries.⁵²

An application for a production licence must, apart from what has been stated above already, contain a proposed programme of production operations and of the processing of petroleum in question which must include separate decommissioning plans in respect of the production area and any area outside such production area where activities in connection with the production operations in such production area are being carried out, setting out to the satisfaction of the Minister (acting in consultation with the Minister of Environment and Tourism, the Minister of Fisheries and Marine Resources and the Minister of Finance), the measures proposed to be taken after cessation of such production operations to remove or otherwise deal with all installations, equipment, pipelines and other facilities, whether on-shore or off-shore, erected or used for purposes of such operations and to rehabilitate land disturbed by way of such operations.⁵³

On a date one year before the estimated date on which 50 per cent of the estimated recoverable reserves of petroleum in the production area would have been produced, the holder of the production licence must review and, if necessary, revise the decommissioning plan.⁵⁴

The Minister may, acting in consultation⁵⁵ with the Minister of Environment and Tourism, the Minister of Fisheries and Marine Resources and the Minister of Finance, approve the reviewed or revised decommissioning plan or refer it back to the holder of the production licence concerned to make such amendments as the Minister may deem necessary.⁵⁶

When in the course of production operations carried out under a production licence any petroleum or other substances are spilled in the sea or on land or in any water on or under the surface of any land or the sea or such land or water is otherwise polluted or any plant or animal life, whether in the sea, other water or on, in or under land, is endangered or destroyed or any damage or loss is caused to any person, including the state, by such spilling or pollution, the holder of such production licence shall forthwith report such spilling, pollution, loss or damage to the Minister and take, at its own costs, all such steps as may be necessary

50 Section 38(2A)(a) of the Petroleum Act.

51 Section 38(2A)(b) of the Petroleum Act.

52 *McDonald and Others v Minister of Minerals and Energy and Others* 2007 (5) SA 642 (C) at par [18].

53 Section 42(2)(i)(vi) of the Petroleum Act.

54 Section 68A(1) of the Petroleum Act.

55 For the meaning of "in consultation with" see *McDonald and Others v Minister of Minerals and Energy and Others* 2007 (5) SA 642 (C) at par [18].

56 Section 68A(2) of the Petroleum Act.

in accordance with good oilfield practices or otherwise as may be necessary to remedy such spilling, pollution, loss or damage.⁵⁷ If the holder fails to do so, the Minister may, by notice in writing addressed to the holder, order the holder to take such necessary steps in order to remedy the spilling, pollution or damage or loss. If the holder fails to comply with the directions of the Minister, the Minister may cause such steps to be taken as may be necessary to remedy such spilling, pollution or damage or loss and recover in a competent court the costs incurred thereby from such holder.⁵⁸

In 1999, regulations relating to the health, safety and welfare of persons employed, and protection of other persons, property, the environment and natural resources in, at or in the vicinity of exploration and production areas (“the Petroleum Regulations”) were published.⁵⁹ These regulations were made by the Minister of Mines and Energy, acting in consultation with the Minister of Fisheries and Marine Resources and the Minister of Environment and Tourism. The Petroleum Regulations regulate, inter alia, electricity, fires and explosions, transport (including transport of hazardous substances), subsea operations, emergency preparedness (including pollution by spilling of petroleum) and safety zones.

3.2 The Atomic Energy and Radiation Protection Act⁶⁰

The Act was passed in Parliament in 2005, and it is administered by the Ministry of Health and Social Services. Due to the lack of a date for the Act to come into operation, which is to be gazetted by the Minister (Section 47(1)), the Act has – except for Section 44 on the administration of the Act – not yet come into force. According to its long title, this piece of legislation was enacted to

provide for adequate protection of the environment and of people in current and future generations against harmful effects of radiation by controlling and regulating the production, processing, handling, use, holding, storage, transport and disposal of radiation sources and radioactive materials, and controlling and regulating prescribed non-ionising radiation sources.

One objective of the Act is to “minimise the exposure of persons and the environment in Namibia to the effects of harmful radiation.” To this end, an Atomic Energy Board has been established in 2009 according to Sections 3ff of the Act, which serves as a national advisory board on all matters relating to radiation sources and nuclear energy. An independent National Radiation Protection Authority is established according to Sections 33ff of the Act, which informs the Atomic Energy Board about the extent of radiation exposure in the country; inspects any radiation source or nuclear material in order to assess radiation safety conditions; and to establish and maintain a register of radioactive materials in Namibia, amongst others.

57 Section 71(1) of the Petroleum Act.

58 Section 71(2) of the Petroleum Act.

59 Government Notice 190 of Government Gazette 2188 of 23 September 1999.

60 No. 5 of 2005.

According to Section 16, a respective licence is generally required for the possession, import, and dispose of radiation sources or nuclear materials and every radiation source must be registered must be registered in line with Section 18. The application process for such licence follows the procedure of Section 21. The licence holder has several duties with regard to the licence (Sections 29(2) and 30, 31 and 32) and is responsible for the safety and security of radiation sources and nuclear materials (Section 29(1)).

3.3 The Petroleum Product and Energy Act⁶¹

The Petroleum Products and Energy Act of 1990 regulates the downstream petroleum industry. The Act states that the Minister of Mines and Energy may make regulations relating to the conducting of business in respect of petroleum products application of health, hygiene, safety and environmental standards.⁶² In 1991, regulations relating to the purchase, sale, supply, acquisition, storage, transportation, recovery and re-refinement of used mineral oil were published.⁶³ The Regulations prohibit the disposal, contamination, usage and possession, storage and transportation in certain containers, of used mineral oil without the necessary authorisation.⁶⁴

3.4 The Draft Gas Bill⁶⁵

The Ministry of Mines and Energy has drafted the Gas Bill in order

to promote the establishment of a natural gas transportation and distribution network in Namibia for the purposes of domestic supply and for export;

to establish a framework of licensing for the gas industry and a national gas regulator to monitor the performance of licence conditions;

to ensure safety, efficiency and environmental responsibility in the transportation and distribution of natural gas;

to facilitate investment in pipeline infrastructure by private, public, municipal and mixed owned enterprises.⁶⁶

It is envisaged that a Gas Regulatory Authority will be established to make recommendations to the Minister to *inter alia* grant licences for gas transportation, storage, distribution and marketing; monitor and approve of gas transportation, storage, and distribution tariffs and charges; approve tariffs and charges to gas distributors and customers who do not have choice of suppliers; to assist the Minister in the preparation of gas supply regulations; monitor the operation of the gas system; and to settle disputes between licensees and between licensees and customers at the request of a licensee or any interested party.

61 No. 13 of 1990.

62 Section 2A(b)(ii).

63 General Notice 112 in *Government Gazette* 281 of 21 October 1991.

64 Regulation 3 of the Petroleum Product Regulations.

65 See http://www.mme.gov.na/pdf/gas_act_draft_2b.pdf.

66 See <http://www.mme.gov.na/energy/workshop-gas-act.htm>.

A comprehensive licensing regime has been developed based on the principle that “[N]o activity in connection with the transportation, storage or distribution and marketing of gas may be carried out by any person other than a company authorised to do so by the Minister under the licensing regime set out in this Act.”

The Bill explicitly recognises the importance of environmental protection in that it provides in Section 38 that

(1) All infrastructure facilities established and operated in connection with a gas supply network shall operate in accordance with the applicable laws with respect to the protection of the environment.

(2) No pipeline infrastructure shall be laid without an environmental impact assessment first taking place and the results assessed, in accordance with the Environmental Management Act 1998, the Pollution Control and Waste Management Act and the Parks and Wildlife Management Act, where appropriate, including the Petroleum (Exploration and Production) Act, 1991: Regulations relating to the health, safety and welfare of persons employed, and protection of other persons, property, the environment and natural resources, in at or in the vicinity of exploration and production areas, 1999.

(3) Provision shall be made for the proper restoration of the operating environment to its natural condition, with plans for pipeline decommissioning being submitted according to the environmental laws and the appropriate regulations.

Although the second draft of the Bill dates back to June 2001, the Bill has not materialised.

3.5 The Electricity Act⁶⁷

The Electricity Act of 2007 (“the Electricity Act”) provides for the establishment of the Electricity Control Board (“the Board”) and provides for the requirements and conditions for obtaining licences for the provision of electricity and the powers and obligations hereunder.⁶⁸ Electricity may only be generated or distributed with due compliance with the requirements of any other law, in particular laws relating to health, safety and environmental standards.⁶⁹ When considering an application for the issue, renewal or amendment of a licence, the Minister, and the Board, in making its recommendations to the Minister, must give due consideration to matters or activities which may adversely affect, or result in damage to the environment.⁷⁰ The Minister of the Board may request the applicant to submit an environmental impact assessment study indicating the extent of any potential damage to or pollution of the environment and the steps proposed to be taken by the applicant to prevent or minimise such damage or pollution and to restore the environment generally and in terms of existing environmental legislation.⁷¹

67 No. 4 of 2007.

68 See the Preamble to the Electricity Act.

69 Section 18(4)(b).

70 Section 21(1).

71 Section 21(2)(a).

Installations for the provision of electricity, including any alterations or extensions thereto, and all other electricity practices and activities by licensees, customers and other persons, must be built, operated and conducted with due compliance with the requirements of applicable laws, in particular laws relating to health, safety and environmental standards.⁷²

3.6 Draft White Paper on the Energy Policy of Namibia

In 1998, the Energy Policy Committee of the Ministry of Mines and Energy has released the Draft White Paper on the Energy Policy of Namibia.⁷³ Effective governance; security of supply; social upliftment; investment and growth; economic competitiveness and efficiency; and sustainability have been declared as goals of this Policy.

White Paper Executive Summary

This White Paper embodies a new, comprehensive energy policy aimed at achieving security of supply, social upliftment, effective governance, investment and growth, economic competitiveness, economic efficiency and sustainability. Policies will affect energy demand (mainly households), supply (electricity, upstream oil and gas, downstream liquid fuels, downstream gas, and renewable energy) and a number of cross-cutting issues (economic empowerment, environment, energy efficiency and regional energy trade and cooperation).

Government is committed to ensuring that energy demand by the productive sectors of the economy continues to be met through reliable competitively-priced energy. Special attention is given in the White Paper to those demand sectors, which have been neglected historically, namely, poor urban and rural households. Policies proposed for these households include those for widening access to electricity as well as other commercial fuels. Generally, not enough is known about the problems and needs in this sector so national studies will be initiated as a basis for future policy development, including the pressing issue of sustainable biomass usage in rural areas and the role of women. Rural energy policies will also be integrated with development initiatives in other ministries.

Government has embarked on the reform of the electricity sector and a study has been commissioned to look at possible rationalisation and restructuring, as well as competition and ownership changes. At the same time, an Electricity Act is being drafted which will put in place an electricity regulator to govern the industry. Tariffs and electrification targets will be governed through a licensing system. The creation of a rural electrification fund is also proposed. New investment in the sector will be encouraged through appropriate regulatory, fiscal and environmental frameworks, harmonised with those in SADC countries.

⁷² Section 33(1)(a).

⁷³ GRN (1998a).

The legislative framework governing upstream oil and gas is well developed, and the White Paper merely clarifies an accepted policy framework, which seeks to optimise possible national benefits while achieving the necessary balance of interests to attract investment. The policy identifies the different roles and functions of industry participants, and lays out the basic legal and fiscal criteria.

Namibia does not yet but could soon have a downstream gas sector. The key challenge is to create a policy and legislative framework, which attracts initial investment into the sector, while maintaining options for competition in the future and the fair distribution of economic rents. A new Gas Act is proposed, but it is thought premature to install a Gas Regulator. Licensing requirements will include the need for separate accounting for the different operations of gas production, transmission, distribution and marketing, allowance for third party access, and the application of fair and reasonable tariffs.

The downstream liquid fuels sector will be subject to controlled and phased deregulation with regard to price setting, subject to competitive behaviour being evident. Government will, however, require obligations in terms of diversified imports, international product specifications, strategic stocks, third party lease access to uncommitted infrastructure, security of forecourt jobs, health and safety, and adequate rural service in terms of access and pricing.

Government will promote the use of renewable energy through the establishment of an adequate institutional and planning framework, the development of human resources and public awareness and suitable financing systems. It also seeks to meet development challenges through improved access to renewable energy sources, particularly in rural electrification, rural water supply and solar housing and water heating.

The energy policy goal of sustainability will further be promoted through a requirement for environmental impact assessments and project evaluation methodologies, which incorporate environmental externalities. Energy efficiency will be promoted through policies on better information collection and dissemination, and particularly with respect to energy efficiency and conservation practices in households, buildings, transport and industry.

The White Paper reaffirms Namibia's commitment to constructive engagement in SADC and SAPP in order to maximise economic benefits. Security of supply will be achieved through an appropriate diversification of economically competitive and reliable sources, but with particular emphasis on Namibian resources.

Finally, the Ministry of Mines and Energy is mindful that the effective implementation of these policies is dependent on the creation of adequate institutional and human resource capacity. Policies have been proposed in each sector to address this issue.

3.7 Namibia's Uranium and Nuclear Energy Policy

The Ministry of Mines and Energy is drafting Namibia's first Nuclear Policy to cover the entire nuclear fuel cycle, being uranium exploration, mining, milling and nuclear energy, as it is envisaged that Namibia will generate electricity from its own nuclear reactor by 2018.⁷⁴ It was envisaged that this policy, together with relevant laws, would be finalised by mid-2011.

3.8 The Model Petroleum Agreement

Section 13 of the Petroleum Products and Energy Act of 1990 dealt with in brief that, before an exploration licence is issued, the applicant(s) must enter into a petroleum agreement ("PA") with the state. A Model Petroleum Agreement ("MPA") was published in 1998. The PA is entered into between the applicant (the Company) and the Minister of Mines and Energy. While the MPA provides a framework for the typical PA entered into between the Company and the Minister, the exact terms of each PA will depend on negotiations between the parties. For now, the focus will be on the provisions of the MPA.

Clause 11 of the MPA deals with environmental protection. In terms of this clause, the company must conduct its petroleum operations in a manner likely to conserve the natural resources of Namibia and protect the environment.⁷⁵ The company must employ the best available techniques in accordance with Good Oilfield Practices⁷⁶ for the prevention of environmental damage⁷⁷ to which its petroleum operations might contribute and for the minimisation of the effect of such operations on adjoining or neighbouring lands.⁷⁸ The company must also implement the proposals contained in its development plan regarding the prevention of pollution, the treatment of wastes, the safeguarding of natural resources and the progressive reclamation and rehabilitation of lands disturbed by petroleum operations.⁷⁹

The company undertakes, for purposes of the MPA, to take all reasonable, necessary and adequate steps in accordance with Good Oilfield Practices to minimise environmental damage to the licence area and adjoining or neighbouring lands.⁸⁰ If the Company fails to comply with this provision, or contravenes any law on the prevention of environmental damage, and such failure or contravention results in environmental damage, the Company must take all necessary and reasonable measures to remedy such failure or contravention and the effects thereof.⁸¹ These measures and methods must be determined in timely consultation with the

74 Weidlich (2011).

75 Clause 11.2(a) of the MPA.

76 "Good Oilfield Practices" means "any practices which are generally applied by persons involved in the exploration or production of petroleum in other countries of the world as good, safe, efficient and necessary in the carrying out of exploration operations or production operations". See Section 1 of the MPA and Section 1 of the Petroleum Act.

77 "Environmental Damage" includes "any damage or injury to, or destruction of, soil or water or any plant or animal life, whether in the sea or in any other water or on, in or under land."

78 Clause 11.2(b).

79 Clause 11.2(c).

80 Clause 11.3.

81 Clause 11.4.

Minister upon the commencement of petroleum operations or whenever there is a significant change in the scope or method of carrying out petroleum operations. The company must take into account the international standards applicable in similar circumstances and the relevant environmental impact assessment studies carried out in accordance with the MPA. The company must notify the Minister in writing of the nature of the measures and methods finally determined by the company and must cause such measures and methods to be reviewed from time to time in view of prevailing circumstances.⁸²

If the Minister has reason to believe that any works or installations erected by the company or any operations carried out by the company are endangering or may endanger persons or any property of any other person or is causing pollution or is harming wildlife or the environment to a degree which the Minister deems unacceptable, the Minister may require the company to take reasonable remedial measures within such reasonable period as may be determined by the Minister and to take reasonable and appropriate steps to repair any damage to the environment. If the Minister deems it necessary, he may require the company to discontinue Petroleum Operations in whole or in part until the company has taken such remedial measures or has repaired any damage.

The company must cause a person or persons, approved by the Minister on account of their special knowledge of environmental matters, to carry out two environmental impact assessment studies. These studies must be carried out in order to determine the prevailing situation relating to the environment, human beings, wildlife or marine life in the licence area and in the adjoining or neighbouring areas at the time of the studies.⁸³ The environmental impact studies are also carried out in order to establish what the effect will be on the environment, human beings, wildlife or marine life in the licence area in consequence of the petroleum operations to be made under the MPA, and to submit for consideration by the parties to the MPA, measures and methods for minimising environmental damage and carrying out site restoration in the licence area.⁸⁴

The procedure applicable to the environmental impact studies, including the phases in which it must be carried out and information relating to the guidelines it must contain is dealt with in detail in the MPA.⁸⁵ Furthermore, the company's obligations in respect of the environment in every phase of its operations are determined in the MPA, including the company's duty to report to the Minister of Mines and Energy at various stages of its operations and the company's duty to establish a trust fund for purpose of decommissioning.⁸⁶ Lastly, the Company must ensure that:⁸⁷

- petroleum operations are carried out in an environmentally acceptable and safe manner

82 Clause 11.6.

83 Clause 11.7(a).

84 Clause 11.7(b).

85 Clause 11.8 to clause 11.10.

86 Clause 11.12 to clause 11.17.

87 Clause 11.11.

- consistent with Good Oilfield Practices and that such operations are properly monitored;
- the pertinent completed environmental impact assessment studies are made available to its employees and to its contractors to develop adequate and proper awareness of the measures and methods of environmental protection to be used in carrying out its petroleum operations; and
 - any agreement entered into between the Company and its contractors relating to its petroleum operations shall include the terms set out in the MPA and any established measures and methods for the implementation of the Company's obligations in relation to the environment under the MPA.

3.9 The SADC Protocol on Energy

The SADC Protocol on Energy states, as one of its general principles, that member states must ensure that the development and use of energy is environmentally sound.⁸⁸ Various guidelines for cooperation between member states are set forth in an annexure to the Protocol. The Guidelines emphasise the sustainable development of energy.

3.10 Renewable Energy

At this stage, there is very little regulation of renewable energy in Namibia. As stated above, in terms of the White Paper on the Energy Policy of Namibia, Government will promote the use of renewable energy through the establishment of an adequate institutional and planning framework, the development of human resources and public awareness and suitable financing systems. It also seeks to meet development challenges through improved access to renewable energy sources, particularly in rural electrification, rural water supply and solar housing and water heating

In April 2003, the Namibia Renewal Energy Programme (“NAMREP”) Phase I was launched and in June 2007 Phase II was launched. The object of NAMREP Phase I and NAMREP Phase II is

to remove barriers to the delivery of commercially, institutionally, and technically sustainable Renewable Energy Systems (RES) including electricity production (for off-grid lighting, radio, TV, water pumping, and refrigeration), and water heating to the household, institutional, commercial, and agro-industrial sectors and to demonstrate the enabled environment through affirming demonstrations of the application of the technologies.⁸⁹

One of the intended outcomes of NAMREP is to ensure that new policies, laws, regulations and actions in support of renewable energy are in place.⁹⁰ The National Implementing Part-

88 Article 2(8).

89 <http://www.undp.org.na/namibia-renewable-energy-programme-namrep-phase-i.aspx> [accessed on 27 May 2012].

90 <http://www.undp.org.na/namibia-renewable-energy-programme-namrep-phase-i.aspx> [accessed on 27 May 2012].

ner of NAMREP is the Ministry of Mines and Energy. Other partners are the Polytechnic of Namibia, the Global Environmental Facility (“GEF”), the United Nations Development Programme (“UNDP”), NamPower, Renewable Energy Technology Suppliers (“RET Suppliers”), the Danish International Development Agency (“DANIDA”) and the Electricity Control Board (“ECB”).⁹¹ All major financing is supplied by GEF.⁹²

The Development of a Regulatory Framework for Renewable Energy and Energy Efficiency within the Electricity Sector (“REEE Regulatory Framework”) is one of several projects implemented by NAMREP.⁹³ The REEE Regulatory Framework was prepared by Consulting Services Africa.⁹⁴ The primary objective of the project is “*to recommend the essential elements of a regulatory framework for renewable energy and energy efficiency in Namibia.*”⁹⁵ Two strategic objectives underlie the recommendations of the REEE Regulatory Framework and should be at the heart of Namibia’s long-term energy policy and vision for sustainable development.⁹⁶ These are: supporting environmentally sustainable technologies and attaining greater energy security through a steady increase of electricity production in Namibia using fuels or energy sources that are available in Namibia, for example the sun, biomass and wind.⁹⁷ A critical issue for the successful realisation of the REEE Regulatory Framework is that the REEE Regulatory Framework must take into account Namibia’s unique socio-economic, infrastructural and environmental features.⁹⁸

On 12 January 2011, a Terminal Evaluation Report (“TER”) was published.⁹⁹ The purpose of this document is to analyse and assess the achievement and progress made towards achieving the original objectives of NAMREP Phase II.¹⁰⁰ Achievement and progress are assessed against five key criteria, one of which is the “impact criterion”, which looks *inter alia* at global environmental benefits.¹⁰¹ Another criterion is the “sustainability criterion”, which requires that a project should be environmentally, financially and socially sustainable.¹⁰² According to the TER, the intended outcome of NAMREP to ensure that new policies, laws, regulations and actions in support of renewable energy are in place, is highly satisfactory.¹⁰³ Notwithstanding the above, there is no formal regulation of renewable energy in Namibia. Government, however, recognises the need for renewable energy.¹⁰⁴ It should be noted that facilities constructed for the generation, transmission or supply of electricity (which will include renewable energy) will fall under the EMA and require an environmental clearance

91 <http://www.undp.org.na/namibia-renewable-energy-programme-namrep-phase-i.aspx> [accessed on 27 May 2012].

92 <http://www.undp.org.na/namibia-renewable-energy-programme-namrep-phase-i.aspx> [accessed on 27 May 2012].

93 See Kisting (2008).

94 <http://www.mme.gov.na/pdf/undp-reports/reese-regulatory-framework.pdf> [accessed on 26 May 2012].

95 See the Executive Summary of the REEE Framework.

96 The Executive Summary of the REEE Framework.

97 The Executive Summary and paragraph 2.1 of the REEE Framework.

98 The Executive Summary of the REEE Framework.

99 Deenapanray (2012).

100 Deenapanray (2012:4).

101 Deenapanray (2012:5).

102 Deenapanray (2012:5).

103 Deenapanray (2012:28 and 57).

104 See for example Smith (2011).

certificate. Furthermore, NamPower is also negotiating Power Purchase Agreements with three anonymous prospective wind energy developers.¹⁰⁵ While some renewable energy sources have little impact on the environment, such as solar panels, others may have a much larger initial impact on the environment, such as construction of hydropower facilities or wind power facilities. Prospective legislation must take the potential impact of the construction of renewable energy facilities into account.

105 Nyaungwa (2012).

II. RENEWABLE ENERGY LAW AND REGULATION IN NAMIBIA

Natalie A. Renkhoff

“There would be a breakthrough, I am sure, in the next ten years. It would be a wonderful achievement and (I am) sure it (will change) the lives of people and the world as a whole.” The late Harold Pupkewitz, Namibia’s leading entrepreneur and visionary, named on the occasion of his 95th birthday celebration, the global development of renewable energy technologies as one of his greatest wishes for the future.¹ At present, however, RE still competes “on an unequal footing with conventional forms of energy”.²

It is a well-known fact that Namibia’s solar, wind and biomass resources are among the best in the world, but judging by the meagre sum of N\$53 million that has been spent on promoting RE in Namibia in the past ten years,³ RE is still not enjoying national priority status. In 2008, for instance, less than one percent of the energy consumed in Namibia came from renewable sources.⁴

The challenge faced by Namibia today is that domestic generation is not adequate to meet current and future projected demand. Furthermore, the demand for electricity still continues to grow, especially in the Erongo region where due to the rising number of uranium mines, there is significant economic growth. RE sources – energy from solar, wind, biomass and the as yet unquantified indigenous resources including geothermal, wave and tidal energies⁵ – could provide viable alternatives to conventional sources such as oil, coal, gas and nuclear power and might help to diminish the Namibian electricity shortage as many RE sources are available without the necessity to build large-scale power plants first. According to the Minister of Mines and Energy, RE is indeed considered a key feature in the power planning process in Namibia.⁶ However, most RE technologies in today’s market are not yet able to withstand competition from fossil fuels, thus creating the need for a support system that is not in place to date.

1 Pupkewitz wants solar power harnessing. *Etango Magazine*. 2010 Vol. 2, at 20.

2 MME (1998a: 44).

3 Time to get serious on renewables. *Etango Magazine*. 2011 Vol. 3, at 5.

4 Von Oertzen (2008: 3).

5 Hydropower needs specific mention as a renewable source of energy. Though, normally the only contribution to greenhouse gasses by hydropower projects are from plants decaying within the dam basin, the damage done to the surrounding environment by such large-scale projects like the Ruacana hydropower plant for instance should not be underestimated.

6 Katali highlights need for Namibia to generate own energy. *Etango Magazine*. 2011 Vol. 3, at 17.

1 The Energy Sector

1.1 Current and future projected demand

Domestic electricity generation is presently inadequate to meet both current and future projected demand. Namibia's national peak demand is approximately 511 MW.⁷ According to the Minister of Mines and Energy, Namibia will face a shortage of electricity of about 300 MW by 2015.⁸ It is also anticipated that the ongoing developments in the uranium mining sector will continue to cause higher-than-average consumption growth rates in the future. Between 35 and 60%⁹ of Namibia's electricity requirements are currently imported from the Southern African Power Pool (SAPP) through bilateral and day-ahead market contracts.¹⁰ Of the 3.767 GWh that was fed into the Namibian system in 2010, the South African power utility supplied 1.429 GWh, while NamPower generated only 1.305 GWh.¹¹ To complicate Namibia's current situation, supply constraints in South Africa are resulting in Eskom not being able to meet South African electricity needs, much less those of Namibia. For the past twenty years Eskom has had surplus generating capacity and has sold electricity at extremely low prices by world standards.¹² Due to the low cost of imported electricity, the construction of a new power plant has never been considered for the last twenty years¹³ while on-grid renewable energy projects were not worthwhile. In recent years, the average cost of electricity has increased by 14% per annum,¹⁴ with this year's increase of 17.2% from July 2012 on.¹⁵ Also, energy prices are still likely to increase as Eskom negotiated with the National Energy Regulator of SA (NERSA) to increase the tariff by 25% each year for the next three years.¹⁶

As a result of the huge amount of imported electricity, Namibia has a quite well developed grid in situ in comparison to other African countries thus ensuring large-scale import is possible. The 951 km HVDC line, linking the far north-east with central Namibia, provides a second north-south interconnection to South Africa. Both form parts of the Southern African Power Pool (SAPP) for interconnecting the region.¹⁷ The Caprivi Interconnector, commissioned in November 2010 by Zimbabwe, Zambia and Namibia was supposed to reinforce the electricity supply to Namibia. Before the power line was build, electricity from Zambia came via South Africa, and Namibia had to pay wheeling charges.¹⁸ The West Coast Development Project involves extensive transmission infrastructure planning and development due to the

7 GRN (2012c:47).

8 Tsumkwe Solar/Diesel Hybrid Power Station. *Etango Magazine*. 2012 Vol. 1, at 13.

9 It is interesting to compare these with the aim laid down in the White Paper where one can read that it is the government's aim to supply 100% of the peak demand and at least 75% of the electric energy demand from internal sources by 2010. See GRN (1998a: 24).

10 Katali highlights need for Namibia to generate own energy. *Etango Magazine*. 2011 Vol. 3, at 16.

11 Duddy (2012b).

12 GRN (2008a: ii).

13 Simasiku (2011: 6).

14 Ndhlukula (2009: 7).

15 Strompreis steigt um 17,2%, *Allgemeine Zeitung*, 28. Mai 2012.

16 Simasiku (2011: 5).

17 GRN (2012c: 48).

18 Simasiku (2012: 4).

rapid expansion of mining activities in the Erongo region. As such, the 220 kV transmission spine was reinforced with a second line, and a 220 kV line has been completed to service the Trekkopje Uranium Mine. Additional requests from other uranium mine developers have already been made to NamPower.¹⁹ Prior to this, the under-supply had forced the regional energy distributor Erongo RED to encourage new mines to install their own basic power supply for the time being.²⁰

Nevertheless, huge parts of the country are still unelectrified as extending the grid to feed small, isolated communities is not cost effective. The government has therefore prioritised rural electrification. In the last ten years, over N\$250 million has been spent on rural electrification and another N\$100 million was budgeted for the financial year 2011/12.²¹

1.2 Current and prospective power generation projects

The Namibian power sector is presently facing various operational and planning challenges due to the rising demand for electricity and the need to become more independent from imports.

Currently, the Ruacana Hydropower station on the Kunene River is Namibia's main domestic source of power generation. It contributes more than 60% towards the current demand for electricity in Namibia,²² though it was initially planned that Ruacana would be able to meet Namibia's entire demand.²³ In March 2012, the fourth turbine was put into operation at the power station.²⁴ This can boost the total output to 339 MW when all four units are running simultaneously.²⁵ However, due to varying rainfall patterns in Southern Angola, the Ruacana station cannot always meet its maximum production capacity.²⁶

Apart from Ruacana, there are the Van Eck coal-fired power station in Windhoek and the Paratus diesel power station. Both plants were only supposed to be an interim as the Ruacana power station later went on line as initially planned.²⁷ Due to the rising demand however, NamPower is often left with no option other than make use of Van Eck and Paratus. Van Eck and Paratus are very expensive to operate due to extremely high cost of imported coal and diesel fuels, but without these, a constant supply to Windhoek and Walvis Bay, the industrial coastal town, cannot be ensured.²⁸

19 GRN (2012c: 48).

20 Mischo/Ellmies (2011: 7).

21 Katali highlights need for Namibia to generate own electricity. *Etango Magazine*. 2011 Vol. 3, at 17.

22 GRN (2012c: 47).

23 GTZ (2007: 1).

24 Die Energiekrise abwenden – Präsident Pohamba weiht 4. Turbine im Ruacana-Wasserkraftwerk ein, *Allgemeine Zeitung*, 31. Mai 2012.

25 GRN (2012c: 47).

26 Katali highlights need for Namibia to generate own electricity. *Etango Magazine*. 2011 Vol. 3, at 16.

27 GTZ (2007: 1).

28 Katali highlights need for Namibia to generate own electricity. *Etango Magazine*. 2011 Vol. 3, at 17.

The Anixas thermal peaking power station, with a capacity of 22.5 MW at Walvis Bay, was inaugurated in November 2011. The power station has already been feeding electricity into the Namibian grid since July 2011 to assist in meeting peak power requirements.²⁹

As the existing power plants cannot meet the demand and with rising prices for imported electricity, the government is in the process of investigating several other options with some projects already being at an advanced stage.

In May 2012, the Environmental and Social Impact Assessment for a coal-fired power station next to Arandis was introduced to the public for comments.³⁰ The power plant is supposed to produce 300 MW but it could be increased to 800 MW later.³¹ The project will have severe detrimental effects on the environment. Areas known as bioclimatic envelopes, where numerous endemic plants can be found, will be destroyed and Namibia's overall amount of greenhouse-gas emissions will more than double. Nevertheless, the ESIA reached the conclusion that the positive aspects will outweigh the negative as the power plant is necessary to secure the nation's electricity demand.³²

The original concept of developing an 800 MW CCGT power station north of Oranjemund, located 170 km from the offshore Kudu Gas field, remains, though it was changed from treating gas on-shore to the treatment of gas off-shore on a floating platform thus enabling dry specification gas to be piped ashore.³³

Additionally, several hydro-electricity projects are being investigated on Namibia's rivers. Hydro-electricity projects are subject to intense geo-political considerations as all rivers with current and potential hydropower generation are situated along international boundaries and their sources of origin are outside Namibia.³⁴

Currently, the potential of the lower Orange River is being investigated for small-scale hydro generation plants and studies to determine the feasibility have been completed. The next step is to conduct environmental and technical studies that will enable the decision on the project site and the costs to be made. NamPower might also earn carbon credits for the hydropower plant, as water will not be obstructed nor regulated.³⁵

For the Baynes mid-merit/peaking power station, with an envisaged capacity of 350-550 MW to be shared equally between Namibia and Angola, the Environmental Impact Assessment has been conducted and the conclusion is that the project is technically and commercially

29 GRN (2012c: 47).

30 Kraftwerk-Neubau: Fauna und Flora leiden, *Allgemeine Zeitung*, 29. Mai 2012.

31 Kohlekraftwerk ohne Bedenken, *Allgemeine Zeitung*, 18. Mai 2012.

32 Kraftwerk-Neubau: Fauna und Flora leiden, *Allgemeine Zeitung*, 29. Mai 2012.

33 GRN (2012c: 47).

34 Ndhlukula (2009: 9).

35 Orange River Hydropower development inches closer to reality. *Etango Magazine*. 2009 Vol. 3, at 9.

feasible.³⁶ Both the Namibian and the Angolan governments have agreed to develop the Baynes option further after studies conducted on the Epupa as well as the Baynes site along the Kunene, revealed that while the Epupa site was technically preferable due to greater storage capacity, the Baynes site would be less disruptive to the life of the indigenous Himba community and would have fewer environmental impacts.³⁷

2 Regulatory Framework

The Ministry of Mines and Energy, in cooperation with the Electricity Control Board (ECB), serve as the regulatory bodies of the electricity sector. With NamPower as Namibia's electricity generating utility, the Regional Electricity Distributors (REDs) are in charge of supply and distribution of electricity to consumers, at least where REDs are already in place. The Renewable Energy and Energy Efficiency Institute is not actually active in the market, but rather Namibia's institution of expertise in RE technologies and therefore of overwhelming importance.

2.1 Ministry of Mines and Energy

The Ministry of Mines and Energy is the custodian of the country's energy sector. Since 1993, the Ministry has had a department responsible for promotion of RE. The power to regulate the RE market is conferred on the Minister through the Electricity Act.³⁸

The White Paper that fostered the restructuring of the electricity supply and distribution industry in Namibia was the basis for a study,³⁹ which was supposed to be in itself, the foundation for the first Electricity Act.⁴⁰ The initial Electricity Act, from 2000, has subsequently been repealed by the Electricity Act, Number 4 of 2007, which is still in force. Although the Electricity Act neither deals with RE in detail nor provides any specific provisions for the regulation of the RE market, it contains a rule of jurisdiction for RE. Section 43(j) states: "The Minister may make regulations in relation to instalment and implementation of renewable energy technologies, the use thereof (including the placing of obligations on persons with regard thereto) and the provision of electricity there from." Thus, the Electricity Act states explicitly, that under Namibian law, the entire RE market can be regulated by regulation and the person in charge therefore is the Minister. However, such regulations do not exist yet.

Many other jurisdictions throughout the world require an Act of Parliament for the decision on how to give direction to the development of RE. It is questionable if such an important issue as the opening of the electricity market to RE, is not better left to Parliament, as the democratically elected legislative authority. Generally, to strengthen a democracy, it is desirable to leave those decisions to Parliament that are not only very costly for the tax payer, but more importantly, affect society as a whole, since electricity and its supply is a basic human need.

36 GRN (2012c: 47).

37 GRN (2012c: 48).

38 Electricity Act, 4 of 2007.

39 GRN (2000c).

40 Electricity Act, 2 of 2000.

2.2 Electricity Control Board

The Electricity Control Board (ECB) is a statutory regulatory authority established in 2000 under the first Electricity Act, 2 of 2000. Through the new Electricity Act, 4 of 2007, the mandate of the ECB and its core responsibilities were expanded. The core mandates of the ECB are according to section 3 of the Electricity Act, to exercise control over and regulate the provision, use and consumption of electricity in Namibia, to oversee the efficient functioning and development of the electricity industry and security of electricity provision, to ensure the efficient provision of electricity, to ensure a competitive environment in the electricity industry in Namibia with such restrictions as may be necessary for the security of electricity provision and other public interest, and to promote private sector investment in the electricity industry in accordance with prevailing government policy.⁴¹ As an independent regulatory body, the ECB is thus in charge of regulating electricity generation, transmission, distribution, supply, import and export to Namibia.⁴² The ECB has the sole mandate to approve electricity tariffs in Namibia and in this regard has developed tariff methodologies for generation, transmission and distribution.⁴³ In order to make electricity available to the poor, the ECB recently devised a project that focuses on RE to look at the pro-poor tariffs.⁴⁴ With regard to the Electricity Act's mandate to promote the integration of the private sector into the energy sector, the ECB worked in the past on an Independent Power Producers (IPP) and investment market framework to create a conducive environment for IPP investment. Meanwhile, even the ECB admits that negotiations of power purchase agreements between NamPower and the IPPs have not reached desired objectives yet.⁴⁵ The ECB is also responsible for the issuance of licences,⁴⁶ while it is not involved in generation projects itself, its sole duty is to assist the government in creating an enabling environment.⁴⁷ The Commonwealth's Secretariat Advisory Division: Economic and Legal Section (ELS) is presently assisting the ECB in its improvement process to become the overarching energy regulator that oversee gas, RE and other energy sources.⁴⁸

The ECB executes its statutory functions through the Technical Secretariat headed by the Chief Executive Officer. Since 2002, the ECB has been led by Siseho Simasiku, a trained engineer with a special qualification in nuclear power plant construction, and has a staff complement of twenty-one.⁴⁹

41 Section 3 of the Electricity Act.

42 Simasiku (2011: 2).

43 ECB (2012: 1).

44 Simasiku (2011: 3).

45 Simasiku (2011: 4).

46 The issuance of licences comprises also licences for RE projects that are measured by the same parameters as all other licences, too. In 2003, the ECB refused to grant a three MW licence for a wind park in Lüderitz that NamPower had applied for on economic grounds.

47 Simasiku (2011: 3).

48 Duddy (2012b).

49 Simasiku (2011: 2).

Simasiku has established, among other things, the Revolving Fund on Renewables⁵⁰ that is still in operation today and provides guarantees to people who would otherwise not be able to have access to loans from commercial banks for investing in RE systems. The fund was initially managed by the Namibia Development Corporation (NDC), after which it was passed on to the management of NamPower for a short period of time, before it entered the private sector.⁵¹ However, the Namibian revolving fund is not comparable to the national funds that are being increasingly used around the world to promote RE development. They are normally useful government tools inasmuch as, although the boundaries of use are set in law, flexibility can be built to ensure that fund resources adapt to changing market needs consistent with national objectives.⁵² The Namibian revolving fund is neither set in a rule of law nor is the fund designed to generally improve the use of RE technologies. The only beneficiaries are families and individuals not connected to the grid that want to buy solar home systems. One also has to differentiate between the revolving fund and the National Energy Fund Act⁵³ which does not deal with the promotion of RE. The National Energy Fund Act empowers the Minister only to impose a levy on in Namibia generated hydropower or wind power for the benefit of the fund,⁵⁴ but it does not allow RE producers to benefit from the fund. This had been already criticised in a study funded by the Renewable Energy and Energy Efficiency Institute Partnership (REEEP) in 2010. It was suggested that the National Energy Fund Act be amended or to pass a regulation under sec. 43(j) of the Electricity Act to allow RE producers to also benefit from the fund.

The ECB is also involved in the development of a new legal framework for RE and investigations to find the best procurement mechanism for promoting RE technologies in Namibia. According to Simasiku, the ECB has been working together with the Polytechnic of Namibia on a programme to establish procurement mechanisms for RE since 2008. In the course of the programme, five groups had already been licensed; three in wind energy and two in solar energy. Up to the present time, however, Simasiku “has not as yet seen the fruits of this licensing”. He further added that these licensees at least still collect information and that is “one of the things that are a problem because we do not have that proper information that can be used for bidding”.⁵⁵ Additionally, in July 2011, the ECB started to work on an integrated resource plan that is going to look at the resources of Namibia to generating power for the next twenty years. The ECB expects to be able to present the final document to the Ministry of Mines and Energy in July 2012. The resource plan is supposed to answer the question as to what the cheapest source of energy for Namibia is, and how to get energy to Namibia as a whole.⁵⁶

50 Simasiku (2011: 3).

51 ECB: More action on RE policy. *Etango Magazine*. 2008 Vol. 1, at 7.

52 Bjork *et al.* (2011: 45).

53 The National Energy Fund was established to provide a safety cushion to absorb oil price fluctuations instead of passing them on the consumer.

54 Substitution of sec. 19 of Act No. 13 of 1990.

55 Simasiku (2011: 3).

56 Simasiku (2011: 4).

2.3 Other market actors

The sector's other main market actors are NamPower and the Regional Electricity Distributors (REDs). Namibia's electricity generating utility, the Namibian Power Corporation, is the bulk supplier to mainly REDs, mines and Local Authorities, where REDs are not operational.⁵⁷ NamPower is wholly owned by the government of Namibia and has three core businesses, i.e. generation, trading and transmission. The utility also fulfils the role of the system administrator. All electricity imports and exports, and all wheeling arrangements using the Namibian electricity transmission grid, are controlled and managed by NamPower.⁵⁸ All independent power producers (IPPs) that want to input electricity from RE technologies into the grid have to initially negotiate power purchase agreements with NamPower who acts as the single buyer. In 2010, NamPower created a new department for RE under the Energy Trading and New Works Business Unit to spearhead RE projects and facilitate their implementation. Meanwhile, the department is involved in three specific broad areas of RE that include wind and biomass energy, bush encroachment for electricity generation as well as hybrid mini-grid systems in off-grid areas.⁵⁹

The Regional Electricity Distributors (REDs) are responsible for supply and distribution of electricity to consumers within their respective licence areas.⁶⁰ REDs were introduced in the course of the restructuring of the electricity market in 2000.⁶¹ There are currently only three REDs operating in Namibia – Erongo Red, Nored and Cenored. Erongo Red was the sole distributor whose operating margin of 19% beat the benchmark of 17% set by the ECB for the years 2007 to 2009.⁶²

2.4 Renewable Energy and Energy Efficiency Institute (REEEI)

The Renewable Energy and Energy Efficiency Institute (REEEI) does not primarily act as a market actor but its practical role in supporting RE technologies should not be underestimated. REEEI is a national energy institute at the Polytechnic of Namibia. The institute, established in 2006, is funded by the Ministry of Mines and Energy. The Energy Institute's vision is to be a leading institute for energy research and development in Africa with a mission to support Namibia's industrialisation by linking energy research to industry needs and economic development initiatives.⁶³ REEEI has a mandate to facilitate and conduct research into RE and energy efficiency (EE), to develop standards, to disseminate information and materials on RE and energy efficiency, and to facilitate cooperation between the Ministry of Mines and Energy and the Polytechnic and also other stakeholders. Thus, it serves as a national information hub, rendering knowledge and expertise in RE and energy efficiency.⁶⁴

57 GRN (2012c: 47).

58 Von Oertzen (2010: 1).

59 NamPower in fifth gear towards RE. *Etango Magazine*. 2010 Vol. 1, at 9.

60 Von Oertzen (2010: 2).

61 GTZ (2007: 4).

62 A margin of 19 per cent means the company earned 19 cents out of every dollar of power it sold. See Duddy (2012a).

63 About REEEI. *Etango Magazine*. 2011 Vol. 4, at 16.

64 Ibid.

Currently, two of REEEI's main duties are to assist the Namibia Standard Institution (NSI) in the adoption of harmonious quality standards and registration schemes and to assist the government to develop a legal framework that looks at all elements of RE. Apart from this, it is working on the implementation of various other projects and programmes that include the Off-Grid Energisation Master Plan (OGEMP), the National Wind Resource Management Plan, the Solar Thermal Training and Demonstration Initiative, the Namibia Energy Efficiency Programme in Buildings, the Piloting Solar Thermal Technology Transfer for Electricity Generation in Namibia, and the Namibia Energy Regulatory Framework.⁶⁵

3 Legal Framework

Both off-grid and grid-connected energy production from RE resources requires a special institutional and legal framework which is, unfortunately, not in place to date. This is not only bemoaned by independent power producers of RE but also by state officials. In its latest annual report of the ECB, one can read that an overwhelming need exists to transform Namibia's energy regulatory and institutional framework because the current one is largely non-existent and partially outdated.⁶⁶ As there is a mutual consent among all involved stakeholders, including those who raise environmental arguments about not using one of the world's best solar, wind and biomass resources, to pave the way for RE technologies, the government has begun to work on a comprehensive legal framework which is by no means an easy task. The Ministry of Mines and Energy is currently working on a number of projects, such as the review of the White Paper and the New Energy Regulatory Framework, which will eventually provide for RE integration into the overall energy mix.⁶⁷ Apart from that, both a Renewable Energy Act and an overall Energy Efficiency Act are in preparation.⁶⁸ As therefore, the collection of more technical baseline data is necessary, the ECB has launched two projects, the National Integrated Resource Plan (NIRP) and the Renewable Energy Procurement Mechanism (REPM). NIRP will determine the optimal resource mix for electricity generation in the country, while REPM will allow for transparent tendering by the private sector for all power projects exceeding five megawatts.⁶⁹

It remains to be seen whether or not the new legal framework on RE will be, though comprehensive, and yet more harmonized, as for example the national environmental law turned out to be, after countless policies and regulations were implemented that often do not take into account former legislation. This situation, unfortunately, also characterises the current status of the RE legal framework. Although it is indeed fragmented, there are numerous programmes, master plans and projects that alas, often overlap in their scope.

65 Ibid.

66 Duddy (2012b).

67 Solar Revolving Fund (SRF) proves its worth. *Etango Magazine*. 2012 Vol. 1, at 5.

68 Setting guiding principles for RE. *Etango Magazine*. 2010 Vol. 2, at 5.

69 Duddy (2012b).

3.1 White Paper on Energy Policy of Namibia

The White Paper on Energy Policy, that still forms the basis for Namibia's energy policy, was developed by the Energy Committee, which was established in 1996 for this purpose, and issued by the Ministry of Mines and Energy in 1998. Having framed an initial energy programme within the scope of NDP 1,⁷⁰ the Ministry wanted to draft a comprehensive energy policy for all energy sub-sectors.⁷¹ The White Paper is the culmination of a two-year effort by the Committee and an international team of energy experts.⁷² It is currently under review.⁷³ The White Paper attempts to balance the Ministry's interest in attracting private sector investments to Namibia with the appropriate level of government regulation in the energy industry.⁷⁴

With regard to RE, the White Paper is considered to be the landmark policy but it is not the first document addressing RE. First steps to promote RE were already taken shortly after independence. In 1993, MME launched a programme called 'Promotion of the use of renewable energy sources in Namibia', which was supported by the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ, now GIZ). As a result, in 1996, the government launched the first solar revolving fund under the Home Power Project with support from Renewable Energy for African Development (REFAD), an American development organization.⁷⁵ All these projects were in line with the Harare Declaration on Solar Energy and Sustainable Development which Namibia signed at the World Solar Summit in September 1996.

The White Paper is divided into four parts. Part 1 describes the economic and development context for the energy sector. Policies for the energy demand sectors are laid down in part 2 with the main focus on energy needs of urban and rural households. Part 3 presents policy choices related to the energy supply sector including RE, whilst part 4 deals with cross-cutting issues.⁷⁶

The White Paper focuses on meeting seven energy goals: effective governance, security of supply, social upliftment, investment and growth, economic competitiveness and economic efficiency as well as sustainability. Special attention is given in the White Paper to those demand sectors that have been neglected historically, namely, poor urban and rural households.⁷⁷ The White Paper points out that at this early stage, not enough was known about the problems and needs in this sector. Therefore, national studies were supposed to be initiated as a basis for future development, including the issue of sustainable biomass usage in rural

70 In 1995, the Namibian government launched its first National Development Plan. The NDP1 superseded the Transitional National Development Plan which focused on consolidating democracy.

71 GRN (1998a: 1).

72 GRN (1998a: ii).

73 Solar Revolving Fund (SRF) proves its worth. *Etango Magazine*. 2010 Vol. 1, at 5.

74 GRN (1998a: ii).

75 Ndhlukula (2009: 1).

76 GRN (1998a: 2).

77 GRN (1998a: v).

areas.⁷⁸ In an effort to meet these goals, a number of projects and programmes were initiated, implemented and facilitated by the government and through partnerships with developmental organisations and the private sector. Some will be introduced below.

In 2008, in an extensive study under REEECAP, all these policy goals were explored separately within the context of eight scenarios where each scenario attempted to depict a particular policy option.⁷⁹ What has been discovered is that there is not one single scenario that satisfies all of the policy criteria. Some options are economically efficient but do not maximise the use of renewable resources. Several are inexpensive but do not guarantee security of supply. Others, in turn, maximise the use of renewable resources but are expensive.⁸⁰ The conclusion drawn was that, although all energy goals are technically coequal, there is a necessity for the government to make a decision as to which option should be given the priority in the long-term.

However, both the REEECAP study and the White Paper clearly show that RE can contribute to the realisation of at least several of Namibia's overall energy policy goals, mainly the goals of social upliftment, economic competitiveness and efficiency, security of supply and sustainability.⁸¹ The potential to achieve the strongest impact is, according to the White Paper, the widespread use of decentralised solar PV systems to provide basic electricity services in remote areas. Such decentralised options for rural electrification are often cheaper than extending the grid over long distances, allowing for improved economic efficiency in rural areas, thus, contributing to the goal of social upliftment. While off-grid electrification contributes to the goals mentioned, the potential use of RE – including hydro-power – for grid-connected electricity can contribute to the policy goals of sustainability as well as security of supply by virtue of diversification and the use of locally available RE resources.⁸²

Throughout the White Paper, the role RE can play for poverty reduction is one of the most important topics. As it is a fact that a significant part of the population will not have grid access in the future, the White Paper distinguishes between off-grid and grid electrification and elaborates on the role that RE technologies, particularly solar systems, will play in meeting rural energy needs. In areas where it is not viable to extend the national grid, RE systems will have to substitute grid electrification. RE might also provide an interim, first-step solution in areas where access to the grid is not envisaged in the short to medium term.⁸³ Like their urban counterparts, rural communities depend on public facilities to fulfil some of their most basic needs, while the quality of these services can be severely hampered by lack of electricity.⁸⁴ In this respect, the White Paper also discusses the importance of

78 Ibid.
 79 See for more details GRN (2008a).
 80 GRN (2008a: x).
 81 GRN (1998a: 43).
 82 Ibid.
 83 GRN (1998a: 23).
 84 GRN (1998a: 47).

a stable rural water supply where photovoltaic pumps could play a major role in the future as replacements for diesel pumps.⁸⁵

The White Paper also mentions the large gap between as to what renewables can potentially contribute to the energy policy goals and what they are presently contributing. Therefore, the government has to face various institutional challenges amongst which are: establishment of an adequate institutional and planning framework, which provides for the balanced provision of all forms of energy; development of human resources and public awareness; a set-up of suitable financing systems for RE applications, in order to increase their affordability and to encourage economic choices which are based on life-cycle costs; and an improved co-ordination among government ministries engaged in energy provision.⁸⁶

Meanwhile, some of the so-called policy statements, which are explicitly formulated at the end of each paragraph throughout the White Paper, have been partially reached or at least first steps have been undertaken. This is especially so in the case for those policy statements with regard to human resource development and public awareness. The following policy statements were thus met to the government's satisfaction through NAMREP: Government will develop and implement RE awareness programmes, ensure education in RE and include the rational use of energy in school curricula, universities, vocational training centres and other institutions of instruction. With regard to the policy statement of improving the institutional and planning framework, one can state that despite the regrettable fact that a comprehensive legal framework is still missing and no in depth support schemes have been developed, at least some single programmes followed the implementation of the White Paper that facilitated supporting the use of RE specifically in off-grid areas for poverty reduction. A comprehensive national support scheme to enhance RE is still missing, although the government has committed itself to facilitating adequate financing schemes for RE applications and to encourage government agencies, investors and users to make decisions based on the life-cycle costs of alternative energy options rather than those exclusively based on the initial cost.⁸⁷ However, progress has been made in establishing a loan finance system that is available for the rural poor to finance RE home systems. The White Paper's chapter on RE closes with suggestions that specific tariff structures, as well as fair access to the grid for independent power producers of RE, should be discussed in the future.⁸⁸ These two suggestions have become the most urgent in the fourteen years following the introduction of the White Paper.

3.2 Rural Electrification Programme

Even though modern RE planning relies up to the present day on the principles laid down in the White Paper, RE was already an issue immediately after independence and prior to the launch of the White Paper. Only the reasons for promoting RE were still different. Electrifi-

85 GRN (1998a: 48).

86 GRN (1998a: 44).

87 GRN (1998a: 46).

88 GRN (1998a: 49).

cation was a priority and since electricity via the grid was cheap and easily accessible, whilst environmental concerns were still not very high on the agenda, RE technologies were only regarded for off-grid electrification. The first rural electrification programme ran parallel to solar systems that were made available for those not benefiting from grid extension. Since independence, great efforts were made in both grid and off-grid electrification with the result that Namibia today has a fairly good network coverage. This in turn means that not only more consumers are able to benefit from RE fed into the grid, a good network coverage also means more demand for bigger RE installations and calls for well considered schemes of feeding environmental friendly produced electricity into the grid.

As use of RE in off-grid areas will always be on a small-scale, one can say that all grid extension endeavours were, at the same time, early efforts to pave the way for today's advanced RE technologies. The Namibian government forced rural electrification from the very outset having already embarked on a national rural electrification programme in 1991.⁸⁹ The rural electrification programme commenced in the densely populated central northern regions of the country between 1991 and 93. In 1992/93, the western Kavango Region was electrified, followed by the eastern Kavango Region in 1993/94. Proceeding in a clockwise direction around the country, the electrification programme covered parts of the Otjozondjupa and Omaheke Regions in 1994/95, and most main centres in the Hardap and Karas Regions between 1995 and 98. The first phase of rural electrification in the Caprivi Region took place in 1995/96, with the northern regions benefiting from a second phase during 1997. Larger settlements in the Erongo and Kunene Regions were electrified in 1998/99.⁹⁰ The programme, in its first phase, aimed to cover all main rural centres and large settlements. Typically, these main centres and settlements comprised institutional, commercial and domestic infrastructure plus formal and informal housing.⁹¹ Consumers located within a 500m radius of the distribution transformers were also offered connections at no charge.⁹² This was the first large-scale rural electrification project to be implemented in the country and is in fact, one of the first of its kind in Southern Africa.⁹³ After the first round, roughly 15% of the rural population had access to electricity.⁹⁴ The rural electrification programme is still in force and has been grant-financed since its commencement by the Namibian government, the Norwegian government and NamPower.⁹⁵ However, nowadays a restricted approach has been undertaken. Under the new approach, the rural electrification programme will only cater for government institutions, public institutions and business centres and only up to the step-down transformer for businesses. The new approach will omit individual homesteads. Against restricting the programme to the new group of beneficiaries, socio-economic concerns were raised, however, once the electrification of government institutions has been completed, the normal

89 Hundreds of schools still don't have power, *New Era*, 17 April 2012.

90 Utonih/Dlamini (2001: i).

91 Utonih/Dlamini (2001: 3).

92 Utonih/Dlamini (2001: 4).

93 Utonih/Dlamini (2001: i).

94 Utonih/Dlamini (2001: 4).

95 Hundreds of schools still don't have power, *New Era*, 17 April 2012.

countrywide rural electrification programme will resume.⁹⁶ In parallel with the grid electrification efforts, after independence, the Ministry of Mines and Energy instituted a revolving credit fund for solar home systems in an attempt to provide remote rural households with the opportunity to acquire basic electrification for their homes.⁹⁷ Therefore, under the so-called Home Power Project, loans were provided at low interest rates to purchasers of solar home systems. About one hundred technicians from all target regions were trained on how to install and maintain solar home systems. From 1996 until 2001, 456 systems were installed in Namibia.⁹⁸ The revolving credit fund nowadays celebrates its revival as the new Solar Revolving Fund that was re-launched in 2011. The new Solar Revolving Fund is nothing other than the replacement of the Home Power Project, only with a reduced emphasis on education and training of suitable personnel.

3.3 REDMP – Rural Electricity Distribution Master Plan

The next step of rural electrification was to cater for substantially smaller and more remote settlements and farms. Cost effectiveness, as well as financial and economic feasibility, was a crucial factor in the allocation of available funds in an equitable manner among unelectrified localities. It was in this context that the Ministry of Mines and Energy, together with NamPower, embarked on the Master-Planning Project, which should take into consideration the country's thirteen regions.⁹⁹ During the ensuing period, the Rural Electricity Distribution Master Plan (REDMP) and the Off-Grid Energisation Master Plan were prepared. The REDMP was compiled in 2000 and updated in 2005.¹⁰⁰ The time-frame of the Master Plan extends over a period of twenty years.¹⁰¹ In accordance with the Local Authorities Act, rural areas are defined as those that fall outside the proclaimed municipal areas and include diverse settlement types ranging from commercial farms to communal areas. Unelectrified informal settlements around urban areas were not included in REDMP, as they are covered by OGEMP due to the fact they are areas of great population growth. The Master Plan has identified a total of 5.858 settlements without electricity. Of these, only 1,543 are scheduled for electrification within the next twenty years after the launch of REDMP. The remaining settlements, comprising of over 100,000 households, will not be electrified during that time. The Master Plan considers both grid and off-grid electrification options and includes all thirteen regions, mainly prioritising economically active centres such as schools, clinics, businesses and government institutions but also extends to those households in the immediate vicinity that do not exceed a five hundred metre radius from the transformer point.¹⁰² This means that both REDMP and the new approach of the Rural Electrification Programme have predominantly the same target group, while individual homesteads, especially informal ones, are not covered by either programme.

96 Ibid.

97 Utonih/Dlamini (2001: 4).

98 Utonih/Dlamini (2001: 5).

99 Utonih/Dlamini (2001: 6).

100 GRN (2005a).

101 Utonih/Dlamini (2001: 7).

102 Hundreds of schools still don't have power, *New Era*, 17 April 2012.

One objective of REDMP is to provide guidelines and establish priorities for the upgrading and extension of the existing distribution networks which will enable the Ministry to establish new networks to meet the demands of the target groups in both an orderly and cost effective manner.¹⁰³ That is why REDMP includes a dynamic planning tool that enables the Ministry to re-evaluate electrification programmes as and when priorities change. Scenario analyses and rankings of electrification projects based on electricity demand and electrification costs are made on a continuous basis to ensure that REDMP always remains current.

3.4 OGEMP – Off-Grid Energisation Master Plan

The Off-Grid Energisation Master Plan¹⁰⁴ was commissioned by the Ministry of Mines and Energy in 2005, released in early 2006 and approved by the Namibian cabinet in mid 2007. It is based on the policy statements laid down in the White Paper. The Ministry designed and launched OGEMP to ensure that those areas, where grid electrification is unfeasible, will be appropriately developed through off-grid energy solutions based largely on solar energy technologies. In 2007, the Cabinet directed the Ministry to make sufficient budgetary allocations for the implementation of OGEMP. This was one of the two cabinet directives concerning RE up to the present day.¹⁰⁵ The development of OGEMP was already initiated by the Ministry through NAMREP in 2005 and the Guidelines for the establishment of Energy Shops were compiled under REEECAP. Workshops and consultative meetings were held prior to the launch to openly discuss the proposed OGEMP concept.¹⁰⁶

The overall objectives of OGEMP are: to promote off-grid rural electrification through the use of RE systems, to promote and utilise indigenous Namibian RE resources for energy provision and to improve the quality of rural life through the provision of energy services.¹⁰⁷

To realise these OGEMP objectives, the so-called Solar Revolving Fund (SRF) has been integrated under OGEMP. The idea of a fund was not new. A fund to make energy solutions affordable had already been established by the government in 1996 under the Home Power Project. When the SRF was introduced fifteen years ago, the government identified that one of the main barriers to rural electrification was the high upfront costs for solar products.¹⁰⁸ As this problem remained constant over time, the fund was re-launched in April 2011 by the Ministry of Mines and Energy. Under the SRF scheme, communities have access to credit finance via the OGEMP revolving funds to make RE solutions affordable.¹⁰⁹ Thus, clients are able to obtain government loans for the installation of RE technologies. The SRF is an ownership model, where the end user purchases a solar system by making use of the revolving credit scheme facility and thus, becomes the owner of the system. The system's owner

103 Utonih/Dlamini (2001: 6).

104 GRN (2007c).

105 Ndhlukula (2009: 7).

106 Cabinet directives to promote renewable energy. *Etango Magazine*. 2008 Vol. 1, at 5.

107 Solar Revolving Fund (SRF) proves its worth. *Etango Magazine*. 2012 Vol. 1, at 5.

108 SRF highlights challenges it faces. *Etango Magazine*. 2012 Vol. 1, at 7.

109 Hundreds of schools still don't have power, *New Era*, 17 April 2012.

is responsible for the system and its maintenance.¹¹⁰ To date, technologies that have been financed through the SRF include solar home systems, solar water pumps and solar water heaters.¹¹¹ The SRF is not only earmarked to finance solar home systems (SHS) and solar water heaters (SWH) but also photo-voltaic pumps (PVP) and energy efficient fridges for end users and energy shops.¹¹² According to the Ministry, it received 1,012 SRF applications for the financial year that ended in March 2012 valued at N\$ 24.49 million. The number of solar systems thus far installed stand at 231 at a cost of N\$ 6.3 million.¹¹³ The scheme is presently overwhelmed and has difficulties in meeting the demand for loans as the current contribution of the Ministry to the fund is N\$4 million per annum.¹¹⁴

Another important approach to meet the OGEMP objectives is the energy shop concept. Therefore, it is stipulated in OGEMP that solar energy shall be promoted by establishing energy shops within a reasonable distance of targeted communities. The shops are supposed to sell suitable, approved energy products and compatible appliances¹¹⁵ and will inform people as to their use. The aim of energy shops is to initially stock RE technologies but they will also be a central point for information dissemination and a networking hub for SRF.¹¹⁶ Additionally, energy shops will serve as payment collection centres for the national off-grid energy financing mechanism, thus working hand in hand with the SRF administrator.¹¹⁷ Energy shops will be established in all the country's thirteen regions. A total 180 shops are planned to be set up over the next twenty years with one energy shop in each region during the first year. The focus for the first year is on urban, informal settlement areas. Focus will later change to establish energy shops in rural areas.¹¹⁸ REEEI has been tasked by the Ministry to coordinate the establishment of these energy shops.¹¹⁹ One example of an energy shop is the solar cellphone charging business in Windhoek's informal settlement of Havana. The cellphone charging shop consists of a solar panel, a solar cellphone charging system with ten charging sockets and two lights. The system is capable of charging roughly twenty cellphones per day and provides daily electricity for three hours for each light.¹²⁰ Concerns were raised on whether the energy shops being set up in all regions will be successful since the current shops do not have experience in RE technologies. Energy shops, therefore, require training that is planned in the roll-out of OGEMP.¹²¹ In order to prove the feasibility of the energy shop concept, the DRFN decided to test the introduction of RE technologies to existing and prospective SMEs. To determine if there is a market for RE technologies, the needs of communities and available technologies have to be identified.¹²²

110 SRF highlights challenges it faces. *Etango Magazine*. 2012 Vol. 1, at 7.

111 Solar Revolving Fund (SRF) proves its worth. *Etango Magazine*. 2012 Vol. 1, at 5.

112 SRF highlights challenges it faces. *Etango Magazine*. 2012 Vol. 1, at 7.

113 Hundreds of schools still don't have power, *New Era*, 17 April 2012.

114 Solar Revolving Fund (SRF) proves its worth. *Etango Magazine*. 2012 Vol. 1, at 5.

115 Hundreds of schools still don't have power, *New Era*, 17 April 2012.

116 SolarRevolving Fund (SRF) proves its worth. *Etango Magazine*. 2012 Vol. 1, at 5.

117 Ndhlukula (2009: 5).

118 Omaheke becomes home to 6th Energy Shop. *Etango Magazine*. 2011 Vol. 4, at 8.

119 Real support for renewable energy. *Etango Magazine*. 2011 Vol. 4, at 3.

120 Solar cellphone charging pilot business proves viability. *Etango Magazine*. 2011 Vol. 3, at 22.

121 Renewable Energy still not a national priority. *Etango Magazine*. 2011 Vol. 3, at 13.

122 Solar cellphone charging pilot business proves viability. *Etango Magazine*. 2011 Vol. 3, at 22.

3.5 NEEP – Namibia Energy Efficiency Programme in Buildings

The Namibia Energy Efficiency Programme in Buildings is a programme funded by the Global Environment Facility (GEF) and spearheaded by the Ministry of Mines and Energy with support of the United Nations Development Programme (UNDP). REEEI is currently in the midst of implementing NEEP. The objective of NEEP is to reduce Namibia's energy-related green-house-gas emissions through nationwide adoption of energy efficient technologies and practices in the commercial and residential building sector, with a focus on government office buildings, hospitals, hotels, schools and a few residential buildings.¹²³

One of the components of NEEP is to increase institutional capacity and awareness, of which, the indicator in this regard is a Green Building Rating System. In order to implement the Green Building Rating System, a Green Building Council for Namibia (GBCN) has recently been established, which will develop and operate the rating system as well as promoting and facilitating green building practices.¹²⁴ Additionally, it will coordinate its projects and work closely with the World Green Building Council (WorldGBC).¹²⁵

The government's intent of using RE in public buildings is by no means a new. It was already the subject matter of a cabinet directive stating that all government and parastatal buildings' hot water requirements should be met through the installations of Solar Water Heaters (SWH) only. This applies not only to new buildings but also to all replacements or renovations of old government buildings. The cabinet directive stated that the acquisition and installation of solar water heaters for government institutions and parastatals should be done through open tender.¹²⁶ The implementation of this directive was part of phase two of NAMREP.¹²⁷

3.6 NAMREP – Namibian Renewable Energy Programme

The Namibian Renewable Energy Programme of the Ministry of Mines and Energy, which was funded by UNDP-GEF, ran from 2004 to 2010. It was aimed at addressing some of the barriers experienced in the dissemination of RE technologies in Namibia.¹²⁸ Therefore, NAMREP has, as its primary objectives, the promotion of an improved solar technology industry while advancing cost-effective and environmentally friendly technologies, the generation of employment together with the improvement of livelihoods and income generation opportunities of rural people. It aims at delivering commercially, institutionally and technically sustainable solar energy services to households and institutions as well as the commercial and agricultural sector. Through NAMREP, it was possible to reduce the ever-increasing dependence on grid-connected electricity and other expensive imported fuels, whilst simultaneously contributing to climate stabilisation by reducing carbon dioxide emissions also.¹²⁹ The programme was implemented in two phases. The first, the so-called research phase, las-

123 Katali highlights need for Namibia to generate own energy. *Etango Magazine*. 2011 Vol. 3, at 17.

124 Namibia moves to establish Green Building Council. *Etango Magazine*. 2012 Vol. 1, at 8.

125 GBCN Core Founding Group gets down to business. *Etango Magazine*. 2012 Vol. 1, at 9.

126 Cabinet directives to promote renewable energy. *Etango Magazine*. 2008 Vol. 1, at 5.

127 Phase II: Barrier Removal to Namibian Renewable Energy Programme. *Etango Magazine*. 2008 Vol. 1, at 15.

128 Ndhukula (2009: 3).

129 Phase II: Barrier Removal to Namibian Renewable Energy Programme. *Etango Magazine*. 2008 Vol. 1, at 14.

ted from 2004 to 2006 and was funded at a total cost of US\$6.2 million. It looked primarily at identifying barriers experienced in the dissemination of RE technologies, but also dealt with policy matters and regulations governing RE. Additionally, it concentrated on raising public awareness. The Strategic Action Plan and the Development of a Regulatory Framework for Renewable Energy and Energy Efficiency within the Namibian Electricity Sector, both compiled under NAMREP, are two of the most comprehensive studies ever undertaken in the field of RE in Namibia.

The second phase, with an even higher budget, commenced in 2007 and ran over a three-year period. It aimed at speeding up the implementation of solar energy activities identified in phase 1.¹³⁰

After conclusion of the active phase, the project outcomes were broken up into five components and evaluated. These components are: capacity building in the public and private sectors as well as in NGOs; establishing a policy framework in support of RE including off-grid electrification; increasing public awareness and acceptability of solar energy technologies; setting up and expanding appropriate financing and product delivery schemes; and establishing adaptive management structures.¹³¹

According to the evaluation results of those involved, most goals set out in the programme were achieved.

In terms of executing training sessions, the target has been to train a minimum of twenty-five persons from the government and NGOs who are involved in RE activities plus thirty solar technicians. Whilst the target set out in terms of numbers was even exceeded, there is still need for capacity building among community workers to ensure training continues after the project completion.¹³² The overall understanding of solar energy technologies among potential end-users, including national and regional decision-makers, was significantly increased, too. NAMREP had produced leaflets and brochures to raise public awareness which were translated into six local languages. It has been a target to reach at least 6,000 people through dissemination campaigns and 500 through workshops and meetings. These numbers again were exceeded thanks to the participation in numerous trade fairs, career fairs, dissemination of materials at schools and the briefing of decision makers through One Day Regional Seminars.¹³³ NAMREP was also successful in developing a curriculum for training technicians in RE technologies and entering into an agreement with the Windhoek Vocational Training Centre for training the technicians.¹³⁴ There was also some progress in reaching the goal of enhancing implementation of solar technologies and advancing RE projects within ministries and public institutions. For instance, the Office of the Prime Minister decided to implement

130 Phase II: Barrier Removal to Namibian Renewable Energy Programme. *Etango Magazine*. 2008 Vol. 1, at 14.

131 Phase II: Barrier Removal to Namibian Renewable Energy Programme. *Etango Magazine*. 2008 Vol. 1, at 14.

132 NAMREP's five key targets for 2010. *Etango Magazine*. 2010 Vol. 1, at 16.

133 NAMREP's five key targets for 2010. *Etango Magazine*. 2010 Vol. 1, at 17.

134 NAMREP's five key targets for 2010. *Etango Magazine*. 2010 Vol. 1, at 16.

solar electrification in four villages in the Kunene Region and the Ministry of Environment and Tourism established a programme to replace diesel generators used for producing electricity at off-grid centres. Hence, the aim of integrating solar energy based projects into the plans of at least two ministries or institutions has been achieved.¹³⁵ The launching of OGEMP and the government directive concerning the installation of solar water heaters in government buildings are also considered as achievements of NAMREP.

However, time will tell if these great efforts in raising awareness and training among state officials, other decision makers and ordinary people will be sustainable in the long term. Financing RE remained the major stumbling block in the implementation of promising technologies. The government's financing schemes alone have so far not been enough to meet the demand. It is hoped that the Solar Revolving Fund, as part of OGEMP, will boost the funding.¹³⁶

3.7 REEECAP – Renewable Energy and Energy Efficiency Capacity Building Programme

The Renewable Energy and Energy Efficiency Capacity Building Programme ran from 2006 to 2008 and was funded by the Danish government. The Renewable Energy and Energy Efficiency Institute was the implementer of REEECAP whose objective was to increase the capacity of the Namibian resource base in selected areas to enable it to contribute to the implementation of the national policies for RE and energy efficiency¹³⁷ as stated in the White Paper and NDP 2.¹³⁸ REEECAP's strategic focus was on enhanced capacity for both rural and urban decision makers in energy planning. A total of twenty-one sub-projects with titles like Energy Efficiency Strategic Plan, Review of Building Codes, and Electricity Supply and Demand Management Options were undertaken. One of the most remarkable studies is the latter.¹³⁹ It develops eight generation scenarios that aim to illustrate different applications and interpretations of the Namibian energy policy as defined in the White Paper. This has been the first comprehensive study for Namibia that considers alternative energy sources, fossil fuels and hydro electricity options plus various possible supply mixes.¹⁴⁰ As it was one of the objectives of the study to explore the potential and role of RE resources,¹⁴¹ one of the scenarios was the so called 'maximum renewable energy option (including hydro)'.¹⁴¹ The interesting key conclusions, from an electricity price perspective, were that on the one hand the maximum renewable scenario would indeed cause the highest electricity prices.¹⁴² However, on the other hand, the renewable maximised scenario would make the greatest contribution to GDP due to high construction costs involved in building additional hydroelectric power

135 NAMREP's five key targets for 2010. *Etango Magazine*. 2010 Vol. 1, at 17.

136 Milestone achievements as NAMREP draws to a close. *Etango Magazine*. 2009 Vol. 1, at 5.

137 Ndhulukula (2009: 7).

138 Second National Development Plan covering the years 2001 to 2005.

139 GRN (2008a).

140 GRN (2008a: i).

141 GRN (2008a: iv).

142 GRN (2008a: vi).

stations and also the requirement of significant plant size for concentrating solar power stations.¹⁴³ The renewable maximised scenario also created the highest number of jobs as the implementation of the biomass generation option (invader bush) was part of the scenario.¹⁴⁴ The study concluded, generation from renewable resources is desirable but is not without risks and cannot be expected to supply all Namibia's electricity needs, at least not in the short term. According to the study, if hydro is excluded, it will be possible to have RE producing 20% of electricity needs without escalating end consumer prices more than 7% above the cost of importing electricity from South Africa.¹⁴⁵

It is the underlying idea of all RE studies under REEECAP to analyse various methods of alternative energy use and to find the best method for Namibia. The lessons learnt from various studies were presented and the technologies, concepts and developments put up for discussion afterwards. Newer examples of technological concepts presented are the Energy Merry-go-round and the Renewable Energy Baseline Survey on Energy Usage among Low Income People.

4 The priority of sustainability

Sustainable energy means use of resources in a manner that provides ongoing energy to meet the needs of the current population, without comprising conditions for future generations. To achieve this balance, energy must be replenished, environmental harms must be minimised, and costs have to be affordable.¹⁴⁶ Since the political and regulatory focus is on sustainability and not on renewable resources *per se*, the way they are harnessed requires thoughtful analysis to ensure that a RE investment is in fact meeting the sustainability objective.¹⁴⁷

In order to implement governmental decisions in favour of RE technologies and to invest in support schemes to enable RE to withstand competition from fossil fuels, the benefits and obstacles plus all alternatives to RE technologies, have to be carefully balanced against each other. Thereby, Namibia's electricity sector faces several challenges due to its sometimes conflicting imperatives that cannot all be met at one time as they are: safeguarding the security of supply, introducing cost-reflective tariffs without throttling the economy, stimulating investments and attracting new sector participants, continuing the electrification of rural Namibia, and developing Namibia's RE resources.¹⁴⁸

4.1 Benefits of and barriers to renewable energy

RE offers numerous benefits in the short, medium and long term, whereof, the long-term benefits are probably the most obvious. The use of RE will contribute to not only making Namibia less dependent on imported electricity but above all, independent from imported

143 GRN (2008a: vii).

144 Ibid.

145 GRN (2008a: xi).

146 Bjork *et al.* (2011: 3).

147 Ibid.

148 Von Oertzen (2011: 1).

fossil fuels as the price of oil, natural gas and other materials can be extremely volatile, where as the price of RE is predictable and stable. This creates a strong incentive for companies looking for energy security.¹⁴⁹ By increasing the use of RE, Namibia's future electricity supply mix will capitalise on local comparative advantages, ensure local value addition and job creation¹⁵⁰ if the national generation capacity is expanded through smaller-scale RE technologies.¹⁵¹ In terms of environmental sustainability, it has to be taken into account that RE neither produces CO₂ nor other greenhouse gases. And, unlike coal and nuclear power plants, it does not consume huge amounts of water, which is itself a scarce resource.¹⁵² The short-term benefits are most obvious in rural areas where RE contributes to off-grid electrification and thus to poverty reduction. The production of RE is the most promising way of providing affordable energy to areas far from available points of connection to the grid. Due to the vastness of the country and low population density, many areas will probably never be connected to the grid. The government holds the view that the gap in economic development and quality of life between rural and urban population in the country might be addressed through rural electrification.¹⁵³ As does the Head of the European Union Delegation in Namibia, Raúl Fuentes, who points out that energy is one of the pillars of economic development and lack of access to a reliable supply of electricity constitutes a development constraint, especially to people residing in remote and isolated areas.¹⁵⁴

However, there are some drawbacks that have to be overcome also. These comprise, in the first instance, the potentially higher energy prices. It is a fact that the high installation cost of RE technologies and lack of well-marketed, affordable and easily accessible financing schemes for the purchase, installation and maintenance of equipment as well as a missing guarantee of price stability for independent power producers still remain the major impediments for the implementation of RE technologies in Namibia.¹⁵⁵ The problem that RE technologies often have a higher capital cost – but conversely, often a lower operating cost also – what makes loan finance facilities necessary to spread the cost over time, had already been mentioned in the White Paper as a reason for the existence of a large gap between what renewables can potentially contribute to the energy policy goals and what they are presently contributing.¹⁵⁶

Since then, some circumstances have changed, starting with the creation of the revolving fund that aims to provide a guarantee for people who would otherwise not be able to access loans from commercial banks to buy solar home systems.¹⁵⁷ Today, almost all financial institutions in Namibia offer funding for RE at very low interest rates thanks to the fund. Se-

149 Five reasons why wind power is the best long term energy source. *Etango Magazine*. 2011 Vol. 4, at 12.

150 At this stage it is impossible to make predictions for Namibia. In Germany for example there are currently more than 370,000 people employed in the RE sector.

151 Von Oertzen (2011: 3).

152 Five reasons why wind power is the best long term energy source. *Etango Magazine*. 2011 Vol. 4, at 13.

153 Ndhlukula (2009: 2).

154 Plenty opportunities for Renewable Energy exist in Namibia. *Etango Magazine*. 2012 Vol. 1, at 17.

155 Real support for renewable energy. *Etango Magazine*. 2011 Vol. 4, at 3.

156 GRN (1998a: 44).

157 ECB: More action on RE policy. *Etango Magazine*. 2008 Vol. 1, at 7.

condly, the price for electricity has risen dramatically in recent years so that grid parity¹⁵⁸ is expected to be reached soon, at least for some RE technologies. So long as imported electricity was cheap, most on-grid RE projects were not worthwhile, but now Namibia is reaching the point where, for instance, locally produced solar electricity is cheaper than that bought from the main supplier. Finally, there is a lot of potential for RE technologies in Namibia to be financially supported by international organisations. Namibia has abundant RE resources and RE has become one of the hot topics throughout the world in connection with the international climate change debate. Almost all donor institutions in Namibia are involved in RE projects in some way, while no one has the support of coal-fired power plants on the agenda. For example, it is the vision of the KAS-run programme on RE for Namibia to become the first country¹⁵⁹ that meets its energy demand entirely from renewables,¹⁶⁰ something the Danish Samsø island and El Hierro that belongs to the Spanish Canary Islands realised so far.¹⁶¹ If the government turned this vision into a national policy goal, a run on investment in RE in Namibia would begin. In any event, any form of legal enhancement of RE technologies must be accompanied by a support scheme that the government has to decide on. Alas, it has not been done as of yet.

The White Paper considers some more obstacles that contribute to the low input of RE to Namibia's energy budget and to which a solution has yet to be found. It addresses them as key institutional challenges. Among them are first and foremost the establishment of an adequate institutional and planning framework as well as improved coordination among government ministries. But the White Paper also addresses typical challenges for Namibia, such as the lack of human resources and public awareness of energy efficiency that leads to low social acceptance of the technology.¹⁶² Indeed, there is only limited technical experience in the country, but raising awareness has already been the subject matter of numerous programmes since the implementation of the White Paper. Additionally, solar panel theft has already become a problem throughout Namibia. The victims are not only corporate entities – the most affected being Telecom, the Namibian Broadcasting Corporation (NBC) and MTC – but also communities and farmers who rely on power-generating solar panels for the functionality of their farms or the entire community. Therefore, in 2009 the Namibia Technical Committee on Renewable Energy formed a taskforce to address the problem of solar panel theft.¹⁶³

4.2 Renewable energy *versus* nuclear power

Despite being blessed with an extensive potential for solar and wind power and the vision of RE power producers, together with international donor institutions, to put Namibia on the green track, the government is, as an alternative, currently investigating the use of nuclear power as Namibia's future energy source. The government's choice of giving one energy

158 For more information about grid parity, see Roedern (2009: 6).

159 There are predictions that Germany for instance will meet its demand entirely from renewables by 2050.

160 Schütt (2012).

161 Kanareninsel als Öko-Eiland, *Der Spiegel* Nr. 17 2012, at 120.

162 GRN (1998a: 44).

163 Battle against solar panel thefts. *Etango Magazine*. 2009 Vol. 1, at 17.

source preference over the other will surely not only impact on the procurement mechanisms for RE that will be put in place but will also influence the whole RE sector, as both the RE and nuclear sector cannot be supported equally due to financial constraints. The CEO of the Electricity Control Board, himself being a nuclear power plant engineer, recently said in an interview that generation of electricity does not have to be the sole responsibility of the government. Rather, it is the government's responsibility to look at the affordability of power. In fulfilling this obligation, it is the number one requirement for the government to level the playing field through policies.¹⁶⁴ While there is neither a draft policy nor a policy concerning RE in place as yet, in December 2011 the Ministry of Mines and Energy launched a Draft Nuclear Fuel Cycle Policy to investigate the potential benefits that can be derived from participation in the full nuclear cycle. The Draft Policy states: Government has expressed its desire to increase beneficiation to enhance economic development and has considered a nuclear power programme to augment its energy needs.¹⁶⁵ Furthermore, the Secretary-General of NCCI, Tarah Shaanika, argued that Namibia "essentially needs to set up a nuclear power plant to fully add value to uranium in the country".¹⁶⁶ Uranium is said to constitute 6% of the cost of operating a reactor.¹⁶⁷ However, against this backdrop, the argument falters since having uranium already in the country does not necessarily make nuclear power the most obvious option. Financing a support scheme for RE to add value to the commodities of wind and sun that are also already in Namibia might be the cheaper option. It is a fact that nuclear power is one of the more expensive sources of energy, which in turn means that expenses on other sources of energy have to be cut. In general, the nuclear industry depends – like the RE sector – on state subsidies and is not a competitive energy source in market terms.¹⁶⁸ Taking the nuclear path would entail massive expenditure – meeting the costs of using highly-skilled operators, of setting up a fully-fledged regulatory apparatus, of setting up a nuclear waste management system, and of decommissioning in the future. The costs of such an enterprise would include relying on expensive outside expertise and burden the Namibian treasury and taxpayer for many years to come.¹⁶⁹ However, since nuclear power is treated as a serious alternative to RE, the Government's final policy decision on building nuclear power plants will be of paramount importance for the future of the RE sector, especially with regard to the chosen procurement mechanisms.

5 Procurement Mechanisms

The White Paper states that effective governance is of vital importance in the electricity sector. This entails implementation of appropriate legal, regulatory and institutional frameworks, combined with increased efforts in building capacity at government level through

164 Simasiku (2011: 4).

165 GRN (2011c: 5).

166 Konjore, Romanus, Natural resource's taxes coming soon, *The Villager*, April 2012. Available at http://www.thevillager.com.na/news_article.php?id=1302&title=Natural%20resource%92s%20taxes%20coming%20soon; last accessed 19 June 2012.

167 Fig (2010: 10).

168 Diesendorf / Christoff (2006).

169 Fig (2010: 29).

development of appropriate governance structures.¹⁷⁰ It states further that at present, RE competes on an unequal footing with conventional forms of energy. Examples of this include the facts that rural electrification, using the grid, is subsidised, while off-grid household electrification, using RE is not. And the institutional structures for planning, supplying and regulating conventional commercial forms of energy are well developed, whereas those for RE technologies, such as solar photovoltaics, are only partially in place.¹⁷¹

Although RE is supported in the White Paper, there are no explicit support mechanisms in force yet. In fact, currently, there are virtually no legal incentives for private producers to produce RE and feed electricity into the grid. There is recognition that market forces alone cannot permit RE technologies to gain ground and contribute significantly, without deliberate support mechanisms in one form or another.¹⁷² Generally, the optimum utilisation of RE requires a contribution of appropriate procurement mechanisms and a favourable investment framework. Doubtless, the pricing mechanism for RE is going to be one of the major bottlenecks to large-scale development of RE projects. In order to ensure that future policy efforts will be based on ‘the goals of secure supply, profitability and environmental protection’¹⁷³, it might be worthwhile for Namibia to look at the lessons learnt from other countries with regard to the political and regulatory frameworks most conducive to development of RE.¹⁷⁴ The experience of countries with a longer tradition of using RE could be tapped regarding the appropriate design since it is an undisputed fact that many countries that have experienced growth in these technologies have done so after a massive energy policy shift.¹⁷⁵

Following several complaints from the public regarding the absence of RE tariffs, in 2010 the government embarked on developing the guiding principles on which independent power producers can put up RE generation plants and feed that energy into the national grid at a cost.¹⁷⁶ On the basis of already conducted studies and giving careful consideration to experiences made in other countries, the government is now developing a comprehensive set of regulations and laws that take into account the promotion of RE efficiency, while at the same time facilitating fair market access, market support structures and incentives for those investing in RE plants. It is the government’s aim to encourage independent power producers to set up RE generation plants in Namibia confident in the knowledge that they can recoup their investments when they feed energy into the grid.¹⁷⁷ The government emphasises that there are currently many barriers to the entry of RE onto the electricity market but there are also numerous procurement mechanisms to address these problems. These are the main instruments used throughout the world.¹⁷⁸

170 GRN (1998a: 21).

171 GRN (1998a: 44).

172 Ndhlukula (2009: 12).

173 Ndhlukula (2009: 8).

174 Hinz (2011: 86).

175 Ndhlukula (2009: 12).

176 Setting guiding principles for RE. *Etango Magazine*. 2010 Vol. 2, at 5.

177 Ibid.

178 Bjorke *et al.* pointed out the importance of proper resource mapping before investigating the right procurement mechanism. Because renewable resources vary considerably from one geographic location to another, within

5.1 Feed-in Tariffs

The most common form of tariff-based incentive used around the world is the type of feed-in tariff that states an obligation for utilities to buy energy at fixed purchase prices for a fixed term.¹⁷⁹ The purchase price is normally different depending on the type of RE. The feed-in tariff purchase prices are usually based on the cost of RE generation paired with considerations as to social cost, investor requirements and political will. With a feed-in tariff, any customer or entity is normally eligible to sell energy under the terms of the tariff.¹⁸⁰

Feed-in tariffs are often set forth in primary energy legislation, as is the case in, for instance, South Africa, Kenya and Germany.

Tariff-based incentives for RE have the disadvantage that they usually increase the costs of electricity production. It is a principle of electricity regulation that energy prices should reflect economic costs. Where a company or operator has mandatory purchase requirements to buy and resell power produced by renewable resources, the regulator must ensure that the costs relating to that purchase are included in the tariff rate. It is then up to the policymaker to decide whether these additional costs should be spread evenly among all customers, or there should be exemptions for vulnerable customer groups or special industrial and commercial activities and whether or not an increase in tariff rates, will discourage economic expansion.¹⁸¹

Conversely, feed-in tariffs have the advantage that they create security for investors by allowing a guaranteed payment for electricity from renewable sources that are fed into the grid and therefore, encourage investments in RE. The guarantee stems from a fixed price set by the government for each defined type of RE over a long period of time. Thus, granting investors the stable and predictable policy and legal frameworks they desire.¹⁸² Among economists, it is often argued that a properly set feed-in tariff is generally the most efficient and effective support scheme for promoting RE.¹⁸³

a country as well as across regions, RE development requires a good understanding of optimal siting. This, in turn, requires knowledge of the specific resource characteristics like availability, variability and size or magnitude. Without this information, the ability of a government to set national policy that correctly targets production of RE from specific indigenous resources is limited and informed analysis is not possible. See Bjork *et al.* (2011: 45). This resource mapping has partially taken place in Namibia. See for instance the TERNA (Technical Expertise for Renewable Energy Application) programme of the GTZ. In the framework of this programme, which was already launched in the early nineties, it was decided to evaluate the potential of wind energy for electricity generation. In 2011, REEEI, together with NamPower, began a thorough evaluation of wind potential at eighteen different sites throughout Namibia. There is also a hydropower Master Plan in place, for which a study on all perennial rivers had been performed. The aim of the study was to identify and estimate costs and production options for all potential hydropower projects in the Lower Kunene, Kavango and Lower Orange rivers.

179 Bjork *et al.* (2011: 36).

180 Bjork *et al.* (2011: 28).

181 Bjork *et al.* (2011: 38).

182 Ibid.

183 COM (2008: 57).

5.2 Tendering

In the tendering process, potential investors or producers of RE participate via a competitive bidding system. Generally, the target amount of generated capacity is laid out and the particular type of RE that is bid for is specified. The criteria for the evaluation of the bids are set before each bidding round.¹⁸⁴ The government decides on the desired level of electricity from each of the renewable sources, their growth rate over time, and the level of long-term price security offered to producers. The bidding is accompanied by an obligation on the part of electricity providers to purchase a certain amount of electricity from renewable sources at a premium price.¹⁸⁵ Once a producer has a long-term contract, he has to pay a penalty in case of a later withdrawal.¹⁸⁶

Tendering procedures require clear processes for application, approval of proposed projects and monitoring performance. From a regulatory perspective, it is important to develop transparent rules to minimise corruption, ensure the adequacy of information that is disseminated to bidders and to level the playing field.¹⁸⁷ This demands significant organisational efforts from the government authorities and good cooperation between those parties involved as well as a high standard of know-how in the ministry to fulfil the duty of monitoring. Although this has proven to cause difficulties in the past, the 2010 REEEP study for Namibia recommends tendering for most of the bigger RE projects in the country. The ECB also stated in its latest report that it has launched the Renewable Energy Procurement Mechanism (REPM) project that will allow for transparent tendering by the private sector for all power projects exceeding five megawatts.¹⁸⁸ The model of the South African bidding process for the cheapest kW unit on offer is presently, besides net metering, the preferred option by the Government for accommodating photovoltaics into the grid.¹⁸⁹

It is the ECB's view that feed-in tariffs and tender systems have the best global record in terms of bringing renewables to the grid. Whilst the latter brings the benefit of intense price competition, the former have proven themselves as most effective in stimulating industrial and local development. According to the ECB, providing reassurance that differential costs for RE projects can be passed on to the end consumer and setting development targets can be effective supporting measures.¹⁹⁰ In contrast to the ECB's view, tendering has found disfavour in many countries throughout the world because it incentivises bidders into making low-cost offers that are unrealistic or cut corners, leaving questions concerning long-term effectiveness and safety.¹⁹¹ These disadvantages can surely be balanced, to a certain extent, by an excellent performance by government authorities.

184 Bjork *et al.* (2011: 41).

185 Bjork *et al.* (2011: 42).

186 Ndhlukula (2010: 14).

187 Bjork *et al.* (2011: 42).

188 Duddy (2012b).

189 Roedern (2012b:23).

190 Highlights of some key issues addressed. *Etango Magazine*. 2011 Vol. 4, at 17.

191 Bjork *et al.* (2011:42).

Because of numerous problems involved with tendering, many countries have used tendering only to jump start RE development, though its success has been questioned.¹⁹² The ECB argued that given the complexity and lengthy process of implementing tendering procedures in order to realise the first reference projects in Namibia, a single project Power Purchase Agreement (PPA), with an overall limited risk exposure, could be the fastest tool.¹⁹³

5.3 Power Purchase Agreements

Guaranteed long-term PPAs at fixed prices also assist in financing new technologies. PPAs are usually attached to other incentive designs, normally feed-in tariffs, but are also possible outside other procurement schemes. In such a case, PPAs are agreements between parties, rather than rates set by regulators, though the regulatory entity may approve such contracts and issue standard model agreements for consideration to the parties.¹⁹⁴ In Namibia, after a licence is issued to an RE producer, a PPA has to be negotiated with NamPower, which acts as the single buyer and Namibian grid operator. PPAs carry the further problem for the power producer in as much as market conditions might change once feed-in legislation is implemented while the RE producer is further bound to the conditions of the long term PPA.¹⁹⁵ In its latest annual report, the ECB stated that there is, despite these uncertainties, an overwhelming private interest and the ECB has issued several licences for generation to intending independent power producers (IPP).¹⁹⁶ NamPower has been negotiating PPAs with several IPPs including three prospective wind energy developers, one near Lüderitz and two in the Walvis Bay area.¹⁹⁷ For wind energy producers in particular, there are, in practice, some difficulties in successfully negotiating PPAs with NamPower. This is because they are confronted with the argument whereby they have to be responsible for an unpredictable capacity factor and an unstable grid in case wind energy contributes more than 10% of the local generation capacity.¹⁹⁸

The ECB particularly recommends long term PPAs of twenty years with priority grid access as long as more sophisticated procurement schemes on a legislative level are not in place.¹⁹⁹ When using PPAs, other procurement mechanisms should be offered in stages, so that while PPAs are useful to provide security, the purchase and sale process should be staggered to allow for market changes and so as not to bind the market in one or a few large deals.²⁰⁰ It always has to be kept in mind that as RE technologies mature, they will become more efficient and less costly.

192 Ibid.

193 Highlights of some key issues addressed. *Etango Magazine*. 2011 Vol. 4, at 17.

194 Bjork *et al.* (2011:42).

195 Roedern (2012b:2).

196 Duddy (2012b).

197 GRN (2012c:48).

198 See Roedern (2012b:1).

199 Highlights of some key issues addressed. *Etango Magazine*. 2011 Vol. 4, at 17.

200 Bjork *et al.* (2011: 43).

Although the ECB officially recommends long-term PPAs to jump start RE development, ECB's CEO Simasiku called the necessity of PPAs nevertheless a stumbling block for enhancing the RE industry. He is of the opinion that if PPAs are no longer required, there will be a rush by private investors onto the RE market regardless of whether or not there is another governmental support scheme in place.²⁰¹

5.4 Quota systems and Green Certificates

A quota system is one where the government sets the percentage or amount of energy, usually annually, that comes from renewable sources and then allows the market place to determine the cost.²⁰² The idea is that a certain amount of energy from RE is mandated, but how this is done and at what cost is left to the market to decide. The underlying theory is that competition will drive down the costs of supplying renewable electricity and thus minimise the costs to the consumer.²⁰³ The Namibian REEEP study investigated a form of quota system that is matched by an electricity certificate system.²⁰⁴ Such a system involves the issuance of a certificate for each MWh of electricity produced to a RE producer. In turn, certificates provide a vehicle for measuring whether the quota has been met, and for trading to meet the quota or to trade when RE rises above quota requirements.²⁰⁵

As the REEEP study pointed out, a quota system has the advantage that it is not only efficient but also very successful in terms of energy security aspects which is of great importance in the Namibian context.²⁰⁶ Apart from that, the quota system usually involves no or only limited governmental subsidisation.²⁰⁷

However, the quota-certificate system usually supports the development of least expensive RE resources because the highest demand is normally for the cheapest resource. This means, in turn, that cheaper technologies are incentivised over others that could be better for long-term development.²⁰⁸ International comparative studies came to the conclusion that quota systems normally fit the more developed economies better than transitional or developing economies where energy markets are less mature.²⁰⁹ According to this result, the REEEP study highlighted the high level of risk for green suppliers in Namibia.²¹⁰

Therefore, the REEEP study did not recommend quota systems for any kind of RE in Namibia.

201 Simasiku (2011: 5).
202 Bjork *et al.* (2011: 40).
203 Ibid.
204 Ndhlukula (2010: 14).
205 Bjork *et al.* (2011: 40).
206 Ndhlukula (2010: 15).
207 Bjork *et al.* (2011: 41).
208 Ibid.
209 Bjork *et al.* (2011: 40).
210 Ndhlukula (2010: 14).

5.5 Net Metering

Net Metering is a consumer based RE incentive for those consumers connected to the grid who own RE facilities. In its typical form, the mechanism allows for the flow of electricity both to and from the customer. With net metering, during times when a customer's generation exceeds the customer's use, excess electricity flows back into the grid, offsetting electricity consumed at a different time. In such a way, when the consumer produces more electricity than he can use, the utility company has to purchase the excess energy that is then fed into the grid. This means that a unit of electricity can go forward or backward at the same rate. By using net metering, a consumer can utilise RE to offset the total energy provided by the utility company as long as he produces enough to satisfy personal requirements. Normally, those electricity units produced by the customer and fed into the grid will only be credited. No equivalent price shall be disbursed to the consumer. Additionally, no premium for taking part in the scheme is paid – although the REEEP study recommends the payment of an additional premium. Therefore, net metering will be most economically beneficial when the RE facility is adjusted to produce slightly beneath personal requirements. The payments for deficits then require payments to the utility company through the normal electricity bill. Apart from that, the utility company receives a monthly connection fee from the owner of the RE facility. Net metering does not require long-term contracts nor does it produce additional costs for customers, thus, it gives consumers the opportunity to remain flexible. On the other hand, this form of RE incentive places the burden for pioneering RE primarily upon consumers. It does not become economically viable before grid parity is reached which is currently the case for photovoltaics only. Additionally, net metering does not help to secure a stable energy supply. Accordingly, the REEEP study sees the advantages of net metering primarily in the category 'dynamic efficiency'.

However, the ECB recently asserted that of late, many homes, farms and business owners are considering the installation of alternative forms of electricity generating facilities for connection to their utility's network.²¹¹ Therefore, it became necessary to work on clear net metering rules in Namibia. Being aware of this, the ECB sought to engage a consultant in May 2012 to develop net metering rules for Namibia. The purpose of these net metering rules is intended to allow electricity users with roof located PV and wind energy systems, to primarily offset part of their conventional electricity requirements. Furthermore, the regulations are intended to encourage private investment in RE resources, stimulate economic growth in the country, contribute to energy security and enhance diversification of Namibia's energy resources in line with the objectives of the White Paper.²¹²

5.6 REEEP/Polytechnic study

The development and implementation of support mechanisms for RE technologies in Namibia remain, beyond doubt, work in progress. However, first steps towards a clear direction have been taken by REEEP and the Polytechnic of Namibia. In 2010 they presented the results

211 ECB (2012: 1).

212 ECB (2012: 2).

of a study that was aimed at looking at various procurement mechanisms such as tendering, quotas, net metering and feed-in tariff structures. The study was supported by the Renewable Energy and Energy Efficiency Institute Partnership (REEEP), a non-profit body established alongside the 2002 World Summit on Sustainable Development in Johannesburg.²¹³ It is run by the Renewable Energy and Energy Efficiency Institute (REEEI) at the Polytechnic.

Initially, the study concluded that due to the fact that Namibia has a small consumer market only, any significant RE installation will have an impact on electricity tariffs already.²¹⁴

Furthermore, the study has issued detailed recommendations, including that tendering would be best for solar (CSP) and large wind based generation systems, i.e. for those greater than 500 kW in its installed capacity, while feed-in tariffs would suit small wind, small hydro (less than 5 MW) and biomass including landfill gas (less than 500 kW) at best. For photovoltaics, net metering would be the most favourable solution according to the study. All other support measures such as soft loans, grants and tax incentives should support all the above-mentioned instruments.²¹⁵ Additionally, promotion of rural and off-grid electrification must be continued.²¹⁶

The study also gives best practice recommendations that can be interpreted as the next steps that have to be taken in order to facilitate successful development. These include the recommendation to the Ministry to proclaim regulations, via the Minister, to govern procurements for RE that are administered by ECB. Furthermore, RE technologies must have access to the grid, with interconnection of RE technologies provided for in the transmission and distribution codes, together with the net metering codes. The framework must also provide a platform for RE producers to sell generated electricity while obligating NamPower, REDs and local authorities to buy on a priority basis all electricity at a pre-determined fixed tariff for a given period of time.²¹⁷ The study then prepares the government and other stakeholders for the challenges they have to face on the way to sustainability in the energy sector. It points out that it might take three to five years for some technologies to attain the position where cost reflectivity and grid parity is reached and it encourages the government to devise financing mechanisms for the procurement of RE technologies in a sustainable manner in the long term, rather than have an ongoing reliance on a cost pass-through tariff.²¹⁸ Finally, it proposes that the National Energy Fund is transformed to cover RE technologies.²¹⁹

The study is currently under review by stakeholders. The ECB as the regulator is embarking on reviewing the findings and making technical recommendations to the Ministry of Mines and Energy as the policymaker in charge.

213 Bjork *et al.* (2011: 28).

214 Ndhlukula (2010: 16).

215 Ndhlukula (2010: 17).

216 Ibid.

217 Ndhlukula (2010: 18).

218 Ndhlukula (2010: 20).

219 Ibid.

Some recommendations have already been proven correct as for instance, grid parity for photovoltaics has been reached in the meantime. Investors in this sector now opt mainly for the net-metering option as most suitable while they were generally in favour of feed-in tariffs in the past. This confirms the recommendations of the study.

6 RE projects in Namibia

Presently, in Namibia, RE technologies are being widely used mostly for off-grid energisation and domestic water heating. Successful bigger RE projects, however, are found scattered in isolation all over the country. The most recent project and probably biggest is the wind park close to Lüderitz that is expected to be completed by mid 2013.²²⁰ Other examples are the first commercial solar power plant in Namibia, which is due to commence in the future, and will be divided into 10 MW each at Gerus, Osana and Kokerbook,²²¹ the equipment of the Shamalindi Primary School near Grootfontein with a solar plant and the complementing of UNAM's Northern Campus in Ongwediva with a grid-connected Solar Photovoltaic system, which was at the time the largest of its kind in Namibia. Furthermore, an initiative by the Austrian government, which ran until May 2012, aptly named Southern African Solar Thermal Training and Demonstration Initiative (SolTrain), assisted Southern African countries, including Namibia, to switch from a fossil fuel based energy supply to sustainable energy supply systems based on RE by setting up RE demonstration units at social institutions such as hospitals, orphanages and old peoples homes.²²² Last but not least, almost all farms use wind pump installations for water that are in turn forming small PV-wind hybrid islands all over the country.²²³

Generally, there is strong interest from donor states and NGOs in promoting RE projects in Namibia also. Many already have projects in place, among these are: UNDP, USAID, GIZ, KFW and KAS. They mainly focus on supporting the government in the essential restructuring of Namibia's legal framework, together with, assisting in studies to investigate suitable procurement mechanisms for Namibia. Engagement in all forms of education of stakeholders and the public with the aim of raising awareness is also supported. Thus, for example, it is part of the KAS project to establish a platform of cooperation where identified stakeholders come together and exchange information. This is accompanied by seminars held in cooperation with the Association of Regional Councils (ARC) and the Association of Local Authorities in Namibia (ALAN). Donor institutions often work together and coordinate their efforts.

Slowly Namibia is also undertaking the first careful steps into international carbon trading. Two companies are already making use of the carbon trading opportunity – the Ohorongo

220 Bau am Windpark soll bald beginnen, *Allgemeine Zeitung*, 26. Juni 2012.

221 See for details GRN (2012c:48).

222 Austrian funding initiative to switch to RE supply system. *Etango Magazine*. 2010 Vol. 2, at 4. SolTrain also encourages training among installers and suppliers of solar equipment. These efforts are aimed at developing and implementing a sense of technical standard among previously disadvantaged installers and suppliers of solar thermal systems, of whom most have received initial training within the NAMREP II project. See SolTrain to help develop skills of renewable energy technicians. *Etango Magazine*. 2009 Vol. 3, at 4.

223 Shamalindi Primary School gets solar plant. *Etango Magazine*. 2010 Vol. 4, at 11.

Cement Project in Otavi and the Ohlthaver & List Super Dairy farm in Mariental.²²⁴ Now even the City of Windhoek intends to register a biogas generation plant for carbon credits as contained in the Clean Development Mechanism (CDM) under the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC). The plan is to generate electricity from methane gas expelled from the Gammans sewage reticulation plant and to register the biogas plant for carbon credit to offset the high costs associated with refurbishment.²²⁵ The project has already received approval and has been listed for possible Clean Development Mechanism registration.²²⁶

6.1 Tsumkwe Energy Project

Finally, two smaller but nonetheless promising RE projects are described in more detail that show the exemplary potential RE can have, especially in the Namibian context as the only purpose these projects serve is not to purely produce energy in an environmentally-friendly way but also to combat urgent problems such as poverty in rural areas and bush encroachment at the same time. One of these projects was even presented at “Rio+20” as a successful example for sustainability.²²⁷

The Tsumkwe Energy Project²²⁸ is a small-scale pilot project aimed at improving access to modern energy services for poor, marginalised, indigenous people in remote rural settlements. The N\$26 million project was implemented by the Desert Research Foundation of Namibia (DRFN). It is operated by NamPower and mainly co-funded by the European Union. The Tsumkwe Energy Project is not only Namibia’s largest RE off-grid hybrid electricity supply system, it is also believed to be one of Africa’s largest off-grid solar systems. It came on line in August 2011. Over seventy households, twenty different institutions and over fifteen businesses are direct beneficiaries. These include a hospital and a police station. More than 700 residents and the business community in the settlement now have access to modern and affordable energy services. The solar hybrid system is designed to be a fulltime off-grid power station with an overall electrical output of 410 kW, whereas the solar portion of the system produces over 200 kW. The electricity is transferred via a transformer station to two 11 kV mini-grids.

224 Manufacturers urged to care for environment. *Etango Magazine*. 2010 Vol. 2, at 22.

225 However, it is highly disputed whether projects like this should be able to qualify for CDM. Article 12 5) (c) requires reductions in emissions that are *additional* to any that would occur in the absence of the certified project activity. Apart from that, article 12 5) (b) requires that there must be real, measurable, and long-term benefits related to the mitigation of climate change. If these objectives are reached through simple gas flaring is doubtful.

226 Windhoek looks to bio-gas for electricity. *Etango Magazine*. 2011 Vol. 4, at 5.

227 Entbuschung international vorgestellt – “Energy for Future”-Projekt bei “Rio+20” präsentiert, *Allgemeine Zeitung*, 28. Juni 2012.

228 Information taken from Tsumkwe Energy. *Etango Magazine*. 2010 Vol. 1, at 11; Project demonstrates NamPower’s corporate social responsibility. *Etango Magazine*. 2012 Vol. 1, at 11; Solar power brings relief for Tsumkwe residents. *Etango Magazine*. 2012 Vol. 1, at 16, and N\$ 26 m Tsumkwe hybrid energy system comes on line. *Etango Magazine*. 2011 Vol. 3, at 7.

Tsumkwe is a remote San settlement close to the Botswana border that was identified as the largest off-grid area. By definition, this means that no grid connection is expected to be there within the next twenty years. With rising fuel costs, the community previously had limited electricity supply, down to three hours per day, while now it receives a round-the-clock electricity supply. According to cost estimates, connecting Tsumkwe to the grid, which is over two hundred kilometres away, would have cost more than twice the amount the hybrid solar system had cost to implement. The realisation of the energy project did not intend to implement technical improvements only, rather it is also a chance to investigate what additional economic opportunities can be pursued under improved energy supply conditions. Increased access to electricity is meant to improve SME development and diversification of income generating activities. Improved energy supply conditions will, in return, ensure that Tsumkwe will be able to reach a level of economic prosperity that will support the financial sustainability of the hybrid system. As a result of the new power plant, there is no longer the need for Tsumkwe residents to contemplate migrating to urban areas for better living conditions. The Tsumkwe energy project is also intended to protect the direct environment around the settlement as the overdependence on firewood will be reduced.

6.2 Biomass power plants from encroacher bush

Ohorongo Cement, which went into production in early 2011, uses woodchips made from invader bush and sourced from Energy for Future, for the manufacture of cement at its Otavi plant. Energy for Future harvests the invader bush with a harvester on nearby farms that immediately converts the cut wood into woodchips ready for use at the cement plant.²²⁹

This is an example of a win-win situation for both livestock farmers and Ohorongo Cement. The livestock farmers get their grazing areas that prior to these clearing operations could only be used to a limited extent due to bush encroachment while Ohorongo Cement is able to reduce carbon dioxide emissions released into the atmosphere by substituting most of the coal with woodchips for energy.²³⁰ Studies conducted in the planning phase of the plant came to the conclusion that if sufficient encroacher bush can be harvested, it can be used to fire the oven to such an extent that only 20% of the fuel required will consist of coal and that the remainder will consist of alternative fuels, mainly, the encroacher bush.²³¹ In addition, the de-bushing might increase the biodiversity and the groundwater level.

While the scale of the project is a first of its kind in Namibia,²³² there is a similar biomass project utilising invader bush to generate electricity. The project, known as C-Bend – Combating Bush Encroachment for Namibia’s Development – is a bush-to-electricity power plant of 250 kW installed on a commercial farm that feeds electricity directly into the national grid.²³³ The project is run by the Desert Research Foundation of Namibia (DRFN). Interest in this

229 For more details see Koep/van den Berg (2011: 112 ff).

230 Invader bush powers cement production at Ohorongo. *Etango Magazine*. 2011 Vol. 3, at 14.

231 Koep/van den Berg (2011: 112).

232 Koep/van den Berg (2011: 113).

233 See for more details GRN (2012c:48).

technology shows the exemplary opportunities that lie in bush clearing in order to generate electricity from invader bush.

Hence, NamPower put out an invitation in 2011 for pre-qualification for consultancy services for a pre-feasibility study investigating the potential for biomass power plants fuelled by encroacher bush in Namibia to which the response has been overwhelming. The pre-feasibility study will analyse the potential of biomass power plants, identify possible sites for these plants, as well as suggesting suitable technological solutions, and providing all stakeholders from the energy sector and potential investors with a clear guideline for developing power projects fuelled by biomass from encroacher bush.²³⁴

7 Concluding remarks

As Namibia battles to cope with rising demand for energy, the exploration of RE sources is being encouraged by the Government in partnership with the private sector. Therefore, the industry must be opened to the private sector for the purpose of developing a competitive market. This is only possible with a sound legal framework in place, where the postulation for facilitating RE technologies made in the White Paper is implemented. Thus, the outdated framework consisting of numerous programmes and plans that often interfere with each other have to be substituted by an Act of Parliament that regulates the sector comprehensively. The most suitable methods of procurement for Namibia have to be selected and implemented in the new Act to give RE producers long-term security. To achieve this ambitious aim, initial steps have to be taken to create some key policy decisions regarding what Namibia's energy mix will look like in the future and to which resource, be it nuclear or renewables, preference is given as not all generation options can be developed further with equal intensity.

234 NamPower invader bush study on course. *Etango Magazine*. 2011 Vol. 4, at 23.

III. THE ROLE OF RENEWABLE ENERGIES IN INDUSTRIALISED AND DEVELOPING COUNTRIES

Cord Luedemann

1 Introduction

The deployment of renewable energies is an important pillar in combating the negative impacts of climate change and requires essential changes in energy policy worldwide. The main rationale for changes in energy policy under the climate change regime is the reduction of greenhouse gas emissions. Energy generation is the single most prominent contributor to greenhouse gas emissions because of the extensive use of fossil fuels in energy generation.¹ Consequently, the relevance of substituting fossil fuels with an increased use of renewable energies has been recognised as a key element in combatting the impacts of climate change. Climate change mitigation involves further measures such as emissions trading, increasing energy efficiency, and carbon capture and storage (CCS).

In the last two decades, many countries have taken action with regard to changes in their energy policy. Under the climate change regime, the industrialised world is obliged to reduce its greenhouse gas emissions and thus had to take measures to mitigate climate change. An important part of these measures is the deployment of renewable energies by implementing regulatory support policies such as direct monetary support, fiscal incentives or public financing. The variety of support policies indicates that, nowadays, countries have recognised the importance of renewable energies not only for environmental reasons but also for social and economic upliftment. In addition to climate change mitigation, renewable energies have been proven to contribute to energy access, secure energy supply, diversification of energy sources and the reduction of negative environmental and health impacts.²

In this light, renewable energy policy is not merely a mitigation measure for industrialised countries but also becomes important for developing countries. Many people in the developing world still lack access to appropriate energy supply. UN Secretary-General Ban Ki-moon acknowledged in a recent report on renewable energy promotion for the General Assembly that adequate and affordable energy services are an important factor for achieving the Millennium Development Goals as energy is regarded essential for alleviating poverty and improving human welfare and living standards.³ In this context, renewable energy deployment can play an important role in meeting the increase in energy demand that comes along with economic development in the developing regions of the world. As the deployment of renewable energy technologies offers the opportunity for sustainable social and economic development, respective policy support measures become increasingly important for developing countries.

1 <http://www.unep.org/climatechange/mitigation/Introduction/tabid/29397/Default.aspx>; last accessed 8 May 2012.

2 IPCC (2011: 6).

3 http://www.un.org/esa/dsd/resources/res_pdfs/ga66/SG%20report_Promotion_new_renewable_energy.pdf; last accessed 8 May 2012.

Thus, by early 2011, more than half of the at least 98 countries that had formulated targets for various penetration levels of renewable energies in their energy mix were developing countries.⁴ In addition to increasing policy support, there is also an increasing investor interest in the deployment of renewable energies in the developing world. This interest is not limited to international development and aid agencies, but also displayed by large and small local financiers who often are supported by donor governments and market facilitators to reduce their risks.⁵

2 Renewable Energies in the International Climate Change Regime

Although the deployment of renewable energies has not been the focus of the relevant documents concerning climate change, the appreciation that renewable energies are important as mitigation measures is steadily increasing. In May 2011, the Intergovernmental Panel on Climate Change (IPCC) published its Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN). This report emphasises the role of renewable energies in mitigating the impacts of climate change.

The main documents of the international climate change regime are the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. The central target mentioned in the UNFCCC is the “stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”⁶ While the UNFCCC stipulates the basic principles that should guide the parties in their action to stabilise greenhouse gas concentrations in the atmosphere⁷, the subsequent Kyoto Protocol obliges developed countries included in Annex 1 to reduce their greenhouse gas emissions to a certain degree⁸. The Kyoto Protocol further states that the Annex 1 parties, in achieving their quantified emission limitation and reduction commitments under Article 3, shall implement or further elaborate specific policies and measures.⁹ These policies include, *inter alia*, the enhancement of energy efficiency, the protection and enhancement of sinks and reservoirs of greenhouse gases as well as the promotion, development and increased use of new and renewable forms of energy and of carbon dioxide sequestration technologies.¹⁰ Unlike the UNFCCC, the Kyoto Protocol expressly refers to renewable energy policies. Thus, the importance of renewable energies for combatting climate change was already indicated at an early stage of the international climate change discussion.

However, the relevant documents of the international climate change regime particularly focus on specific emissions limitations and reductions and leave it to the parties and to in-

4 REN21 (2011:49).

5 IPCC (2007d: 273).

6 Art. 2 UNFCCC.

7 Art. 3 UNFCCC.

8 Art. 3 (1) Kyoto Protocol.

9 Art. 2 (1) Kyoto Protocol.

10 Art. 2 (1) (a)-(c) Kyoto Protocol.

ternational institutions to develop policies and regulatory frameworks for the deployment of renewable energies. On the national level, the number of countries with policy targets and/or support policies related to renewable energy, consequently, more than doubled from an estimated 55 in early 2005 to 119 by early 2011.¹¹ More than half of at least 95 countries that have some type of support policy for renewable power generation, are developing countries including so-called emerging economies.¹² The necessity of policy support for renewable energy deployment is attested by findings of the IPCC. In its SRREN, the IPCC indicates that close to 80% of the world's energy supply could be met by renewable energies if supported by the right enabling public policies.¹³ In contrast to this development, in a business-as-usual-scenario of continued growing energy demand, renewable energy is not expected to substantially increase its market share over the next decades without enabling policy intervention.¹⁴ Yet a business-as-usual-scenario is most undesirable given the scientific findings concerning climate change and the development of the renewable energy sector in the last two decades. Thus, the majority of the scenarios in the SRREN are based on renewable energy becoming the dominant low-carbon energy supply option by 2050 and that the growth in renewable energy will be widespread around the world.¹⁵ At the same time the SRREN emphasises the continuous importance of supportive policies. According to the findings, the escalated growth of renewable energy technologies in the recent years has been driven by an increasing number of policies creating a supportive environment for renewable energies by helping to overcome central policy barriers such as those related to existing industries, market failures or lack of technical knowledge and capacity.¹⁶ Global economic development makes emissions reductions even more urgent and drastically increases the need to turn towards renewable energy sources. Systematic development and flexible adjustment of policy frameworks remain major challenges on the national and international level.

3 The International Renewable Energy Agency (IRENA)

Given the important role renewable energies play in the international context of the climate change debate, several international institutions have put renewable energy deployment on their agenda.

In January 2009, the International Renewable Energy Agency (IRENA) was founded. IRENA is the first intergovernmental institution dealing solely with the promotion of renewable energies. Its mandate is to promote “the widespread and increased adoption and the sustainable use of all forms of renewable energy”.¹⁷ The headquarters of IRENA are located in Abu Dhabi, United Arab Emirates. To date IRENA has more than 90 Members. At least another

11 REN21 (2011:49).

12 REN21 (2011:51).

13 <http://srren.ipcc-wg3.de/press/content/potential-of-renewable-energy-outlined-report-by-the-intergovernmental-panel-on-climate-change>; last accessed 8 May 2012.

14 IPCC (2007d: 272).

15 IPCC (2011: 20).

16 IPCC (2011: 22/23).

17 Article II IRENA Statute, <http://www.irena.org/menu/index.aspx?mnu=cat&PriMenuID=13&CatID=126>; last accessed 8 May 2012.

60 states are signatories to the Statute and current applicants for membership.

The main founding document is the IRENA Statute which comprehensively rules the establishment and the active business of the agency. In twenty articles the Statute provides for the establishment of the agency and its objectives and activities. Further provisions deal, *inter alia*, with the membership status, the organs and the budget of the agency. After the signature of 75 states at the Founding Conference in Bonn, Germany, in 2009, a Preparatory Commission acted as interim body to foster the development of institutional structures for the new international institution. An important step in the process of establishing the agency was made with the entry into force of the Agency's statute on 8 July 2010, the thirtieth day after the date of deposit of the twenty-fifth instrument of ratification. The Preparatory Commission held five sessions and ceased to exist on 4 April 2011 when the first Assembly of the Agency was held. With this inaugural meeting IRENA had finally come to life.

Guiding objective for IRENA is the promotion of widespread and increased adoption and sustainable use of all forms of renewable energy.¹⁸ Correspondingly, the Statute envisages IRENA as a centre of excellence for renewable energy technology. In its function as a facilitator and catalyst, the Agency shall provide experience for practical applications and policies, offer support on all matters relating to renewable energy and help countries to benefit from the efficient development and transfer of knowledge and technology.¹⁹ To enable IRENA to perform this function, the Statute provides for a catalogue of activities which shall be performed on the basis of an annual work programme.²⁰ In the work programme 2011, IRENA arranged its work around three sub-programmes: innovation and technology, knowledge management and technology cooperation, and policy advice and capacity building.²¹ These work strands have been implemented in the organisational structure. Three directorates within the Secretariat are in charge of the implementation of the sub-programmes. Accordingly, the focus on three work strands also reflects in the current work programme 2012. Despite continuity in the programmatic structure, the new work programme refines and expands IRENA's activities, based on the past experiences.²² The programme highlights policy innovation and facilitation as IRENA's principal role and refers to policy analysis and advice, capacity building, knowledge management, stakeholder convening, and technology cooperation as the Agency's major tools.

In addition to the work programmes, the Statute provides for a catalogue of activities, which facilitates the work in the programmatic structure. IRENA, thus, shall analyse, monitor and, systematise current renewable energy practices, policy instruments and available technologies.²³ The Agency shall also provide relevant policy advice and assistance to its Members, im-

18 Article II IRENA Statute.

19 Article IV A. IRENA Statute.

20 Article V. A. IRENA Statute.

21 http://www.irena.org/DocumentDownloads/WP2011/A_1_DC_8.pdf; last accessed 8 May 2012.

22 http://www.irena.org/DocumentDownloads/WP2011/A_1_DC_8.pdf; last accessed 8 May 2012.

23 Article IV A. 1. a. IRENA Statute.

prove pertinent knowledge and technology transfer and stimulate and encourage research, including on socio-economic issues.²⁴ Further activities involve, inter alia, discussions and interaction with other governmental and nongovernmental organisations, capacity building including training and education to the Members as well as the support of research networks, joint research and technological innovation.²⁵ In accomplishing the activities, the Statute requires the Agency to take in account national and domestic priorities and benefits derived from a combined approach of renewable energy and energy efficiency measures as well as the contribution of renewable energy to environmental preservation, to climate protection, to economic growth and social cohesion, to energy access and security, to regional development and to inter-generational responsibility.²⁶

With its designated portfolio, IRENA is on its way to become an important player in the worldwide climate change debate. IRENA has the important task to bundle renewable energy policies, technology innovations and other developments in the renewable energy sector. In doing so, IRENA is in the position to foster exchange of experiences between states. In this context special focus should be put on the exchange of knowledge and experiences between developed countries and the developing world. Substantive progress in this field will determine IRENA's success and the Agency's position in the international climate change regime.

4 Other international institutions/networks in the renewable energy arena

On the international level several other institutions and networks emphasise renewable energies on their agenda, amongst them the United Nations Environment Programme (UNEP), the International Energy Agency (IEA) and the Renewable Energy Policy Network for the 21st Century (REN21).

In addition to the comprehensive portfolio of IRENA, the focus of UNEP is put on the deployment of renewable energy technologies in developing countries. UNEP assists developing countries to overcome barriers to renewable energy deployment by giving policy advice to bolster renewable energy sources and to create an enabling environment, especially for small-scale renewable energy businesses.²⁷ The support for developing countries particularly involves two aspects. First, UNEP undertakes renewable energy resource assessments under the project name SWERA. Aim of the SWERA initiative is to increase the availability and accessibility of solar and wind resource information.²⁸ The project, therefore, collects solar and wind resource data from a number of organisations and assesses the material using several application tools. The data is then translated into high-quality information which is able to support investment decisions.²⁹ Secondly, UNEP supports the financing side of renewable

24 Article IV A. 1. c., d. and g. IRENA Statute.

25 Article IV A. 1. b., e. and g. IRENA Statute.

26 Article II IRENA Statute.

27 <http://www.unep.fr/energy/renewable/>; last accessed 8 May 2012.

28 <http://en.openei.org/apps/SWERA/>; last accessed 8 May 2012.

29 <http://www.unep.fr/energy/activities/swera/>; last accessed 8 May 2012.

energy deployment, including both the international finance industry as well as local banks. To set up end-user financing mechanisms for small-scale renewable energy projects the programme works with local banks while lowering risks for larger projects rather involves the international finance industry.³⁰ Further activities of UNEP in the field of renewable energies include the Solar Water Heating Market Transformation and Strengthening Initiative (GSWH) which aims at accelerating global commercialisation and sustainable market transformation of solar water heating.³¹

Originally founded to tackle the oil crisis by coordinating oil supply and demand, the IEA nowadays has a comprehensive energy focussed portfolio, covering, inter alia, matters of energy security, diversity of energy sources and energy efficiency as well as environmental issues. In the field of renewable energies, activities of the IEA focus on policy and market analysis, system integration issues, analysis of renewable energy technologies and research as well as gathering and elaboration of statistical data.³² These activities show an overlap with the portfolio of IRENA. The two institutions therefore have collaborated since IRENA's inception and, in early 2012, signed a partnership agreement to further deepen the co-operation.³³ The agreement specifically focuses on the sharing of renewable energy statistics data and methods between the two organisations, the development of a joint Global Renewable Energy Policies and Measures Database, cooperation in technology and innovation as well as the organisation of joint conferences and workshops and reciprocal participation in technical committee meetings.³⁴ The partnership of the two institutions seems promising. While IEA has a longer experience in analysing the energy sector, IRENA comes with a broader mandate, covering more than 150 states, and a specified focus on renewable energies. Together the two institutions are able to substantially foster the deployment of renewable energy technologies.

Another important contributor in renewable energy affairs is REN21. According to its mission, overarching goal of the policy network is the promotion of policies that will increase the wise use of renewable energy technologies worldwide.³⁵ Therefore REN21 aims at furthering dialogue between key stakeholders to encourage renewable energy policies on the national and international level and to target political processes. Other activities include encouraging political support for the strengthening of regulatory environments and market structures for renewable energies, promoting knowledge generation and exchange and encouraging ongoing dialogues, joint work, and transparency among a diverse community of stakeholders.³⁶ Through its activities REN21 has a deep insight into the status quo of the renewable energies

30 <http://www.unep.fr/energy/renewable/>; last accessed 8 May 2012.

31 <http://www.unep.fr/energy/renewable/activities/>; 8 May 2012.

32 <http://www.iea.org/topics/renewables/>; last accessed 8 May 2012.

33 http://www.irena.org/News/Description.aspx?NType=A&PriMenuID=16&catid=17&mnu=cat&News_ID=173; last accessed 8 May 2012.

34 http://www.irena.org/News/Description.aspx?NType=A&PriMenuID=16&catid=17&mnu=cat&News_ID=173; last accessed 8 May 2012.

35 <http://www.ren21.net/AboutREN21/tabid/5017/Default.aspx>; last accessed 8 May 2012.

36 <http://www.ren21.net/AboutREN21/tabid/5017/Default.aspx>; last accessed 8 May 2012.

sector. This insight is shared annually in the Renewables Global Status Report which contains comprehensive information on renewable energy policies and market developments. With its platform approach as well as its annual report, REN21 has proven to be a significant advocator for the promotion of renewable energy deployment.

5 Funding renewable energy deployment in developing countries

The deployment of renewable energy technologies needs an enabling environment and sufficient financial support. The latter often is a key barrier for deployment of renewable energies in developing countries. Although renewable energies have an enormous potential to alleviate poverty by extending energy access to remote areas and to reduce greenhouse gas emissions, developing countries generally face both a lack of capital to finance deployment as well as a lack of trade and foreign direct investment (FDI) to accelerate diffusion with foreign capital.³⁷ However, for a successful renewable energy support policy in developing countries, it will be necessary to establish an attractive environment for foreign investors. Because of the lack of financial capacity renewable energy support policies in developing countries have to be adapted carefully, integrating financial funding in the realm of climate change.

5.1 Selected funds for renewable energy support in developing countries

Funding for renewable energy support can be based on both international mechanisms and funding instruments under the UNFCCC framework as well as bi- or multilateral arrangements. Financing mechanisms under the UNFCCC include, *inter alia*, the Global Environmental Facility (GEF), the Climate Investment Funds (CIF) as well as the new Green Climate Fund (GCF), established at COP 16 in Cancun, Mexico, and further evolved at COP 17 in Durban, South Africa.

The GEF was established as a programme in the World Bank and later restructured as a separate institution. Nowadays, the GEF is financial mechanism for several global environmental conventions, including the Convention on Biodiversity and the UNFCCC. The World Bank still serves as the Facility's Trustee and runs the daily business of the GEF. According to GEF information, funding for renewable energies under the GEF's climate change portfolio amounted to USD 1.14 billion between 1991 and mid-2009.³⁸ These investments have led to the installation of 3 GW of electricity generated by renewable energy facilities and another 2.8 GW in thermal renewable energy facilities.³⁹ Basis for investments is GEF's Strategic Program on Promoting Market Approaches for Renewable Energy.

37 http://www.iea.org/papers/2011/Renew_Policies.pdf ; last accessed 30 May 2012.

38 http://www.thegef.org/gef/sites/thegef.org/files/publication/gef_renewenergy_CRA_rev.pdf; last accessed 08 June 2012.

39 http://www.thegef.org/gef/sites/thegef.org/files/publication/gef_renewenergy_CRA_rev.pdf; last accessed 08 June 2012.

Contrary to the GEF, the CIF were established within the UNFCCC framework. CIF are a pair of funds, the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF), which are channelled through the following multilateral financial institutions: the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, and the World Bank Group.⁴⁰ In addition to other programmes and projects, both funds also engage in the deployment of renewable energies. While the SCF serves as an overarching fund to support targeted programmes such as the Programme for Scaling-Up Renewable Energy in Low Income Countries (SREP), the CTF promotes concrete national investment plans for demonstration, deployment and transfer of clean technologies including renewable energy technologies.⁴¹ The CIF amount to US\$6.5 billion, pledged by 14 contributors.⁴²

The new GCF was also established within the UNFCCC framework. Purpose of the Fund is to contribute to the achievement of the ultimate objective of the UNFCCC. The GCF will be an operating entity of the financial mechanism under Article 11 UNFCCC and will be governed and supervised by a Board with full responsibility for funding decisions.⁴³ An interim secretariat runs the daily business for the Board of the GCF and, as an interim trustee, the World Bank manages the financial assets of the Fund.

5.2 Stakeholders involved in financing renewable energy deployment in developing countries

International financial institutions play a substantial role in mobilising resources for the promotion of renewable energies.⁴⁴ According to own information, the World Bank has been the largest lender for energy efficiency and renewable energy projects in the developing world with investments amounting to more than US\$10 billion.⁴⁵ Strategies and programmes are manifold within the World Bank. Investments in renewable energies are connected to the Bank's Renewable Energy and Energy Efficiency Action Plan and the Clean Energy and Development Investment Framework. A new energy sector strategy is envisaged.⁴⁶ Investment in renewable energies is particularly financed via the International Finance Corporation (IFC). In the fiscal years 2008 to 2010 the IFC has provided US\$2 billion of direct investment in renewable energy facilities.⁴⁷ Together with other multilateral institutions, the World Bank is involved in further renewable energy investments provided for by the GEF and the CIF.

40 <http://www.climateinvestmentfunds.org/cif/>; last accessed 12 June 2012.

41 <http://www.climateinvestmentfunds.org/cif/designprocess>; last accessed 12 June 2012.

42 <http://www.climateinvestmentfunds.org/cif/funding-basics>; last accessed 12 June 2012.

43 Decision 3/CP.17 Annex II. A. + B. under <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf#page=58>; last accessed 08 June 2012.

44 http://www.un.org/esa/dsd/resources/res_pdfs/ga66/SG%20report_Promotion_new_renewable_energy.pdf; last accessed 8 May 2012.

45 <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTENERGY2/0,,contentMDK:22858145~pagePK:210058~piPK:210062~theSitePK:4114200,00.html#2>; last accessed 12 June 2012.

46 <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTENERGY2/0,,contentMDK:22858145~pagePK:210058~piPK:210062~theSitePK:4114200,00.html#2>; last accessed 12 June 2012.

47 <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTENERGY2/0,,contentMDK:22858145~pagePK:210058~piPK:210062~theSitePK:4114200,00.html#2>; last accessed 12 June 2012.

In fulfilment of and in addition to the global climate change-related funds, regional development banks play a crucial role in promoting renewable energy technologies.⁴⁸ All regional development banks acknowledge the significance of renewable energies in combatting climate change and arranged for substantially increasing their lending capacities.⁴⁹ Thus the regional development banks not merely channel international climate change funds but also provide own resources for scaling up renewable energies. Acknowledging the immediate need to significantly enhance energy access on the African continent, the African Development Bank's forthcoming energy strategy concentrates on investments in clean energy technologies and multi-national grid interconnections.⁵⁰ The Bank supports renewable energy projects utilising the key resources hydro, geothermal, wind and solar. Most of the investments are supported by means of the relevant international climate change funds (CTF, SCF, GEF). Additionally, the African Development Bank follows its own initiatives to stimulate investments in the renewable energy sector. With regard to the Scaling Up Renewable Energy Program in Low Income Countries (SREP) under the SCF, the African Development Bank seeks to co-finance approved SREP projects from its own resources by providing policy support and technical assistance or by underwriting additional capital costs and risks coming with investments in renewable energy facilities.⁵¹ Pilot projects within the SREP context are being carried out in Ethiopia, Kenya and Mali.

Other actors involved in funding renewable energy deployment in Africa include stakeholder partnerships like the Renewable Energy and Energy Efficiency Partnership (REEEP) or national donor agencies such as the German KfW Entwicklungsbank (KfW). REEEP is a network of 400 partners including 45 governments as well as private companies and international organisations. Established alongside the 2002 World Summit on Sustainable Development, REEEP sees itself as a market catalyst for renewable energy and energy efficiency in developing countries and emerging markets.⁵² In addition to information sharing, outreach and collaborating with other institutions, REEEP also engages in funding clean energy projects. Since 2004, REEEP has supported 154 projects in 57 countries with funding from the governments of Australia, Canada, Ireland, Italy, New Zealand, Norway, the United States and the United Kingdom.⁵³ The majority of the projects are located in Africa. REEEP runs Regional Secretariats around the world, including one for Southern Africa in Johannesburg, South Africa. Additionally, REEEP has a focal point in West Africa, based with the Economic Community of Western African states (ECOWAS).⁵⁴

48 http://www.un.org/esa/dsd/resources/res_pdfs/ga66/SG%20report_Promotion_new_renewable_energy.pdf; last accessed 8 May 2012.

49 A brief overview is presented under http://www.un.org/esa/dsd/resources/res_pdfs/ga66/SG%20report_Promotion_new_renewable_energy.pdf; last accessed 8 May 2012.

50 <http://www.afdb.org/en/topics-and-sectors/sectors/energy-power/>; last accessed 12 June 2012.

51 <http://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/climate-investment-funds-cif/strategic-climate-fund/scaling-up-renewable-energy-program-in-low-income-countries-srep/>; last accessed 12 June 2012.

52 <http://www.reeep.org/48/about-reeep.htm>; last accessed 13 June 2012.

53 Giving an overview of the projects: <http://www.reeep.org/655/projects.htm>; last accessed 13 June 2012.

54 <http://www.reeep.org/44/where-we-work.htm>; last accessed 13 June 2012.

The German organisation KfW offers support in developing a sustainable energy supply based on renewable energies such as wind and hydropower, solar, biogas and geothermal.⁵⁵ Its financing instruments seek to enable local financial institutions to extend loans to private industry, small and medium-sized enterprises or private households.⁵⁶ In addition to credit lines, KfW also provides advisory services to renewable energy projects. REN21 lists KfW among the three leading development banks in terms of financing renewable energy projects in developing countries.⁵⁷ In 2010, KfW spent EUR1.3 billion to promote the deployment of renewable energies in developing countries which makes a total of EUR3.8 billion allocated over the last five years.⁵⁸ KfW's financial cooperation in the renewable energy sector in 2010 saved at least 7.6 million tonnes of CO₂ and improved energy supply for a total of 21 million people in developing countries.⁵⁹

This short overview of selected international financial mechanisms and stakeholders reveals that funding of renewable energy deployment in developing countries involves a complex structure of funding instruments and a range of stakeholders. Information, transparency and policy support remain key priorities for a success in enhancing clean energy access in Africa. Therefore, many stakeholders also concentrate on assistance in drafting renewable energy policies and connecting them with funding opportunities.

55 http://www.kfw-entwicklungsbank.de/ebank/EN_Home/Sectors/Energy/Promotional_Topics/index.jsp; last accessed 13 June 2012.

56 http://www.kfw-entwicklungsbank.de/ebank/EN_Home/Climate_Change/Action_by_KfW_Entwicklungsbank/Renewable_Energy_and_Energy_Efficiency/index.jsp; last accessed 13 June 2012.

57 REN21 (2011:37), together with the European Investment Bank and Brazil's BNDES.

58 http://www.kfw-entwicklungsbank.de/ebank/EN_Home/Sectors/Energy/Action_by_KfW_Entwicklungsbank/index.jsp; last accessed 13 June 2012.

59 http://www.kfw-entwicklungsbank.de/ebank/EN_Home/Sectors/Energy/Action_by_KfW_Entwicklungsbank/index.jsp; last accessed 13 June 2012.

CHAPTER 13

CLIMATE CHANGE

I. REVIEW OF CLIMATE CHANGE IN NAMIBIA: PROJECTED TRENDS, VULNERABILITY AND EFFECTS

Isaac Mapaura

1 Introduction

Climate change is one of the biggest challenges and threats that humanity has ever faced. It has been acknowledged as “one of the greatest challenges of our time” by the United Nations. The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”.¹ This definition slightly differs from the definition of the Intergovernmental Panel on Climate Change (IPCC), which refers to climate change as “a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer”.² The IPCC’s definition therefore refers to any change in climate over time, irrespective of the causes, whether due to natural variability or anthropogenic causes.

Climate change has largely resulted from anthropogenic influences on the climate system, necessitating global action to mitigate its causes, adapt to, and cope with the impact thereof. These actions are being taken through commitments to international instruments such as the United Nations Framework Convention on Climate Change and the Kyoto Protocol.³ It has been acknowledged that a certain amount of climate change is apparently unavoidable, regardless of reductions in emissions, thus necessitating adaptation.⁴ Human adaptation to a changing environment has been going on for millennia, but the current scenario calls for a sense of urgency.⁵

Namibia ratified the UNFCCC in 1995 and is legally obliged to adopt and implement policies and measures designed to mitigate the effects of climate change and to adapt to such changes. Namibia acceded to the Kyoto Protocol in 2003. The Kyoto Protocol is an international agreement that sets binding targets for industrialised countries (Annex 1 countries) to reduce greenhouse gas emissions to an average of 5% against 1990 levels over a five-year period, between 2008-2012. As part of global commitments, parties to the UNFCCC are obliged to

1 UN (1992).

2 IPCC (2007a).

3 UN (1998).

4 IPCC (2007a).

5 Nielsen/Reenberg (2010).

make periodic submissions including National Communications to Conferences of the Parties (COPs). Namibia's Initial National Communication (INC) to the Conference of Parties of the UNFCCC was submitted in 2002⁶ in accordance with decisions taken at various COPs to the UNFCCC. The Second National Communication (SNC) was submitted in 2011.⁷ The Ministry of Environment and Tourism (MET) through the Directorate of Environmental Affairs (DEA) is responsible for overseeing the coordination of climate change issues in Namibia.

Despite its insignificant contributions to greenhouse gas emissions, southern Africa is very susceptible to the impacts of climate change, including sea level rise, increased frequency and intensity of extreme weather events such as floods and droughts. Southern Africa is already a largely water-stressed region, with high frequencies of drought. Climate change is exacerbating this problem, considering that the region's susceptibility in the agricultural sector is rooted in its widespread rain-fed agriculture.⁸ The vulnerability of the region's agricultural sector to climate change has been well documented in, amongst others, the National Communications to the UNFCCC (e.g. Botswana (2001), Mozambique (2003), South Africa (2000) and Zimbabwe (1998)). Moreover, scientific modelling suggests that southern Africa will be hit harder by climate change than most regions of the globe, becoming hotter and drier.⁹

In many countries of the region, close to 70% of the population lives in rural areas where their direct dependence on the natural ecosystem with its goods and services is high. The impacts of climate change are more pronounced in these rural communities, who are often poor and marginalised. Their livelihood is largely dependent on agriculture. Studies have identified seven sectors where Namibia is most vulnerable to climate change. These include water resources, marine resources, agriculture, biodiversity and ecosystems, coastal zones and systems, health, and energy. Therefore, Namibia has to take measures and actions designed to mitigate the effects of climate change and to enable communities to cope with and adapt to its effects.

This section of the chapter will highlight the projected changes in climate in southern Africa and place Namibia in this context. The vulnerability of Namibia to climate change and its effects on various sectors of the economy and on biodiversity are also highlighted.¹⁰ Measures taken by the Namibian government and other stakeholders to deal with the challenges of climate change are also summarised.

2 Namibia's Contribution to Greenhouse Gas Emissions

Parties to the United Nations Framework Convention on Climate Change (UNFCCC) are categorised into three main groups according to differing commitments. Thus, certain groups of developing countries are recognised by the UNFCCC as being especially vulnerable to

6 GRN (2002d).

7 GRN (2001a).

8 CEEPA (2006); IPCC (1997); Hulme (1996).

9 IPCC (2007a); DEAT (2007).

10 For human vulnerability in Africa also see sub-chapter by Ruppel below.

the adverse impacts of climate change, including countries with low-lying coastal areas and those prone to desertification and drought. These are classified as non-Annex 1 countries. Most developing countries, including Namibia are categorised as non-Annex 1 countries. According to the UNFCCC process, for countries in this category the baseline values for greenhouse gas emissions (greenhouse gas) is pegged at 1994 as the base year.

The abundant scientific literature on the subject indicates clear evidence that the global climate has changed and will continue to change over the next century, both globally and locally, due to increased concentrations of greenhouse gases in the atmosphere. These increases are mainly due to human activity, most notably the use of fossil fuels. IPCC (2001) reported that Africa's contribution to greenhouse gas emissions is insignificant, being 50-100 times less than Europe's and 100-200 times less than America's. Just like many other countries in southern Africa, except South Africa, Namibia's contribution to greenhouse gas emissions is insignificant.¹¹

Namibia neither produces fossil fuels of its own, nor refines any fossil fuels. The Namibian economy is not energy-intensive, as it relies primarily on agriculture, fisheries and mining without much secondary processing.¹² Du Plessis¹³ did a greenhouse gas emissions inventory for 1994, while Hartz and Smith¹⁴ did a comprehensive review of the greenhouse gas inventory of Namibia for 2000 and compared this with the inventory of 1994. They analysed anthropogenic sources and sinks for greenhouse gases from energy industries, manufacturing industries and construction, the transport sector, the commercial/institutional sector, the residential sector, agriculture, fishing, forestry and other sectors. They compared greenhouse gas emissions of carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) for 1994 and 2000 per sector.

The energy sector produced 2200 Gg CO₂-equivalents in 2000 compared to 1905 Gg CO₂-equivalents in 1994.¹⁵ The transport sector is a significant emitter of CO₂ (about 50% of total national CO₂ emissions in 1994) because of the great distances travelled in order to distribute goods and services within the country. This is quite clear in the energy review for Namibia done by Capôco *et al.*¹⁶ The agricultural sector contributed 6738 Gg CO₂-equivalents in 2000 compared to 3712 Gg CO₂-equivalents in 1994 while the energy sector contributed 2200 Gg CO₂-equivalents in 2000 compared to 1905 Gg CO₂-equivalents in 1994. As Namibia cultivates only a very small amount of rice in flooded fields (which has potential for significant methane production), it means the major sources of methane are domestic livestock (more from enteric fermentation in livestock and less from manure management), burning of the veld, burning of agricultural residues and CH₄ from agricultural soils. Emissions of

11 GRN (2002d); Hartz/Smith (2008).

12 GRN (2002d).

13 Du Plessis (1999).

14 Hartz/Smith (2008).

15 GRN (2002d).

16 Capôco *et al.* (2007).

NO₂ are small and mostly derived from the burning of savannahs. Waste contributed 180 Gg CO₂-equivalents in 2000 while the 1994 value stood at 63 Gg CO₂-equivalents.

It is clear that greenhouse gas emissions in Namibia have increased between 1994 and 2000. However, land-use change and forestry have had the effect of removing CO₂ with values of -10 560 Gg CO₂-equivalents and -5716 Gg CO₂-equivalents in 2000 and 1994, respectively. Thus, there has been a net effect of -1442 Gg CO₂-equivalents in 2000. This means that Namibia has been a net sink of CO₂. Vegetation growth captures CO₂ and increases the rate of transpiration. The clearing of vegetation has the opposite effect. Namibia has a significant land area that is bush encroached by species such as *Acacia mellifera*, *Terminalia sericea*, and *Dichrostachys cinerea*. Bush encroachment results from commercial ranching practices which lead to overgrazing and upsetting the natural balance between woody plants and grasses such that the woody component proliferates. Though agriculturally undesirable, the impact of bush encroachment is highly significant for Namibia's greenhouse gas emissions profile because bush-encroached areas serve as huge sinks for CO₂.

In the final analysis, therefore, it is clear that Namibia contributes little to global greenhouse gas emissions. Instead, Namibia is estimated to be a net sink for CO₂, both in 1994 and in 2000, because of increasing woody biomass in the rangelands due to bush encroachment.

3 Climate Trends and Predictions

Future trends in climate are predicted using modelling approaches based on past and present patterns. There are several climate models used worldwide but all of them provide the basis for projections of future climate change scenarios, the most used being General Circulation Models (GCMs). The IPCC's Fourth Assessment Report¹⁷ discusses and evaluates these models at length. The heterogeneity in the new generation of climate models and an increasing emphasis on estimates of uncertainty in the projections raise questions about how best to evaluate and combine model results in order to improve the reliability of projections.¹⁸ GCMs work on a spatial scale of 200-300km, therefore this limits their projections for changes at a local scale.¹⁹ Nevertheless, GCMs remain a fundamental tool used for assessing the causes of past change and projecting changes in the future.

There is undisputed evidence for climate change at global level, much of which is attributed to human activity. However, understanding how global climate change may manifest itself at the local level is still a challenge.²⁰ At a global level, it is widely recognised that there has been a detectable rise in temperature over the last few decades. This rise in temperatures cannot be explained unless human influence is taken into account.²¹ The regional distribution of temperature increases is not uniform; some regions have experienced greater change than

17 IPCC (2007a).

18 IPCC (2010).

19 DRFN/CSAG (2010).

20 Ibid.

21 IPCC (2001).

others.²² Globally, the rate of average temperature increase has been quicker during the latter half of the 20th century than before. This increase in the rate of change is expected to continue, potentially resulting in more rapid changes of climate in the future.²³

There is greater variability in global rainfall, therefore changes in rainfall are harder to detect, both spatially and temporally. Changes in global rainfall patterns have been detected in many parts of the globe. In southern Africa, there have been moderate decreases in annual rainfall and there have also been detectable increases in the number of heavy rainfall events in the region.²⁴ Trends also indicate an increase in the length of the dry season and increases in average rainfall intensity,²⁵ suggesting a shorter but more intense rainfall season. Other aspects of global change are increases in intensity and spatial extent of droughts since the mid-1970s; increases in the duration of heat waves during the latter half of the 20th century; shrinking of arctic ice caps since 1978; widespread shrinking of glaciers, especially mountain glaciers in the tropics; increase in upper ocean heat content; increases in sea level at a rate of 1.8 mm per year between 1961 and 2003, with a faster rate of 3.1 mm per year between 1993 and 2003.²⁶

There is only a limited amount of studies detailing historical climate trends involving Namibia. Due to the arid nature of the country, natural variability is extremely high and is complicated by decadal variability.²⁷ There is evidence that changes in temperatures in Namibia have followed global trends as described above. There has been a tendency for warmer temperatures in the latter half of the 20th century, which is generally 1-1.2°C warmer than at the beginning of that century. However, this magnitude of warming is greater than the global mean temperature change,²⁸ which is worrisome for Namibia. An increase of 1°C generally implies an increase in evaporation of 5%. For a country with already high evaporation rates this has serious consequences, as will be discussed in a separate section below.

Meteorological data for 25 years from the Namibia Meteorological Services indicates that there have been consistent increases in daily maximum temperatures at seven stations (Lüderitz, Keetmanshoop, Windhoek, Hosea Kutako International Airport, Sitrusdal, Grootfontein and Okaukuejo).²⁹ The frequency of days with maximum temperatures above 25°C has significantly increased over this period. Midgley *et al.*³⁰ examined long-term temperature and rainfall records from 15 weather stations that had data with durations of between 25 and 60 years in Namibia and the Northern Cape (South Africa), and 53% of the stations showed significant increases in temperature over their recording period, while none showed a significant decline. There has also been a decrease in the frequency of days with minimum

22 DRFN/CSAG (2010).
 23 Ibid.
 24 IPCC (2007a).
 25 New *et al.* (2002).
 26 IPCC (2007a).
 27 DRFN/CSAG (2010).
 28 Midgley *et al.* (2005).
 29 DRFN/CSAG (2010).
 30 Midgley *et al.* (2005).

temperatures below 5°C.³¹ Modelling changes in temperature in Namibia suggest a minimum towards the coast and an increase further inland during all seasons, with minimum expected increases during summer of 1-2°C and maximum changes of 2-3.5°C.³² Generally, it is predicted that Namibia will become hotter with predicted increases in temperatures of between 1°C and 3.5°C in summer and 1°C to 4°C in winter over the period 2046-2065.³³

Rainfall patterns are a bit difficult to decipher compared to temperatures. The long-term rainfall records for Namibia (1915 to 1997) suggest an overall national mean of 272 mm. In the period from 1981 to 1996 only two of the 16 years had rainfall above this mean.³⁴ The variation in rainfall year-to-year is extremely high (in excess of 30% everywhere in the country, rising to 70% in southern Namibia and 100% in the Namib Desert). DRFN and CSAG³⁵ reported that there are no obvious trends in rainfall patterns over a 100-year period, between 1901 and 2000 in Namibia. However, there have been significant increases in the length of the dry season and decreases in the number of consecutive wet days in some areas. The onset of the rainy season is delayed in the north and the end of the rains is earlier than before.³⁶ Using different climate modelling scenarios, for the winter period, the lower estimates of change suggest a drying in the south and wetting in the north, whilst upper estimates of change suggest a wetting over most of the country except in the far southwest where reduced rainfall is projected.³⁷ During summer, the lower estimate of change suggests drying over most of the country except for an increase in rainfall over the coastal regions.

Recent experiences by local communities combined with meteorological data confirm real changes in climate patterns over the last few decades in Namibia. Delayed on-set of the rainy season and the shortening of the growing season have been reported. There have been unbearably hot summer temperatures and more frequent droughts. Communities in the northern and north-eastern parts of the country have experienced more severe flooding which has caused significant suffering among local communities. Nunes *et al.*³⁸ conducted a study in Ohangwena where communities reported variability in rainfall patterns characterised by high intensity of rainfall over a shorter period of time, late coming of the rain, quick disappearance of surface water, less cold winters than before and much stronger and hotter summer sun. These trends in rainfall and temperature patterns, observed by communities in northern Namibia, were confirmed through trend analysis by Mitchell *et al.*³⁹ of the period 1900 to 2000.

31 DRFN/CSAG (2010).

32 Ibid.

33 GRN (2011a).

34 GRN (2002d).

35 DRFN/CSAG (2010).

36 Ibid.

37 Ibid.

38 Nunes *et al.* (2010).

39 Mitchell *et al.* (2004): in Midgley *et al.* (2005).

4 Potential Impacts of Climate Change

4.1 Projections

Arid environments are areas that receive less than 250 mm of rain per annum, semi-arid environments receive between 250mm and 500 mm and hyper-arid environments receive less than 100 mm per annum. In Namibia, annual rainfall is low and highly variable between years, ranging from an average of 25 mm in the southwest to 700 mm in the northeast. Thus, the greatest proportion of the Namibian environment is arid to semi-arid. The coefficient of variation of rainfall is also very high, ranging from 25% in the northeast to more than 80% along the coast in the west. Not only does Namibia receive little rain, it also experiences high rates of evaporation due to high solar radiation, low humidity and high diurnal temperatures. This makes the arid nature of the country even worse because the availability of water to plants, animals and humans is limited. It is estimated that only about 1% of rainfall ends up replenishing the groundwater aquifers.⁴⁰ This makes the Namibian environment harsh for most organisms, including people. This aridness of the country is caused by weather patterns prevailing in regions with oceanic cold currents – the cold Benguela Current that flows north along the west coast – and situated between 20° and 30° North and South, where dry air of the Hadley Cells descends.

Global climate change has resulted in changes to the normal patterns of weather and climate in Namibia, causing significant stress on various economic sectors of the country. The natural conditions described above make Namibia very susceptible to the effects of climate change because it is already a stressed system. In general, most countries in southern Africa are vulnerable to climate change effects but to varying degrees depending on local conditions. The likelihood that an individual or group of people will be exposed to, and will be adversely affected by new climatic circumstances, depends on the characteristics of the individuals or groups in terms of their capacity to anticipate, cope with, resist and recover from the impacts of environmental change.⁴¹ The capacity to adapt to climate change varies among regions and socio-economic groups in the sense that those with the least capacity to adapt are generally the most vulnerable. This also depends on the resources available for mitigation and adaptation.⁴²

Africa will be negatively affected by climate change, more so because of the poor socio-economic conditions which exacerbate the vulnerability of the continent's population. This is particularly so because vulnerability to environmental change does not only depend on changes in frequency or duration of climatic conditions but also on the capacity to respond adequately to those changes.⁴³ Poverty and prevailing levels of income disparity influence the resource base of households and this determines the resilience of households to deal

40 GRN (2002d).

41 Galvin *et al.* (2004).

42 DRFN/CSAG (2010).

43 *Ibid.*

with impacts of climate change. Africa's capacity to respond is severely hampered by lack of resources. Climate change will affect the attainment of the Millennium Development Goals (MDGs), particularly the goals concerning the eradication of extreme poverty and hunger, reducing child mortality, combating disease, and ensuring environmental sustainability.⁴⁴

Namibia's situation is not very different from neighbouring southern African countries. If anything, the environmental conditions make it even more vulnerable. Namibia is an upper-middle-income country with US\$4,820 per capita GDP,⁴⁵ with about 19.5% of households living in poverty⁴⁶. There are considerable income disparities as reflected by the gini-coefficient of 0.5971.⁴⁷ Being a country that is highly dependent on its natural resource base of minerals, fisheries, agriculture and wildlife, coupled with variable rainfall, frequent droughts and reliance on subsistence agriculture, Namibia is highly vulnerable to climate change.

DRFN and CSAG⁴⁸ critically reviewed the vulnerability of Namibia to the effects of climate change. They compared mainly the Caprivi and Karas regions, in the northeast and south respectively. These two regions differ in their average climatic conditions and livelihood systems. Caprivi receives higher rainfall than Karas. Livelihood systems in Caprivi are based on subsistence-oriented maize cultivation, which is combined with a small number of goats and cattle for domestic purposes, approximately supporting 12,000 farming households.⁴⁹ Livelihoods in Caprivi used to be flexibly organised around seasonal movement of water but nowadays the region is considered vulnerable to flooding of wetlands.⁵⁰ In Caprivi natural shocks such as floods for those living in low-lying wetlands, droughts and climate change, livestock diseases and pests are factors that make people vulnerable. Alcohol abuse enhances people's vulnerability considerably.⁵¹ In 2009, close to 700,000 people were either directly or indirectly affected by floods in the north and north-eastern parts of Namibia which cost an estimated N\$1.7 billion (1% of GDP) worth of damages and losses, both public and private.⁵² On the other hand, natural conditions and livelihood systems in southern Namibia are very different from Caprivi. Rural production is dominated by raising small stock such as goats and sheep. In the Karas Region, vulnerability is related to loss of employment, disability and sickness (including HIV and AIDS), having many dependents and orphans.⁵³

A number of sectors of the Namibian economy were identified as being the most vulnerable to the effects of climate change, namely agriculture, biodiversity and ecosystems, coastal zone, health, marine resources and water. These are discussed below.

44 Galvin *et al.* (2004).

45 World Bank, Country Brief Namibia at <http://go.worldbank.org/1B6KN88H10>.

46 NSA (2012:156).

47 NSA (2012:xi).

48 DRFN/CSAG (2010).

49 *Ibid.*

50 *Ibid.*

51 *Ibid.*

52 GRN (2009b).

53 DRFN/CSAG (2010).

4.2 Agriculture

Agricultural production is closely linked to climate, especially precipitation and temperature. The Namibian climate is characterised by semi-arid and hyper-arid conditions and highly variable rainfall (though about 8% of the country is classified as semi-humid or sub-tropical). These conditions alone pose a great challenge to agricultural production in the country. Yet, agriculture is the 6th largest contributor to GDP. The sector contributes 4.5-7% to GDP but supports over 70% of the population.⁵⁴ The Namibia Agronomic Board⁵⁵ reports that the contribution of this sector has been declining in recent years for reasons that may include impacts of climate change. 56.7% of Namibians live in rural areas⁵⁶ and the main basis for their livelihoods is subsistence agriculture⁵⁷. Newsham & Thomas noted that smallholder farming is an important source of livelihood for the majority of Namibians living in rural areas.⁵⁸ However, some urban dwellers are also full-time, part-time or weekend farmers. Crop production plays an important role in household food security, particularly in the northern parts of the country where pearl millet (mahangu) is a subsistence dry-land crop and a major staple food. However, mahangu harvests have been affected by extensive flooding and poor yields in the last few years,⁵⁹ an indication of possible impacts of climate change on crop production. Maize, wheat, rice and other grains and horticultural crops are also produced. Livestock production (especially cattle, goats and sheep) is the driver of the agricultural economy, with meat being a major export of Namibia.

There have been attempts to model the potential impacts of climate change on agricultural production,⁶⁰ but such attempts have been constrained by the lack of reliable data (in some cases) as well as the inherent uncertainties within the General Circulation Models (GCMs) themselves when applied to a local scale. A modelling attempt for Rundu, in the Kavango Region, has indicated that the number of days exceeding 34°C during the six hottest months of the year will increase from 67 to 118 between 2046 and 2065.⁶¹ This means that even a hardy crop such as mahangu will struggle to withstand such prolonged dry periods. Current climatic trends suggest a shorter growing season with a late onset of the rains and an early cessation of the rains. This will significantly impact on agricultural production.

During the 2008/9 season, the Agronomic Board of Namibia⁶² observed that “floods and droughts can easily occur simultaneously and even within close geographic proximity, as we have seen for the past few years”. They contend that grain production, especially mahangu surplus production, could seriously be hampered if solutions in terms of crop insurance, production methods, cultivars, alternative crops, and financing schemes are not found. These are

54 (GRN 2011a:3).

55 NAB (2006).

56 NSA (2012:22).

57 NSA (2012:56).

58 Newsham/Thomas (2009).

59 NAB (2006).

60 Dirkx *et al.* (2008).

61 *Ibid.*

62 NAB (2009).

not encouraging signs as climate projections indicate that the growing season will start later than usual in the northeast, with onset of rains delayed by about half a day per year (meaning that currently the season starts about 20 days later than during the last century). This indicates early cessation of the growing season and significant negative impacts on the agriculture sector.⁶³

The livestock subsector will also be negatively affected by climate change. Grazing rangelands are affected by alterations in precipitation regimes, temperature and atmospheric concentrations of CO₂. All these factors affect net above-ground primary productivity (NPP). There is likely going to be shifts in ratios of C3/C4 species of grasslands, changes in evapotranspiration and run-off and changes in forage quality. If the quantity and quality of NPP is reduced as predicted, then cattle production will also decline. Changes in climate will lead to alterations in the boundaries between rangelands and other biomes such as deserts and forests through shifts in species composition and indirectly through changes in wildfire regimes and opportunistic cultivation. Midgley *et al.*'s⁶⁴ modelling analysis projected significant changes in vegetation structure and function in several areas of Namibia by 2080, where arid vegetation types will increase in cover by almost 20% by 2050, and up to 43% by 2080 in the absence of CO₂ fertilisation effect.

Heat and water stress on livestock will lead to decreases in feed intake, milk production and rates of reproduction.⁶⁵ Higher average temperatures have been reported to reduce conception rates in cattle, largely due to the positive correlation between high rectal temperatures and lower fertility rates, and partly as a consequence of appetite-suppressing tendencies of heat stress.⁶⁶ Changes in climate may affect the distribution of livestock diseases as well as the timing of their outbreaks or their intensity. For vector-borne diseases, the distribution patterns of the vectors may be altered by changes in temperature and rainfall, thus influencing potential distribution of diseases. It is reported that climate appears to be more frequently associated with the seasonal occurrence of non-vector borne diseases than their spatial distribution.⁶⁷ The changes that may be necessary in Namibian farming systems to enable adaptation to climate change were discussed by Kuvare *et al.*⁶⁸

4.3 Biodiversity, Ecosystems and Tourism

Despite the harsh arid climatic conditions described above, the Namibian landscape supports a remarkable biodiversity, especially its plant species. More than 4500 plant taxa have been recorded,⁶⁹ almost 700 of which are endemic to the country, and a further 275 of which are Namib Desert endemics shared with southern Angola.⁷⁰ The endemism of plant species is

63 DRFN/CSAG (2010).

64 Midgley *et al.* (2005).

65 DRFN/CSAG (2010).

66 Newsham/Thomas (2009).

67 Ibid.

68 Kuvare *et al.* (2009).

69 Barnard (1998).

70 Maggs *et al.* (1998).

concentrated in five centres, namely the Kaokoveld in the northwest, the Otavi highland in the Kalahari basin in the east, the Kavango region in the northeast, the Auas Mountains on the western edge of the central plateau, and the succulent-rich southern Namib.⁷¹ These landscapes and biodiversity are important tourist attractions for the country.

The natural ecosystems of Namibia are also vulnerable to climate change, given that the biodiversity of neighbouring South Africa has been found to be vulnerable to climate change because the two countries share similar bio climates (southern regions of Namibia and north-western South Africa), and they possess similar biome types. Before Midgley *et al.*'s⁷² assessment, there had been no previous quantified assessments of vulnerability of plant biodiversity to climate change in Namibia. Projections for warming and drying are harsh for central and western parts of southern Africa, with extreme warming centred on Botswana.⁷³

Midgley *et al.*⁷⁴ used a dynamic global vegetation model (DGVM) to explore the effects of climate change on ecosystem structure, function and dominance of plant functional types in Namibian ecosystems. The main plant functional types they analysed were broad categories such as C₄ grasses, deciduous trees and C₃ herbaceous and shrub types. Elevated CO₂ levels that may result from anthropogenic causes potentially increase the water-use and nutrient-use efficiency of plants that use the C₃ photosynthetic pathway,⁷⁵ and this will favour woody plants with a high degree of investment in carbon-rich support tissue (such as trees) relative to herbaceous species.⁷⁶ Seven vegetation structural classes are defined as occurring in Namibia under the current and future conditions by the DGVM, namely desert, arid shrub land/grassland, grassy savannah, mixed savannah, woody savannah, mixed shrub land/grassland and C₃ shrub land/grassland. Projections of impacts on total vegetation cover were monitored through analyses of changes in bare ground and leaf area index (LAI).

Results of projections of the impacts of climate change on biodiversity indicated a reduction in vegetation cover over the central highlands by 2050, with further reductions to 2080. The greatest absolute cover reductions are projected for the Kaokoveld region in the extreme northwest, and in the Kalahari basin in the southeast, with less significant reductions recorded at higher altitudes in the central highlands. Midgley *et al.*⁷⁷ also showed that direct effects of rising atmospheric CO₂ on total cover were not significant and projected changes in LAI were more diverse, indicating significant reductions in areas of highest decrease in vegetation cover as expected. However, such areas are of limited spatial extent, and much of the country is projected to experience LAI changes of between +10% and -10%. There will be an expansion of the two most arid vegetation types, desert and arid shrub land/grassland, mainly at the expense of grassy savannah and mixed savannah vegetation types. The arid vegetation types

71 Maggs *et al.* (1994).

72 Midgley *et al.* (2005).

73 IPCC (2001).

74 Midgley *et al.* (2005).

75 Drake *et al.* (1997).

76 Bond/Midgley (2000); Bond *et al.* (2003).

77 Midgley *et al.* (2005).

are projected to increase by almost 20% by 2050, and up to 43% by 2080, in the absence of a CO₂ fertilisation effect, but with CO₂ amelioration, the expansion of desert in 2080 is reduced from 43% to just less than 30%.⁷⁸

The current vegetation is dominated by grassy savannah but this is projected to decline substantially by 2050, with significant cover and biomass reductions in the central highlands and north-eastern plains, a scenario which will be exacerbated by effects of elevated CO₂ by 2080. The effect of elevated CO₂ is by facilitating the increase of currently relatively scarce C3-dominated vegetation types, woody savannah, mixed grassland, and C3 grassland/shrub land. This means that currently uncommon vegetation types will become widespread in the north-eastern part of the country, suggesting a strong potential for bush encroachment in these regions. In addition, the potential fire frequency is predicted to increase somewhat in the northeast region under the elevated CO₂ scenarios only. The distribution of deciduous trees will also decline in extent – they will suffer a reduction in both biomass and cover throughout their current range, showing a general retreat towards the north-eastern Kalahari. Projections also suggest that NPP will be significantly reduced by between 0.5 and 1 t/ha in the central-north-western regions and by up to 0.5 t/ha in the north-eastern Kalahari.⁷⁹ Overall, the SDGVM projections reveal a significant negative impact of climate change on ecosystem NPP, vegetation structure and cover, and the distribution of dominant plant functional types. These effects are strongest in the central/northwest regions and the north-eastern parts.

Impacts of climate change at species level will lead to high species losses, with mean species loss of between 40 and 50% by 2050 and between 50 and 60% by 2080.⁸⁰ However, these patterns of species loss and turnover will vary markedly in space. There will also be significant changes in plant community composition resulting from these species losses. Species turnover ranges of between 40 and 70% were projected, with much of the change to occur under climate regimes projected for 2050. Projected local extinctions at the pixel scale, assuming that there are no species migrations, are in excess of 80% in the north-eastern and northern Kalahari, dropping to below 20% from the edge of the escarpment into the coastal desert zone.⁸¹ There will be high species turnover in the north-eastern parts of the country, with an overall trend of a reduction in turnover from northeast to west and south-west. The majority of species will suffer declining range size while a minority will experience significant increases in range size. This finding suggests that future climate change may be an advantage to a small subset of species that might be able to capitalise on the novel climatic conditions in this country, but that this will depend strongly on their migration capacity.⁸² Endemic species will have overall lower susceptibility to climate change (19% and 12% will be classified extinct and critically endangered, respectively by 2080) than non-endemic species. This is largely due to the fact that endemics are both arid-adapted and located in regions of lower projected climate change.

78 Ibid.
79 Ibid.
80 Ibid.
81 Ibid.
82 Ibid.

The tourism sector contributes significantly to the Namibia economy. In 2006, it contributed 14.2% to the GDP while the estimate for 2008 was 15.6%⁸³ and was expected to be 19.9% in 2011 and 22.4% in 2017.⁸⁴ The effects of climate change on ecosystems and biodiversity described above will negatively impact on tourism. Projected declines in vegetation cover in most parts, and significant changes in vegetation structure with associated changes in fauna will impact on tourism. Livelihoods of rural communities will be negatively affected since a significant number rely on tourism ventures within communal conservancies.

4.4 Coastal Zone

Worldwide, coastal areas are very important economic zones which provide many goods and services to humanity. About 38% of the world's population lives within 100 km of a coastal area. Yet these areas, too, are under serious threat from the effects of climate change. One of the impacts of climate change is a rising sea level due to melting glaciers and ice caps of the Arctic and Antarctica. Globally, the IPCC⁸⁵ indicated that the sea level rose at a rate of 1.8 mm per year between 1961 and 2003, with a faster rate of 3.1 mm per year between 1993 and 2003. Sea level is projected to rise by between 30 cm and 100 cm by the year 2100, relative to the 1990 level. The rate of rise is projected to be relatively steady, accelerating slightly over time, although storm surges are expected to be the main source of damage to coastal infrastructure. Coasts will be exposed to increasing risks of coastal erosion and by 2080 millions more people than today will experience floods every year due to sea level rise. The most affected people will be those in low-lying, densely-populated mega deltas of Asia and Africa.⁸⁶ Namibia will not be spared from some of these effects.

Namibia's coastline stretches some 1 800 km long and consists of 78% sandy beaches, 16% rocky shores and 4% mixed sandy and rocky shores, with only 2% of the shore backed by lagoons. The coastline is very important for tourism and recreation activities, which contribute significantly to the Namibian economy. Four major towns are situated along the coast, namely Lüderitz, Walvis Bay, Swakopmund and Henties Bay. Walvis Bay is located between one and three metres above sea level, in a semi-sheltered bay surrounded by an erodible coastline. The coastal aquifers which supply water to the town are susceptible to salt intrusion which would be further exacerbated by sea level rise. A sea level rise of 0.3 metre, now regarded as virtually certain, will flood significant areas, and a one metre rise would inundate most of the town during high tide.⁸⁷ The other three towns, Swakopmund, Henties Bay and Lüderitz, are less vulnerable to rising sea levels due to their relatively safe topographic positions. It was reported that in the near future, most of Namibia's coastal towns would be able to deal with impacts of severe weather conditions but in the long-term they need to carefully plan adaptation strategies to deal with the effects of climate change.⁸⁸ Walvis Bay was cited

83 GRN (2011a:27).

84 GRN (2010c:28 and 2011a:27).

85 IPCC (2007a).

86 IPCC (2007b).

87 GRN (2002d).

88 Consulting Services Africa *et al.* (2009).

as particularly vulnerable and should safeguard its continued economic activity by properly planning for future effects.

4.5 Energy

There is an intrinsic link between energy and development.⁸⁹ This makes the impact of climate change on the energy sector an important one since a number of economic sectors are dependent on energy. The demand for energy is increasing due, partly, to the increase in human population. Poverty and lack of adaptive capacity and limited coping strategies by most rural communities in Namibia only serve to exacerbate the situation. These communities are very vulnerable to the effects of climate change.

About 78% of Namibia's energy is imported as petroleum products, electricity and coal, while the remaining 22% is made up by biomass fuel (mostly wood).⁹⁰ The bulk of this energy is consumed by the transport sector. While contributing between 8 and 16% to the GDP, the mining sector is also a major consumer of energy. Namibia imports most of its electricity but has limited local generation at the Van Eck coal-fired power station in Windhoek, the Paratus diesel-powered station at Walvis Bay and the Ruacana hydro-electric power station on the Kunene River. Recent droughts have severely reduced electricity generation from the Ruacana plant. Given the projected decline in rainfall and more frequent droughts that are likely to result from climate change, regional hydroelectric generation will be severely curtailed. In areas where rainfall is anticipated to increase in the tropical regions of southern Africa including the catchments of the Kunene River in Angola, there may be potential for increased generation of hydroelectricity. Energy consumption is projected to increase and the persistently high fuel prices will directly affect accessibility of transport, price of goods and services and the cost of living in general.

With plenty of sunshine most of the year, Namibia has great potential to develop solar-powered electricity. This is an option which has not been fully utilised. Midgley *et al.*⁹¹ projected that bush encroachment may increase in some parts of the country as a result of climate change. This may provide firewood to local communities. However, care must be taken not to utilise it in a way that will increase greenhouse gas emissions and reduce the carbon sink of the country.

4.6 Human Health and Well-Being

Human health, well-being and livelihoods are strongly dependent upon the state of global ecological and biophysical systems. Climate change is one of the global change factors which have adverse effects on human health. Changes in temperature, precipitation and other factors may lead to short- and long-term changes in the physical environment, many of which

89 Bradley-Cook (2008).

90 GRN (2002d).

91 Midgley *et al.* (2005).

may have direct and indirect impacts on human health.⁹² This may be through its impacts on aspects such as water quality and availability, nutrition status of humans, and distribution and abundance of vector organisms due to changing temperature and rainfall patterns. The impact of climate change on human health has increasingly attracted attention after it was highlighted in the IPCC's First⁹³ and Second⁹⁴ Assessment Reports. In its Fourth Assessment Report, the IPCC projects that globally there will be increased malnutrition, diarrhoea, cardio-respiratory and infectious diseases; increased morbidity and mortality from heat waves, floods and droughts; changes in distribution of some vectors and substantial burden on health services.⁹⁵ Young *et al.*⁹⁶ reviewed existing knowledge on the impacts of climate change on health in the SADC region. They noted that there have been no substantial studies assessing the association between climate change and health in the SADC region, and where research has been done it focused only on infectious diseases (particularly malaria). Even then, very little has been done to determine the relationship between climate change and disease.

Namibia's health system is decentralised to enable it to be responsive to the needs of the population. Thus, the public healthcare system is organised into directorates at the national and regional levels. The government has invested tremendously in the healthcare system since independence. Despite this, general life expectancy has not improved, partly because of the HIV/AIDS pandemic.⁹⁷ Young *et al.*⁹⁸ reported that the infant mortality rate was 47 per 1000 in 2007, down from 65 per 1000 in 1990, and adult mortality (15-60 years old) was 365 per 1000 in 2007. The main causes of adult mortality are HIV and AIDS, tuberculosis and malaria. The maternal mortality rate has been on the increase, from 225 per 100 000 live births in 1992 to 449 per 100 000 live births in 2007.⁹⁹ Infant mortality is higher in rural areas and in the wetter north, compared to urban areas and the more arid south, with main causes of death being diarrhoea (42%), malnutrition (40%), malaria (32%) and acute respiratory infections (30%).¹⁰⁰ These causes of death have a strong link to environmental influences, especially climatic factors. For instance, drought decreases the nutritional status of humans and reduces availability of clean water rendering the population vulnerable and susceptible to attacks by various infections.

There have been records of recent increases in the incidence of malaria in the country. This is consistent with a predicted increase in the area exposed to malaria where 60% of the population lives. This gives an indication of the magnitude of the impacts of changing temperature on the range of the *Anopheles* mosquito, the vector for the malaria parasite. Indeed, it has been reported that rising temperatures are likely going to lead to increased frequency, greater

92 DRFN (2009).
 93 IPCC (1990).
 94 IPCC (1995).
 95 IPCC (2007a).
 96 Young *et al.* (2010).
 97 DRFN (2009).
 98 Ibid.
 99 DRFN (2009).
 100 GRN (2002d).

spread and increased transmission rates of vector borne diseases.¹⁰¹ Sleeping sickness, carried by the tsetse fly (*Glossina morsitans*), is currently not present in Namibia although the cattle version (nagana) occurs in eastern Caprivi.¹⁰² Both these forms of disease are projected to decrease under future climate projections because of a reduction in habitat availability for the tsetse fly. Government¹⁰³ also predicts the possibility of incursion of lymphatic filariasis (elephantiasis), dengue fever and yellow fever from countries to the north with changes in climatic conditions.

Therefore, major impacts of climate change on health will result from decreasing crop yields and food security, increasing water scarcity in some areas, extreme weather events (floods, droughts, heat waves, etc.), and changes in the distribution patterns and abundance of parasites and disease vectors. In the final analysis, the effects of climate change on Namibia will increase the pressure on human health and other health-related aspects of the economy and may lead to an increase in disease burden in communities.

4.7 Fisheries and Marine Resources

Namibia's fisheries sector is dependent upon the highly productive marine ecosystem driven by the upwelling of the cold, nutrient-rich Benguela Current. The upwelling is caused by the interaction of south-easterly winds with the north-flowing current and the topography of the seabed. Currently there are no reliable scientific projections to suggest either an increase or a decrease in the Benguela fisheries yield as a result of climate change.¹⁰⁴ Links between environmental variability and fisheries dynamics are also poorly understood and large environmental anomalies or extreme events, such as the Benguela Niño, have negative impacts.¹⁰⁵ Marine ecosystems continue to be regarded as vulnerable pending more conclusive studies. Recent studies have shown that sea surface temperatures over the northern Benguela region appear to have become persistently warmer since 1993, consistent with global predictions of rising surface water temperature. It is possible that observed reductions in pilchard stocks since 1993 could be partially explained by warmer seas.¹⁰⁶

Any changes in the distribution and intensity of winds would affect the fisheries sector as it has direct impact on the upwelling dynamics of the Benguela system. Roux¹⁰⁷ described four possible scenarios that could result from climate change. The first is a possible reduction in coastal upwelling intensity through a slackening of the south Atlantic trade wind circulation. This would reduce the productivity of the ecosystem and the species that characterise the Benguela system could suffer major reductions in stock size and distribution. The second would be an increase in average summer wind stress and coastal upwelling intensity which

101 Husain *et al.* (2008).

102 GRN (2002d).

103 Ibid.

104 GRN (2002d).

105 Reid *et al.* (2007).

106 Reid *et al.* (2007); Ministry of Fisheries and Marine Resources (2002).

107 Roux (2003).

would enhance enrichment and potential primary production. This could benefit some pelagic species and their predators due to increased productivity. The third is that the frequency and severity of Benguela Niño events would increase, with a direct risk of large-scale population fluctuations, particularly of pelagic species. The fourth is a possible best-case scenario but probably the least possible where there would be low amplitude gradual affects that would lead to a succession of rapid regime shifts between semi-stable states of the system. These regime shifts would affect primarily the dominant pelagic species, which would in turn, induce large changes in the entire system.¹⁰⁸

4.8 Water Resources

The agriculture sector is the major user of water in Namibia, consuming close to 75% of water in the country.¹⁰⁹ Several other sectors such as mining (3.3%), services (2.9%) manufacturing (2.4%) and domestic (12.2%) sectors also have significant demands for water. Any changes that result in a decline in water supply will have serious repercussions on human livelihoods and the economy of the country.

Increases in temperature will have a marked increase in evaporation. It is estimated that for every degree of temperature rise, evaporation increases 5%. Therefore, there will be less water available for recharge and storage. The length of inundation of seasonally flooded terrestrial wetlands will therefore decrease due to increased evaporation. In some instances, this may lead to increased salt content of pans and pools and make them less suitable for human and animal consumption. Increased temperatures will also lead to increases in evaporation from plants, which will mean that plants will pump out more ground water, further depleting underground water. All this will lead to a reduction in the size and productivity of many wetlands,¹¹⁰ negatively affecting human livelihoods that are critically dependent on these wetlands.

It is predicted that rainfall over the Angolan catchments of the Zambezi, Kavango, Cuvelai and Kunene rivers will decrease by 10-20% for 2045-2065, leading to a 25% reduction in run-off and drainage into these river systems.¹¹¹ Of all the rain that falls in Namibia, less than 1% recharges groundwater and only 2% remains as surface water storage while the rest evaporates.¹¹² The whole of Namibia experiences a net water deficit, meaning that evaporation exceeds rainfall throughout Namibia, with average water deficit being highest in the southeast (over 2,300 mm/year) and lowest in Caprivi (less than 1,300 mm/year).¹¹³ Water deficit in southern areas ranges between 2,100 mm/year to more than 2,500 mm/year, resulting in most terrestrial wetlands being ephemeral. Predictions are that southern Africa will receive 10 – 20% less rainfall by 2050. Such reductions in areas with rainfall regimes of 400-1,000

108 Reid *et al.* (2007).

109 GRN (2002d).

110 DRFN/CSAG (2010).

111 (GRN 2011a).

112 GRN (2002d).

113 DRFN/CSAG (2010).

mm per annum may lead to a drop in perennial surface drainage of 75% and 25%, respectively by 2050.¹¹⁴ The magnitude of surface water shortage may even be higher in drier areas of Namibia, which actually form the bigger proportion of the country.

An estimated 60% of Namibia's population lives near the major wetlands, with the highest population density along the perennial Kavango River.¹¹⁵ Most of these communities are largely poor and highly dependent on the river and floodplains for water and other resources. The projections outlined above therefore spell gloomy prospects for these people, who were identified as being extremely vulnerable to environmental change.¹¹⁶

5 Mitigation and Adaptation to Climate Change in Namibia: Actions Taken

The above account has highlighted the vulnerability of Namibia to climate change and the effects this may have on the environment, the economy and human livelihoods. It is therefore important that the country takes steps to mitigate these effects. Under the UNFCCC, the Kyoto Protocol and other international instruments, national governments that are party to these conventions and treaties have obligations to introduce measures in order to mitigate further environmental deterioration and to reduce the effects these changes have on humanity and the environment. Namibia, being party to the UNFCCC and the Kyoto Protocol, must put in place policies and measures that meet the above objectives.

Available literature highlights why climate change adaptation and mitigation are critical issues not only for Namibia and southern Africa, but the world over. It is conceded though, that a certain amount of climate change is unavoidable, regardless of reductions in greenhouse gas emissions.¹¹⁷ It must be noted that effects of climate change will act in combination with other drivers of ecosystem degradation, for instance, communities in the region already face high levels of vulnerability and numerous stresses due to poverty, HIV/AIDS, food insecurity, and political instability.¹¹⁸ Hence measures put in place must take cognisance of these interactive effects and approach them in a holistic manner.

Namibia established the Namibian Climate Change Committee (NCCC) in 2001 with the main function of advising and making recommendations to government on climate change including how to meet its obligations to the UNFCCC. The NCCC is hosted by the Directorate of Environmental Affairs in the Ministry of Environment and Tourism. Its membership is drawn from representatives of various government ministries, NGOs, parastatals and the private sector.

Namibia has taken several steps in addressing the issue of climate change and other global

114 Ibid.

115 Heyns *et al.* (1998).

116 DRFN/CSAG (2010).

117 IPCC (2007a).

118 Shackleton *et al.* (2008); Ziervogel *et al.* (2006).

change challenges. In addition to the formation of the NCCC, other important steps under the obligations of the UNFCCC include (but are not limited to) the following:

- National policies and laws related to global change challenges and environmental management and protection are in place, including the Namibian Constitution, Vision 2030, National Development Plans, Environmental Management Act, various sector policies and Cabinet directives. These policies are discussed in some of the earlier chapters. This includes the development of the National Policy on Climate Change for Namibia¹¹⁹, developed from a Draft Namibia Climate Change Policy, Strategy and Action Plan¹²⁰, which had been under discussion for some time. The objectives of the policy are:
 - a) To develop and implement appropriate adaptation strategies and actions that will lower the vulnerability of Namibians and various sectors to the impacts of climate change.
 - b) To develop action and strategies for climate change mitigation.
 - c) To integrate climate change effectively into policies, institutional and development frameworks in recognition of the cross-cutting nature of climate change.
 - d) To enhance capacities and synergies at local, regional and national levels and at individual, institutional and systematic levels to ensure successful implementation of climate change response activities.
 - e) To provide secure and adequate funding resources for effective adaptation and mitigation investments on climate change and associated activities (e.g. capacity building, awareness and dissemination of information, etc.)
- Reports on the greenhouse gas inventory based on 1994 and 2000 data were completed (1998 and 2009).
- Preparation and submission of the Initial National Communication to the UNFCCC was done in 2002.
- Preparation and submission of the Second National Communication to the UNFCCC.¹²¹
- Assessment of capacity needs required to implement Article 6 of the UNFCCC was completed in 2005.
- A Directorate of Disaster Risk Management is operational in the Office of the Prime Minister.
- A National Drought Policy and Strategy was developed in 1997, and is currently under review for improvement.
- A review and update of national circumstances concerning impacts of climate change on various sectors was done.¹²²

119 GRN (2011b).

120 Mfune *et al.* (2009b).

121 Cf. GRN (2011a).

122 DRFN (2009).

- A Technology Needs Assessment was conducted in 2005 to identify financial and research needs.
- Local-level activities are on-going for communities to adapt to climate change through improvement of traditional crops and livestock farming in several regions; and enhancing the adaptive capacities of farmers, pastoralists and natural resource managers to climate change in agricultural and pastoral systems in north-central Namibia.
- Efforts are being made to increase access to climate change information, and improved access to alternative resources by local communities, farmers and other stakeholders.

6 Concluding Remarks

Climate change has emerged as one of the greatest challenges of all time. Namibia is very vulnerable to the effects of climate change due to the arid nature of the country, limited capacity to deal with the effects and inadequate technical and financial capacity for adaptation, given that there is a myriad of other challenges (e.g. poverty, HIV and AIDS) that need to be dealt with in addition to climate change. The evidence for impacts of climate change are very clear, manifested by more intense flooding, shortening of the growing season, more frequent droughts, rising average summer and winter temperatures, among many other effects. These conform to predictions from General Circulation Models (GCMs) that paint a gloomy picture of rising temperatures and declining rainfall in most areas. There will be an accelerated decrease in biodiversity, increasing evaporation leading to water scarcity, low crop yields leading to food shortages, declining marine productivity, flooding of coastal areas and changes in the distribution of disease patterns and their vectors. The economic sectors of Namibia that will be affected most are agriculture, biodiversity and ecosystems, coastal areas, energy, health, marine resources and water. As a signatory to the UNFCCC and other international instruments, Namibia is taking steps to minimise the impacts of climate change on the people by putting in place relevant policies, structures and institutions for dealing with climate change and enhancing adaptive capacity. Namibia's greenhouse gas emissions are insignificant. In fact, Namibia is a net sink for CO₂. Hence, efforts should be less on cutting down emissions and more on adaptation, coping strategies, and disaster management.

II. CLIMATE CHANGE DEVELOPMENTS IN THE AFRICAN UNION (AU), THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC) AND CROSS-CUTTING REGIMES

Oliver C. Ruppel

1 Introduction

Both the African Union (AU) and the Southern African Development Community (SADC) have embarked on new policy pathways to accommodate climate change more effectively in future. These pathways and recent developments such as the Tripartite Initiative and the BRICS Partnership between Brazil, Russia, India, China and South Africa are reflected on as they are not only deemed to become more and more relevant in a changing climate, but at the same time promise to enfold potential and new opportunities for economic and sustainable development for Africa on regional and sub-regional levels. It is the objective of this chapter¹ to discuss these new policy pathways and related developments and, where possible, assess their potential benefit. While doing so, the chapter reflects on legal and institutional structures, some relevant cases, contemporary and future challenges, and developmental perspectives pertinent to the issue of climate change and the African continent.

Despite Africa's relatively low contribution to the world's total greenhouse gas (GHG) emissions, it is one of the most vulnerable continents to climate change.² In the same light, Africa is particularly vulnerable due to a combination of stresses, and especially due to poverty. The complexity of climate change involves a diverse range of institutions and regimes.³ It is expected that climate change will generate a significant impact on national, regional and global economies, and it is also not unlikely that this will result in increased local and international conflict.⁴

In 2011, the South African city of Durban was in the international limelight as the host of the global climate negotiations.⁵ The goal of these discussions was to advance the implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, and to make progress on previously agreed action plans (Bali) and agreements (Cancun). The 17th Conference of the Parties (COP 17) to the UNFCCC and the 7th Session of the COP serving as the Meeting of the Parties (MOP 7) to the Kyoto Protocol were, however, especially from an African viewpoint, only partly successful. Not only were China and the United States reluctant to sign binding targets, both waiting for the other to move first, but this reluctance by the two biggest polluters had repercussions for the nego-

1 This chapter is largely based on Ruppel (2012b).

2 Boko *et al.* (2007).

3 Keohane / Victor (2010:9).

4 Scholtz (2010).

5 See also <http://www.dieburger.com/Suid-Afrika/Nuus/Krisis-raak-net-erger-20111129>; last accessed 23 December 2011.

tiations as a whole, namely that Canada, Japan and Russia refused to enter into a second commitment period for the Kyoto Protocol due to the lack of legal restriction on the world's largest polluters.⁶

Thus, for Africa, climate change continues to prompt significant challenges.⁷ In this context, the draft decision, the so-called Durban Platform for Enhanced Action by the Conference of the Parties, recognises that –⁸

... climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires to be urgently addressed by all Parties, and acknowledging that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response ...

2 The African Union

Article 3 of the Constitutive Act of the African Union contains the objectives of the AU, including the promotion of sustainable development, international cooperation and continental integration, as well as the promotion of scientific and technological research to advance the continent's development. In the protocol relating to the Establishment of the Peace and Security Council (PSC) of the AU, member states committed themselves to various guiding principles (Article 4), including “early responses to contain crisis situations”, and the recognition of the “interdependence between socio-economic development and the security of peoples and States”. Moreover, in Article 6 of the Constitutive Act, the functions of the PSC are outlined as, among other things, the promotion of peace, security and stability in Africa; early warning and preventive diplomacy; peacemaking; humanitarian action; and disaster management. All of the aforementioned provisions provide a clear mandate to address climate change as a matter of priority within the AU.

2.1 The New Partnership for Africa's Development

NEPAD was adopted in 2001 in Lusaka, Zambia, by Heads of State and Government of the OAU. NEPAD was ratified by the AU in 2002. Partnership and cooperation between Africa and the developed world is envisaged by this development initiative aimed at the economic and social revival of Africa. NEPAD is:⁹

... a pledge by African leaders, based on a common vision and a firm and shared conviction, that they have a pressing duty to eradicate poverty and to place their countries, both individually and collectively, on a path of sustainable growth and development, and at the same time to participate actively in the world economy and body politic. The

6 Ruppel/Grimm/van Wyk (2011).

7 Ruppel/van Wyk (2011).

8 Cf. http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_durbanplatform.pdf; last accessed 23 December 2011.

9 Cf. NEPAD's founding document, available at <http://www.dfa.gov.za/au.nepad/nepad.pdf>; last accessed 12 February 2012.

Programme is anchored on the determination of Africans to extricate themselves and the continent from the malaise of underdevelopment and exclusion in a globalising world.

NEPAD has emphasised Africa's important role in respect of the critical issue of environmental protection. Of the six main thematic areas on which NEPAD focuses, of particular relevance are Agriculture and Food Security, and Climate Change and Natural Resource Management.¹⁰

NEPAD's Climate Change and Natural Resource Management Programme focuses on three key areas, being environment, water and energy. The Programme aims to assist countries in integrating climate change responses with their national development processes. The Programme also aims to strengthen skills in adaptation, mitigation, technology and finance in order to combat environmental change. In order to achieve these aims, an Action Plan for the Environment Initiative was released in 2003, paving the way for the first decade of the 21st century.¹¹

2.2 AU Climate Change Policy and Related Developments

The impacts of climate change on human rights have been explicitly recognised by the African Commission. In its AU Resolution 153, the African Commission calls on the Assembly of Heads of State and Government to take all necessary measures to ensure that it is included in the AU's negotiating team on climate change.¹² In the same communication, it resolves to carry out a study on the impact of climate change on human rights in Africa.¹³

Many African governments have made progress in addressing climate change and related issues. The AU itself has succeeded in presenting a more cohesive African position on climate change. Although gaps may remain, it was clearly reflected during COP 17 in Durban that Africa maintained a common position in spite of pressure from developed countries. In fact, the African Group "spoke with one voice", according to Seyni Nafu, spokesperson for the African Group and Lead Negotiator on Mitigation.¹⁴ It has apparently become clear by now that divergent priorities among African countries threaten the potential of the AU to influence international climate politics.¹⁵

At its 46th Ordinary Session, held in Banjul, Gambia, from 11 to 25 November 2009, the African Commission urged¹⁶:

10 Further thematic areas within the NEPAD framework are Regional Integration and Infrastructure; Human Development; Economic and Corporate Governance; and Crosscutting Issues (Gender and Capacity Management).

11 Available at <http://www.nepad.org/system/files/Environment%20Action%20Plan.pdf>; last accessed 12 February 2012.

12 AfCHPR/Res. 153 (XLV09).

13 Cf. http://www.achpr.org/english/resolutions/resolution153_en.htm; last accessed 14 February 2012.

14 Cf. http://www.dailytrust.com.ng/index.php?option=com_content&view=article&id=149432:africa-maintains-common-position-in-durban&catid=10:environment&Itemid=11; last accessed 20 February 2012.

15 Hoste (2010).

16 Cf. http://www.achpr.org/english/resolutions/resolution153_en.htm; last accessed 14 February 2012.

... the Assembly of Heads of State and Government of the African Union to ensure that human rights standards safeguards, such as the principle of free, prior and informed consent, be included into any adopted legal text on climate change as preventive measures against forced relocation, unfair dispossession of properties, loss of livelihoods and similar human rights violations.

The African Commission also urged¹⁷:

... the Assembly of Heads of State and Government to ensure that special measure of protection for vulnerable groups such as children, women, the elderly, indigenous communities and victims of natural disasters and conflicts are included in any international agreement or instruments on climate change.

One legal instrument that explicitly deals with the potential impacts of climate change is the AU Convention for the Protection and Assistance of Internally Displaced Persons in Africa (hereafter Kampala Convention),¹⁸ which was adopted in Kampala, Uganda on 23 October 2009. It is the first regional legal instrument in the world to contain legal obligations for states with regard to the protection and assistance of internally displaced persons (IDPs). So far, the Kampala Convention has 35 signatories,¹⁹ of which eleven have ratified it.²⁰ The Convention has not entered into force.²¹ The Kampala Convention defines IDPs as follows:

[P]ersons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally-recognised State border.

The Kampala Convention explicitly recognises its relevance for climate-change-induced displacement. Article 5 states that “[S]tates Parties shall take measures to protect and assist persons who have been internally displaced due to natural or human[-]made disasters, including climate change.” However, the Kampala Convention applies to all situations of internal displacement regardless of its causes (Article 15), which makes sense – drivers of migration in general are usually not mono-causal, but are influenced by multiple factors.

Several obligations are imposed on states by the Kampala Convention. For example, it addresses the need to prevent displacement from happening, e.g. by establishing early warning systems and adopting disaster preparedness and management measures to prevent displacement caused by natural disaster. The Convention also requires states to protect people against

17 Cf. http://www.achpr.org/english/resolutions/resolution153_en.htm; last accessed 14 February 2012.

18 Text available at [http://www.au.int/en/sites/default/files/AFRICAN_UNION_CONVENTION_FOR_THE_PROTECTION_AND_ASSISTANCE_OF_INTERNALLY_DISPLACED_PERSONS_IN_AFRICA_\(KAMPALA_CONVENTION\).pdf](http://www.au.int/en/sites/default/files/AFRICAN_UNION_CONVENTION_FOR_THE_PROTECTION_AND_ASSISTANCE_OF_INTERNALLY_DISPLACED_PERSONS_IN_AFRICA_(KAMPALA_CONVENTION).pdf); last accessed 30 January 2012.

19 Namibia signed the Convention in 2009; ratification is still pending.

20 As of 4 January 2012, the following Member States have ratified the Convention: Benin, Central African Republic, Chad, Gabon, Gambia, Guinea-Bissau, Lesotho, Sierra Leone, Togo, Uganda and Zambia.

21 Ratification of 15 Member States is required for the Convention to come into force.

displacement resulting from conflict and violence, discriminatory policies, or human rights violations. Neither should displacement be used as a method of warfare or as collective punishment. Forced evacuations should only take place for reasons of health and safety, and, once people have been displaced, the Kampala Convention provides that they are to be protected and assisted (Article 4). According to Article 5, states are obliged to assess the needs and vulnerabilities of displaced persons like those of the host communities and to provide adequate assistance, if need be with assistance from relevant local and international agencies. One objective of the Kampala Convention is to provide for durable solutions with respect to IDPs, who have the right to make a free and informed choice on whether to return, integrate or relocate elsewhere in the country (Article 11). Furthermore, states are responsible for establishing an effective legal framework to provide just and fair compensation and other forms of reparations for damage incurred as a result of displacement (Article 12).

2.3 The African Ministerial Conference on the Environment

The African Ministerial Conference on the Environment (AMCEN), which has so far played a prominent role in the African response to climate change,²² has a strong regional and sub-regional focus. Thus, AMCEN builds on the potential for regional economic communities (RECs) to integrate adaptation measures into regional policies and socio-economic development.²³ AMCEN is a permanent forum where African ministers of the environment discuss mainly matters of relevance to the environment on the continent. The forum was established in Egypt in 1985, when they also adopted the Cairo Programme for African Co-operation. AMCEN has convened every second year since then. In 2010, at its thirteenth session, AMCEN adopted the Bamako Declaration on the Environment for Sustainable Development as its contribution towards providing political guidance and leadership on environmental management in Africa. AMCEN was established to:

- provide advocacy for environmental protection in Africa;
- ensure that basic human needs are met adequately and in a sustainable manner;
- ensure that social and economic development is realised at all levels; and
- ensure that agricultural activities and practices meet the food security needs of the region.

The adequate response to these challenges needs to be aligned with national and regional strategies for development, poverty alleviation, economic growth, and the enhancement of human well-being, while increasing resilience to the physical impacts of climate change. The Meeting of African Heads of State and Government at the Seventeenth Session of the AU Summit held in July 2011 in Malabo, Equatorial Guinea; AMCEN's Fourth Special Session held in September 2011, in Bamako, Mali; and, most recently, the Seventh Session of the Committee on Food Security and Sustainable Development as well as the Africa Regional Preparatory Conference on Sustainable Development (Rio+20) held in Addis Ababa, Ethiopia, in October 2011, all identified opportunities and challenges in the transition to a green economy with links to the achievement of the United Nations Millennium Development Go-

²² 2009 Nairobi Declaration on the African Process for Combating Climate Change, UNEP/12/9.

²³ Scholtz (2010).

als (MDGs), climate change, and sustainable development. In recognition of AMCEN's mandate, which includes guidance in respect of key issues related to multilateral environmental agreements, African governments asked AMCEN to facilitate the provision of information to countries that would assist them with translating available climate science and current international climate policies in their effort to move towards their practical implementation in the context of sustainable development. To this end, AMCEN prepared a guide book with information on climate change matters including science, governance, technological, financial and capacity-building needs, as well as opportunities for effective action that would lead towards sustainable development.²⁴

2.4 The African Climate Policy Centre

The African Climate Policy Centre (ACPC) was established in 2010 as an integral part of the Climate for Development in Africa (ClimDev-Africa) Programme, which is a joint initiative of the African Union Commission (AUC), the United Nations Economic Commission for Africa (UNECA), and the African Development Bank (AfDB).

The ACPC should develop into a hub for a demand-led knowledge base on climate change in Africa to address the impact of climate change by assisting member states to mainstream climate change into their development strategies and programmes. To this end, the ACPC hosted the inaugural Climate Change and Development in Africa (CCDA) Conference from 17 to 19 October 2011 at the United Nations Conference Centre in Addis Ababa, Ethiopia. The theme for the conference was 'Development First: Addressing Climate Change in Africa', which reflects the need for integrating development and climate policies, and emphasises the importance of African ownership of its policy formulation and decision-making processes. The inaugural conference built directly on the African Development Forum VII, and many other forums, initiatives, activities, and outcomes of initiatives, including AMCEN; the Conference of African Heads of State and Government on Climate Change (CAHOSCC); the UNFCCC and related instruments; the UN Secretary General's High-level Advisory Group on Climate Change Financing (AGF); the Global Climate Observation System (GCOS) and its sub-regional climate programme; and the Africa-EU Climate Change Partnership. The CCDA Conference helped to position the ClimDev-Africa Programme within this ever-broadening knowledge and institutional terrain, and ascertained how best it could facilitate the interaction between policy, research and practice. The overall objective of the Conference was to establish a forum for dialogue, enhance awareness-raising, and mobilise effective commitment and action by bringing together policymakers, academicians and practising stakeholders, with the aim of effectively mainstreaming climate change concerns into development policies, strategies, programmes and practices in Africa. The CCDA also aimed at strengthening Africa's position and participation in international climate change negotiations with a view to ensuring the continent's concerns and priorities are adequately reflected in a post-2012 international climate change regime.²⁵

24 Cf. AMCEN (2011).

25 Cf. <http://www.unece.org/acpc/ccda/ccda1/index.htm>; last accessed 13 January 2012.

All of the aforementioned developments are laudable, and should be seen as being in the overall interest of the AU. These developments, although not always clearly concerted, reflect that the AU and its subsidiary bodies have acknowledged that climate change and its impacts constitute a pressing policy priority.

3 The Southern African Development Community (SADC)

SADC does not have a specific agenda on climate change per se, though several of its provisions address climate change either directly or indirectly, and the current institutional structure supports climate change related action to a certain extent.²⁶ Interrelating issues pertaining to climate change include water stress, land degradation, food security, health security and environmentally induced migration, amongst many others. As such, the negative effects of climate change, and thus climate change adaptation and mitigation, must be analysed against the backdrop of SADC environmental law in its entirety.²⁷ Although the number of climate change related programmes and initiatives²⁸ is increasing in SADC, much still needs to be done in SADC when it comes to the implementation and enforcement of policy and law.²⁹

3.1 Legal Implications

The SADC Protocols are instruments through which the SADC Treaty is implemented. They have the same legal force as the Treaty itself. A protocol legally binds its signatories after ratification.

One climate change relevant instrument is the SADC Protocol on Energy, which outlines ways of cooperation in the development of energy to ensure the security and reliability of energy supply and energy cost reduction. The Protocol emphasises that the development and use of energy are to be environmentally sound.³⁰ To achieve this objective, the Protocol provides for, among other things, cooperation in the development and utilisation of energy in the sub-sectors of wood fuel, petroleum and natural gas, electricity, coal, new and renewable energy sources, and energy efficiency and conservation. The Protocol formulates SADC states' intention to promote the increased production of new and renewable sources of energy in an economically and socially acceptable manner. On the basis of the SADC Treaty and the Protocol on Energy, the SADC Energy Corporation Policy and Strategy (1996), Energy Action Plan (1997), and the Energy Sector Activity Plan (2000) have been drafted to position the energy sector in such a way that the region can derive maximum benefit from a rationalisation of resources and facilities within it, and to develop initiatives that contribute to building the capacity of the region's energy institutions so that they can participate effectively in the future liberalisation of the energy sector as well as in the regional economy.³¹

26 See Ruppel/Ruppel-Schlichting (2012).

27 See the Chapter on Environmental Law in SADC in this volume.

28 An overview of sub-regional climate change programmes in Southern Africa can be found in Chishakwe (2010).

29 Also see Ruppel/Ruppel-Schlichting (2012).

30 Article 2.8.

31 SADC (2009).

Energy, which is a crucial policy defining issue, is closely linked to key contemporary global challenges in the SADC region, including social development and poverty alleviation, environmental degradation, climate change, and food security. Energy efficiency plays an important role in sustainable growth and development. Better energy efficiency can produce substantial benefits both for global economic growth and poverty reduction as well as for mitigating climate change. In the household energy consumption sector, improved energy efficiency can directly reduce household expenditure on energy services and, therefore, directly help to reduce poverty. Laws governing sustainable energy development and supply cut across many sectors, including agriculture, electricity, environment, forestry, industry, mining, petroleum and water, and, hence, require coordination – a complex challenge that is not easily overcome. The energy sector and the provision of electricity for southern Africa’s population and industries constitute a complex issue without including the spectre of climate change to the equation. If SADC intends reducing its GHG emissions, a transition to sustainable energy is inevitable. This requires redefining SADC’s competitive advantage from attracting energy intensive sectors on the back of non-renewable energy sources, such as coal, to constructing a new advantage around climate-friendly technology and energy. Something that remains a challenge and needs to be researched more intensely is how emerging regional and national legislation can harmonise and coordinate the work around the myriad issues surrounding sustainable energy. Cross-sectoral coordination and responsibilities need to be streamlined in order to ensure decisions are made to promote future energy security in the region through more effective energy trade mechanisms. In the same context, policymakers and bureaucrats need to be capacitated to translate international policy to national and local levels, and vice versa. Further research needs to emphasise linking national, regional and international policymaking, especially in relation to all emerging climate change related issues, such as the Green Climate Fund.³²

SADC states acknowledge that they are members of the World Meteorological Organisation (WMO) and, through their national meteorological services, constitute an integral part of the regional and global system or network of the WMO’s programmes and structures, particularly the World Weather Watch Programme (Article 12.1). Within the WMO’s regional and international cooperative system, states are encouraged to provide adequate legal frameworks and appropriate financial support to national meteorological services to establish an integrated network of observation, data processing and communications systems; and enhance the provision of meteorological services for general and specialised applications in the region and internationally (Article 12.2). This cooperation framework obliges states to, amongst other things, –

- strengthen their weather and climate monitoring systems;
- improve public and specialised weather services;
- promote sustainable development with the emphasis on climate change and protection of

32 Decision -/CP.17, the so-called Durban Platform for Enhanced Action by the Conference of the Parties, moved the new Green Climate Fund forward as the financial mechanism under the UNFCCC in regard to mitigation and adaptation in developing countries. Several European countries together pledged more than US\$50 billion in seed money to establish the Fund. This amount is expected to rise to US\$100 billion a year by 2020.

the environment; and

- strengthen the meteorological research capacity in the region.

The SADC Protocol on Transport, Communications and Meteorology underlines that sustainable development is to be promoted with an emphasis on climate change and protection of the environment. In terms of Article 12.6 (4), these aims are to be achieved by means of:

- (a) strengthening the capabilities of national meteorological centres in climate applications and advice;
- (b) enhancing existing environmental monitoring activities;
- (c) optimising the use of regional structures; and
- (d) fostering an awareness of the contributions which can be made by national meteorological centres to planning sustainable development in agriculture forestry and related areas.

In the forest sector, SADC states have resolved to participate in a process to develop a programme that addresses the common problems of deforestation and degradation in the region, and to formulate joint climate change mitigation measures in order to contribute to the sustainable management of the forests within SADC and, thus, to promote poverty reduction and sustainable development. To this end, SADC ministers responsible for environment and natural resource management approved the SADC Support Programme on Reducing Emission from Deforestation and Forest Degradation (REDD+)³³ during the SADC Ministerial Meeting in Windhoek, Namibia, on 26 May 2011. REDD+ supports states in their efforts to combat climate change and achieve their development goals through reduced emissions in the forestry sector. A comprehensive framework for the region to actively participate in and benefit from the carbon market is also provided, in a bid to contribute to member states' social and economic development. Draft Decision -/CP.17 by COP 17 also produced several agreements that could eventually be helpful in implementing a more comprehensive international solution to climate change in respect of technology transfer, reference standards to be used, and sources of funding for REDD+.³⁴

3.2 Institutional Measures – The SADC Climate Services Centre

The SADC Climate Services Centre (CSC) falls under the auspices of the SADC Secretariat in Gaborone, Botswana, and has the mandate to contribute to mitigation strategies of adverse impacts of extreme climate variations on socio-economic development. Through the CSC, SADC organised the Fifteenth Southern Africa Regional Climate Outlook Forum (SARCOF-15), in Windhoek, Namibia, in August 2011. The SARCOF process continues to offer an effective and reliable source of climate information and prediction services that are being utilised to enhance multi-sectoral, social and economic development. SARCOF-15 is a col-

33 Cf. <http://www.sadc.int/REDD/index.php/document-bank/documents/>; last accessed 18 October 2011.

34 Cf. "Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action, Draft decision -/CP.17", available at http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_durban-platform.pdf; "Green Climate Fund – Report of the Transitional Committee, Draft decision -CP.17", available at http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_gcf.pdf; "Durban decisions", available at <http://unfccc.int/2860.php/>; all last accessed 28 December 2011.

laborative effort between the CSC, SADC's Disaster Risk Reduction Unit, the World Bank Global Facility for Disaster Reduction and Recovery (World Bank–GFDRR), the WMO, the United Nations Food and Agricultural Organisation (FAO), the International Strategy for Disaster Reduction (ISDR), the Office for the Coordination of Humanitarian Affairs (OCHA), and other partners.³⁵ However, although the CSC organises the SARCOF, it is still very weak in terms of capacity and lacks the resources to adequately carry out its mandate.³⁶

3.3 Gaps and Challenges

Among the multiple institutional and financial challenges in SADC, one major weakness within its framework in respect of climate change related issues is the lack of a clear climate change agenda. Although some relevant provisions can be found in various sectoral legal instruments, at this stage, there is no clear road map, such as a consolidated climate change strategy or action plan charting the course on how to deal with climate change. Some important topics related to the effects of climate change, such as environmentally induced migration, are not covered by any SADC Protocol, and SADC institutions seem to be poorly funded and, thus, not as responsive as they need to be.

In fact, analysts say that SADC³⁷:

... is battling to bridge a US\$100 billion funding gap over the five years for its ambitious infrastructure programme, which include[s] national as well as cross-border projects. Inadequate funding and lack of finance could [render] still-born some of the regional bloc's infrastructure projects. Infrastructure projects, some mooted decades ago, have failed to take off the ground as the private sector appears reluctant to engage in partnerships with the public sector [–] perhaps due to integrity issues, inappropriate profit-sharing and financing formulas and more importantly, governance challenges.

Another pressing challenge definitely lies with the supreme judicial institution within SADC, the SADC Tribunal.³⁸ The Tribunal is based in Windhoek, Namibia, and should have jurisdiction over any dispute arising from the interpretation or application of protocols relevant to climate change. However, the SADC Tribunal is no longer operational as SADC Heads of State and Government dissolved it in 2010.³⁹

4 The Tripartite Initiative

In October 2008, the Heads of State and Government of the East African Community (EAC), the Common Market for Eastern and Southern Africa (COMESA), and SADC negotiated a communiqué on the basis of their Tripartite Partnership.⁴⁰ With their Second Tripartite Com-

35 Cf. <http://www.sadc.int/news/sarcof-15-announcement/>; last accessed 12 October 2011.

36 Such was the message of SADC official B Garangonga at the First Climate Change and Development in Africa (CCDA-1) Conference organised by the United Nations Economic Commission for Africa, the African Union Commission, and the African Development Bank, held in Addis Ababa, Ethiopia, 17–19 October 2011.

37 Cf. <http://www.trademarksa.org/news/us100-bn-needed-sadc-projects>; last accessed 20 February 2012.

38 Ruppel/Bangamwabo. 2008.

39 See the Chapter on Environmental Law in SADC in this volume.

40 For further information see the Chapter on Environmental Law in SADC in this volume.

muniqué, issued in 2011, the parties adopted the following developmental approach to the Tripartite integration process, which⁴¹:

... will be anchored on three pillars ... : Market [I]ntegration based on the Tripartite Free Trade Area (FTA); Infrastructure Development to enhance connectivity and reduce costs of doing business as well as Industrial [D]evelopment to address the productive capacity constraints

COMESA, EAC and SADC have already initiated discussions aimed at establishing their Tripartite Climate Change Programme to facilitate the joint long-term vision of close co-operation. This was announced by the EAC Deputy Secretary General of the Productive and Social Sector, Jean Claude Nsengiyumwa, at the Fourth Special AMCEN, held in Bamako, Mali, on 15–16 September 2011. Nsengiyumwa stated that climate change mitigating initiatives focusing on policy negotiations and programmatic activities by the three regional economic communities was currently under way through the tripartite arrangement. The tripartite initiative was lauded by the meeting as being in line with the overall AMCEN vision that seeks to have Africa speak with one voice at climate change gatherings.⁴²

In August 2011, the then Chairman of the AU Commission, Jean Ping, congratulated SADC on its role in the tripartite initiative.⁴³ Indeed, the initiative could bring great economic, social and political benefits to the entire continent – from Cape to Cairo.⁴⁴ For this to be achieved, however, the ambitious initiative would require resolve and sustained political commitment to regional integration.

5 BRICS and BASIC

On 14 April 2011, the leaders of the five so-called BRICS states – Brazil, the Russian Federation, India, China and South Africa⁴⁵ – signed a joint declaration in Sanya, China, on the global economy, international financial issues, and developmental affairs.⁴⁶ With South Africa joining BRICS, the grouping's commitments become relevant for the entire SADC region – at least indirectly.⁴⁷

41 Cf. Second Communiqué of the COMESA–EAC–SADC Tripartite Summit of Heads of State and Government, 2011; available at <http://www.comesa-eac-sadc-tripartite.org/sites/default/files/documents/Communique%20of%20the%202nd%20Tripartite%20Summit%20-%20English%20-%202012.06.2011.pdf>; last accessed 19 October 2011.

42 Cf. <http://www.inamibia.co.na/component/k2/item/10179-comesa-eac-sadc-tripartite-climate-change-programme.html>; last accessed 28 March 2012.

43 Cf. http://www.portalangop.co.ao/motix/en_us/noticias/politica/2011/7/33/congratulates-SADC-COMESA-EC-CAS-tripartite-initiative,3e340c63-bdbb-439e-aed7-ab225c3f3654.html; last accessed 20 January 2012.

44 Cf. http://www.tralac.org/wp-content/blogs.dir/12/files/2011/uploads/CapeToCairo_FinalCombo_201110601web.pdf; last accessed 20 January 2012.

45 Prior to South Africa's first attendance of the summit in 2011, the group was named *BRIC* (Brazil, Russian Federation, India and China). In 2010, South Africa received a formal invitation from China to join. The first BRIC Summit was held in 2009 in Yekaterinburg, Russia; the second took place in Brasília, Brazil, in 2010.

46 The Sanya Declaration is available at <http://www.bricsindia.in/thirdSummit.html>; accessed 08 April 2012.

47 Cf. the Chapter on Environmental Law in SADC in this volume.

The Sanya Declaration prominently refers to climate change related matters – the topic is considered to be “one of the global threats challenging the livelihood of communities and countries”. In this regard, and pointing out the principle of equity and common but differentiated responsibilities, BRICS leaders have, amongst others, committed themselves to:

... work towards a comprehensive, balanced and binding outcome to strengthen the implementation of the United Nations Framework Convention on Climate Change and its Kyoto Protocol [and to enhance] practical cooperation in adapting our economy and society to climate change.⁴⁸

Moreover, cooperation has been envisaged in order to:

... reach new political commitment and achieve positive and practical results in areas of economic growth, social development and environmental protection under the framework of sustainable development.⁴⁹

With the fourth BRICS Declaration signed in New Delhi in March 2012⁵⁰, BRICS states have welcomed the significant outcomes of the 17th Conference of Parties to the United Nations Framework Convention on Climate Change and the 7th Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP17/CMP7) held in Durban, South Africa, in December 2011. It was stated that the BRICS states “are ready to work with the international community to implement its decisions in accordance with the principles of equity and common but differentiated responsibilities and respective capabilities.” Furthermore, the following commitment with regard to climate change was laid down in the New Delhi Declaration:

We are fully committed to playing our part in the global fight against climate change and will contribute to the global effort in dealing with climate change issues through sustainable and inclusive growth and not by capping development. We emphasise that developed country Parties to the UNFCCC shall provide enhanced financial, technology and capacity-building support for the preparation and implementation of nationally appropriate mitigation actions of developing countries.⁵¹

Although energy derived from fossil fuels will dominate the energy mix for the foreseeable future, BRICS states intend to “expand sourcing of clean and renewable energy, and use of energy efficient and alternative technologies, to meet the increasing demand of our economies and our people, and respond to climate concerns as well.” The BRICS position on nuclear energy is, however, very clear. The development of safe nuclear energy for peaceful purposes should proceed under conditions of strict observance of relevant safety standards. In the context of BRICS and climate change, it is also worth mentioning that the so-called BASIC Group – Brazil, South Africa, India and China, which was formed in 2009 – have,

48 Section 22 of the Declaration.

49 Section 23 of the Declaration.

50 Delhi Declaration at <http://www.bricsindia.in/delhi-declaration.html>; last accessed 09 April 2012.

51 See Section 30 of the New Delhi Declaration.

as a group with increasing economic and geopolitical influence, embarked on international climate change negotiations by, amongst others, drafting the Copenhagen Accord together with the United States for the 15th Session of the Conference of the Parties to the UNFCCC (COP15).⁵²

The role of the BASIC countries for climate-related issues has been described as follows:⁵³

... the BASIC countries – both individually and collectively – are rapidly moving to the centre stage of international politics. Their increased influence in international climate diplomacy was clearly seen for the first time at the Copenhagen Climate Conference (COP 15). ... The foundation of the BASIC cooperation can be traced back to a common ‘third world’ identity formed during several decades in the G77 group of developing countries, in which the four BASIC countries have each played leading roles. ... Since COP 15, BASIC ministers responsible for climate-related issues have met quarterly, suggesting that the group is committed to continued cooperation. From the joint statements issued after the meetings, two clear patterns emerge: first, a call for a second commitment period of the Kyoto Protocol; and, second, an effort to build bridges with and show support for the rest of the G77. The discussions thus seem to generate agreement on a few broad principles, but have so far been unable to settle the finer details needed to articulate concrete contributions for the international negotiating process.

Although South Africa is the only AU or SADC member in the BRICS alliance, as well as in the BASIC Group, the continent and the SADC region may still benefit from such an association, especially since many African countries often rely and piggyback on South Africa’s diplomatic engagement experience and expertise.

6 Conclusion

Although it is primarily the responsibility of developed countries to reduce their greenhouse gas (GHG) emissions first, in line with the principle of common but differentiated responsibility, developing countries also need to make specific policy commitments. What became very clear during COP 17 in Durban is that we live in a world that is very different from the context in which the Kyoto Protocol was established. Compared with the mid-1990s, the debates have evolved and the world changed considerably. This applies to Africa, but even more to China and other developing countries that have risen in international political ranking and esteem – with a commensurate increase in impact on the world’s climate. More effective action is still needed.⁵⁴ Over the next few years, China is expected to have more GHG emissions than the United States and Europe produced together over the last century; and, for Africa and southern Africa in particular, climate change is becoming an increasingly threatening reality, but one which is too narrowly perceived in economic and sectoral policies, meaning that the potentially severe negative consequences on the region’s people are still largely being neglected.⁵⁵

52 Hallding *et al.* (2011).

53 *Ibid.*:13.

54 Cf. Ruppel/Grimm /van Wyk (2011).

55 Susswein (2003:297).

Both the AU and SADC have embarked on various new policy initiatives related to climate change. Some of these initiatives also aim to ensure that poor and marginalised communities in Africa, i.e. women, children and indigenous peoples, do not suffer disproportionately as a result of climate change. The AU has been very decisive on action, while SADC – for reasons unpacked earlier in this document – needs to do more. Populations whose rights are poorly protected are likely to be less well-equipped to understand or prepare for climate change; they would be less able to enforce their rights or lobby for them effectively; and are, thus, more likely to be unable to adapt to the anticipated changes in their environmental and economic situation.

Addressing climate change adequately also requires substantial investment in new technologies, processes and services. At the same time, a favourable investment climate is pivotal – and adequate framework conditions for more inclusive climate investment, leveraging private sector resources, and seizing opportunities for innovation may be needed. For the BRICS alliance, growth and development are central to addressing poverty and to achieving the MDGs. In this light, BRICS is considered capable of delivering benefits to the peoples within the alliance, i.e. by enhancing practical international cooperation in adapting to climate change and at the same time promoting sustainable economic development.

In summation, it is laudable that both the AU and SADC have embarked on new policy pathways to accommodate climate change more effectively in future. The same applies to the establishment of the COMESA–EAC–SADC tripartite initiative, and especially its ambitious Climate Change Programme, which aims to actualise the long-term vision of working together on the African continent.

III. CLIMATE CHANGE AND HUMAN VULNERABILITY IN AFRICA

Oliver C. Ruppel

I believe that for his escape he took advantage of the migration of a flock of wild birds. On the morning of his departure he put his planet in perfect order. He carefully cleaned out his active volcanoes. He possessed two active volcanoes; and they were very convenient for heating his breakfast in the morning. He also had one volcano that was extinct. But, as he said, "One never knows!" So he cleaned out the extinct volcano, too. If they are well cleaned out, volcanoes burn slowly and steadily, without any eruptions. Volcanic eruptions are like fires in a chimney. On our earth we are obviously much too small to clean out our volcanoes. That is why they bring no end of trouble upon us. The little prince also pulled up, with a certain sense of dejection, the last little shoots of the baobabs. He believed that he would never want to return. But on this last morning all these familiar tasks seemed very precious to him. And when he watered the flower for the last time, and prepared to place her under the shelter of her glass globe, he realised that he was very close to tears.

Antoine de Saint Exupéry, in *The Little Prince*

1 Introduction

The African continent, in particular the SADC region, is one of the poorest in the world despite being richly endowed with natural resources. Approximately 45% of the total SADC population lives on US\$1 per day. Malnutrition is around 36.1%, ranging from 44 to 72% in the some countries of the region. Life expectancy is just below 40 years, and declining. Infant mortality rates remain above 50 per 1000 births in most countries in the SADC region. These figures are indicative of the harrowing and impoverished conditions afflicting most peoples in the region.¹

Various regions of Africa have experienced changes in weather patterns over recent years, especially concerning the occurrence of droughts and floods.² This has led to property destruction, loss of crops, livestock and settlements, as well as to forced human displacement, all of which have exacerbated already grinding poverty. Vulnerability to climate change relates not only to a change in the frequency or duration of climatically unusual conditions, but also to the capacity to respond adequately to such conditions. Two aspects of vulnerability can be distinguished. The first concerns the likelihood that an individual or group will be exposed to and adversely affected by altered climatic conditions. The second aspect of vulnerability relates to the capacity to anticipate, cope with, resist and recover from the impacts of climate change. This capacity to adapt to climate change obviously varies among regions and socio-economic groups, in the sense that those with the least capacity to adapt are generally the most vulnerable to the impacts of climate change. This, to a great degree, speaks to the

¹ SADC (2008).

² Cf. Haensler *et al.* (2010:2-4) for a climate history of Namibia and western South Africa.

nature and abundance of the resources available to a given group, individual or region, to mitigate, overcome or adapt to altered climate conditions. Climate change has an impact on socio-economic development, and it affects various sectors crucial to such development – water availability, forestry, agriculture, biodiversity, food security and human health. Human vulnerability has become a key focus of human rights discussions, which now also tend to focus on how flooding, devastated housing, changes in the supply of fresh and irrigation water, contagious diseases, prolonged droughts, forced migration, deforestation, soil denudation, etc., will impact on human lives.³

Projected consequences of continued temperature increases include a rise in sea levels, changes in precipitation patterns, and the resultant threat to food security and sustainable development in general, with more people pushed into and caught in poverty, especially in developing countries with fragile economies.⁴

One of the major natural resource implications of climate change is that human populations – and the law – will have to adapt to significant shifts regarding fresh water resources, especially where population concentration will create or exacerbate conditions of water scarcity. More than three decades ago water law expert Frank Trelease wrote, in the context of climate change:

While one function of law is to give stability to institutions and predictability to the results in action, often the strength of law will lie not in immutability but in capacity for change and flexibility in the face of new forces.⁵

It is not clear whether climate change in Africa will be pushing the hydro-climate beyond the capacity of existing water resources in future. However, again in the words of Trelease, “We would be wise to plan for the unpredictable”.⁶ It is expected that the ‘water side’ of climate change is likely to generate a significant impact on national and global economies; and it is not unlikely that this will result in increased local and international conflict, particularly in Africa.⁷

This may also affect the energy production sector, as water is closely connected to the generation of electricity. An important question repeatedly posed is whether an increase in hydro-electric and nuclear electricity generation will have the required effect of a decrease in greenhouse gas emissions. In fact, the increased water requirements of these kinds of energy generation – to run turbines and for cooling – might exacerbate pressures on already strained water reserves and create new constraints. The interconnectedness and interdependence of water, energy, national welfare and international economies becomes clearer as climate change progresses around the world.

3 Passage taken from Ruppel (2010a).

4 Ibid.

5 Trelease (1977).

6 Ibid.

7 Scholtz (2010).

Moreover, the potential consequences of climate change and a decrease in fresh water also pose challenges for animal and plant species and biodiversity,⁸ which in turn is likely to influence the human food chain.⁹ All these considerations call for global level scrutiny and perhaps for a new and global green deal¹⁰ that reassesses development in a carbon-constrained¹¹ and water-stressed world.

2 The Intergovernmental Panel on Climate Change (IPCC) and Predictions for Africa

The Intergovernmental Panel on Climate Change (IPCC) was established by the United Nations Environmental Programme (UNEP) and the World Meteorological Organisation (WMO) in 1988. The IPCC assesses the scientific, technical and socio-economic information relevant for the understanding of human-induced climate change, its potential impacts and options for mitigation and adaptation. In 2007 the IPCC and Albert Arnold (Al) Gore Jr. were awarded with the Nobel Peace Prize:

... for their efforts to build up and disseminate greater knowledge about man-made climate change and to lay the foundations for the measures that are needed to counteract such change.

The 5th IPCC Assessment Report (AR5)¹² will be published between 2013 and 2014.¹³

The IPCC consists of three Working Groups: The IPCC Working Group I (WG I) assesses the physical scientific aspects of the climate system and climate change. The main topics assessed by WG I include: changes in greenhouse gases and aerosols in the atmosphere; observed changes in air, land and ocean temperatures, rainfall, glaciers and ice sheets, oceans and sea level; historical and paleo-climatic perspectives on climate change; biogeochemistry, carbon cycle, gases and aerosols; satellite and other data; climate models; climate projections, causes and attribution of climate change.¹⁴ The WG I Technical Support Unit, which manages the organisational and administrative activities of the Working Group, is hosted by the University of Berne, Switzerland, and funded by the government of Switzerland.¹⁵

The IPCC Working Group II (WG II) assesses the vulnerability of socio-economic and natural systems to climate change, negative and positive consequences of climate change, and options for adapting to it.¹⁶ It also considers the relationship between vulnerability, adaptation and sustainable development. Information is evaluated by sector (water resources; eco-

8 Hinz/Ruppel (2010).

9 Erens *et al.* (2009:207).

10 Barbier (2010).

11 Palosuo (2009).

12 Cf. <http://www.ipcc.ch/pdf/ar5/ar5-outline-compilation.pdf>; last accessed 14 December 2010.

13 Cf. <http://www.ipcc.ch/>; last accessed 14 December 2010.

14 http://www.ipcc.ch/working_groups/working_groups.shtml; last accessed 14 December 2010.

15 <https://www.ipcc-wg1.unibe.ch/>; last accessed 14 December 2010.

16 The author of this chapter is one of the two Coordinating Lead Authors for the AR5 Chapter on Africa in WG II.

systems; food and forests; coastal systems; industry; human health) and region (Africa; Asia; Australia and New Zealand; Europe; Latin America; North America; Polar Regions; Small Islands).¹⁷ In its reports, Working Group II elaborates on the scientific, technical, environmental, economic and social aspects of the vulnerability (sensitivity and adaptability) to climate change of, and the negative and positive consequences for, ecological systems, socio-economic sectors and human health, with an emphasis on regional, sectoral and cross-sectoral issues. The WG II Technical Support Unit is housed at the Carnegie Institution for Science in Stanford, California, USA.¹⁸

The IPCC Working Group III (WG III) assesses options for mitigating climate change through limiting or preventing greenhouse gas emissions and enhancing activities that remove them from the atmosphere. The main economic sectors are taken into account, both in a short-term and in a long-term perspective. The sectors include energy, transport, buildings, industry, agriculture, forestry, waste management. WG III analyses the costs and benefits of the different approaches to mitigation, considering also the available instruments and policy measures. The approach is more and more solution-oriented.¹⁹ The IPCC WG III Technical Support Unit is housed at the Potsdam Institute for Climate Impact Research in Potsdam, Germany.²⁰

The Task Force on National Greenhouse Gas Inventories (TFI) was established by the IPCC to oversee the IPCC National Greenhouse Gas Inventories Programme (IPCC-NGGIP). The core activity is to develop and refine an internationally agreed methodology and software for the calculation and reporting of national GHG emissions and removals and to encourage its use by countries participating in the IPCC and parties to the United Nations Framework Convention on Climate Change (UNFCCC). The NGGIP also established and maintains an Emission Factor Database.²¹ The IPCC National Greenhouse Gas Inventories Programme was managed from 1991 by the IPCC WG I in close collaboration with the Organisation for Economic Co-operation and Development (OECD) and the International Energy Agency (IEA), until its transfer to the IPCC's Task Force on National Greenhouse Gas Inventories (TFI), based in Japan, in 1999.²²

In its 2007 Climate Change Synthesis Report, the IPCC predicts the following with regard to Africa:

By 2020, between 75 and 250 million of people are projected to be exposed to increased water stress due to climate change. By 2020, in some countries, yields from rain-fed agriculture could be reduced by up to 50%. Agricultural production, including access to food, in many African countries is projected to be severely compromised. This would

17 http://www.ipcc.ch/working_groups/working_groups.shtml; last accessed 14 December 2010.

18 <http://ipcc-wg2.gov/index.html>; last accessed 14 December 2010.

19 http://www.ipcc.ch/working_groups/working_groups.shtml; last accessed 14 December 2010.

20 <http://www.ipcc-wg3.de/>; last accessed 14 December 2010.

21 http://www.ipcc.ch/working_groups/working_groups.shtml; last accessed 14 December 2010.

22 <http://www.ipcc-nggip.iges.or.jp/>; last accessed 14 December 2010.

further adversely affect food security and exacerbate malnutrition. Towards the end of the 21st century, projected sea level rise will affect low-lying coastal areas with large populations. The cost of adaptation could amount to at least 5-10% of Gross National Product (GDP). By 2080, an increase of 5-8% of arid and semi-arid land in Africa is projected under a range of climate scenarios.²³

In its 2007 Summary for Policymakers, IPCC Working Group II reflects on impacts, adaptation and vulnerability:

New studies confirm that Africa is one of the most vulnerable continents to climate variability and change because of multiple stresses and low adaptive capacity. Some adaptation to current climate variability is taking place: however, this may be insufficient for future changes in climate.²⁴

With regard to adaptation and vulnerability in Africa, the IPCC in its 2008 Technical Paper on Climate Change and Water observes that there is a clear variance in climate; about 25% of the world population experiences water stress; one third of the people in Africa live in drought-prone areas and are vulnerable to droughts, which have contributed to human migration, cultural separation, population dislocation and the collapse of ancient cultures.²⁵ Moreover, a number of studies have linked climate change to public health (e.g. malaria, HIV and water-borne diseases, such as cholera and diarrhoea).²⁶ Access to safe drinking water and sanitation has the potential to contribute to improved health and reduced poverty for the majority of Africans. The potential health issues arising from climate change underscore that climate change is really about public health. Health is an important aspect of human capital. Therefore, there is a need to ensure that the health sector is ready to deal with climate change. Agriculture, which is the mainstay of many African economies in terms of the number of people supported by this sector, will be profoundly affected, unless and even if this sector adequately prepares and positions itself as climate change unfolds.

3 Human Vulnerability

Various studies highlight the vulnerability of Africans that depend primarily on natural resources for their livelihoods, indicating that their resource base – already severely stressed and degraded by overuse – is expected to be further adversely affected by climate change.²⁷ Populations already vulnerable as a result of their status – women, children, the aged, minorities and the disabled – will be feeling the effects of climate change the hardest.²⁸

Women in Africa are especially exposed to climate change related risks due to existing gender discrimination, inequality and inhibiting gender roles.²⁹ Elderly women and girls are ex-

23 IPCC (2007a:11).

24 IPCC (2007a:13).

25 Bates *et al.* (2008:79-85).

26 Ibid: at 83 with further references.

27 Ibid: at 85; Leary *et al.* (2006).

28 Ruppel (2010a,b).

29 Ruppel (2008b; 2010d).

pected to be most severely affected. Women are vulnerable to gender-based violence during natural disasters and during migration, and girls are more likely to drop out of school when household incomes and resources come under stress. Rural women are expected to bear the brunt of considerable negative effects on agriculture and deteriorating living conditions in rural areas. This vulnerability is exacerbated by factors such as unequal property rights, exclusion from decision-making and difficulties in accessing information and financial services.

With regard to African children, climate change is expected to increase existing health risks and to undermine support structures that protect children from harm. Extreme weather conditions and scarcity of safe drinking water are major causes of malnutrition and infant and child mortality in Africa. Likewise, increased stress on livelihoods will make it more difficult for children to attend school.³⁰ Girls will be particularly adversely affected as traditional household chores, such as collecting firewood and water, require more time and energy when resources are scarce.

Climate change also poses a threat to indigenous peoples in Africa, who often live in marginal lands and fragile ecosystems, which are particularly sensitive to changes in weather.³¹ Climate change could become a driver of migration and population displacement and it is acknowledged that indigenous people living in dry-lands are among the most vulnerable communities, as a result of water scarcity. Indigenous peoples have been voicing their concerns about the impacts of climate change on their rights as distinct peoples, and the importance of giving them a voice in policymaking on climate change at both national and international levels; further, to take into account and to build on their traditional knowledge. Customary law³² and indigenous knowledge should therefore be incorporated into climate change policies in order to foster the development of cost-effective, participatory and sustainable adaptation strategies.³³

Populations whose rights are poorly protected are likely to be less well-equipped to understand or prepare for climate change; they would be less able to lobby effectively for government or international action; and are more likely to lack the resources needed to adapt to expected change in their environment and economic situation. The efforts that have been made so far to place rights at the centre of any future climate change-mitigating dispensation have not been human rights focused. However, human rights impacts are a relevant concern. To mobilise the policy value, and indeed the legal force, of human rights in the construction of a climate change mitigating dispensation, requires the assessment of likely human rights impacts and outcomes of climate change. The specific rights potentially affected by climate change, such as rights to food, water, shelter, and health or rights associated with gender, children and indigenous peoples, must be addressed in context. Each of the human rights³⁴

30 Ruppel (2010b).
31 Cf. studies on Biodiversity in Hinz / Ruppel (2008a).
32 Ruppel (2010c).
33 Mfune *et al.* (2009b).
34 Ruppel (2008a).

affected by climate change need to be identified and addressed in order to infuse relevance into on-going consultations, political negotiations, global cooperation discussions and other actions, whether internationally, regionally and nationally.³⁵

Rights and responsibilities regarding the utilisation of environmental resources need to be distributed with greater equity among communities, both globally and nationally. In this context political participation, access to information and broad public involvement are just as important to the realisation of human rights as the development of quality climate change related education and interdisciplinary research of high standard. In order to become a winner – rather than a loser in the face of climate change – Africa needs more highly skilled experts in this field in order to meet future demand and to be in a position to adequately negotiate around its international interests in a growing and complex, knowledge-based global economy.³⁶

4 Concluding Remarks

Africa is most vulnerable to climate change due to the existence and interaction of multiple stresses – endemic poverty, complex governance and institutional dimensions, limited access to capital, markets, infrastructure and technology, ecosystem degradation, complex disasters and conflicts and low adaptive capacity. Yet, as a global problem, climate change calls for multilateral solutions as opposed to unilateral approaches, in particular if these are confrontational. Differentiation through emissions targets and additional multilateral obligations under policies and other measures in the climate sector is key to addressing leakage and competitiveness concerns. A scientific consensus is emerging that a substantial reduction in greenhouse gas emissions will be required to prevent an extreme increase in average temperature. It is also acknowledged that a business-as-usual scenario would have disastrous consequences for future generations. Although the on-going international negotiations around climate change-related initiatives centre largely on which countries will reduce their emissions, consensus is emerging that it is primarily the responsibility of developed countries to reduce their greenhouse gas emissions first, while – in line with the principle of common but differentiated responsibility – developing countries make specific policy commitments.

At the same time, it is clear that required global emissions reductions cannot be achieved in developed countries alone. Developing countries will have to reduce emissions as well, especially China and India. As a consequence, developed *and* developing countries will have to transform themselves into low-carbon economies over the long run. This will require efforts at various levels, including substantial changes in lifestyle, in particular in industrialised countries. Equally important is major investment in low carbon technology and modern technology transfer to and capacity building in Africa.³⁷ Robust scientific knowledge about climate change plays an overarching role. By means of effectively and objectively assessing

35 PIK Report (2010).

36 Ruppel (2010a).

37 Ohlendorf/Gerstetter (2009).

such scientific knowledge and prevailing uncertainty, the IPCC can provide the world with the best possible and much-needed evidence of climate change-related impacts.

IV. INTERNATIONAL LEGAL CLIMATE CHANGE REGIMES AND CLIMATE FINANCE FROM A SOUTHERN AFRICAN PERSPECTIVE

Oliver C. Ruppel

This chapter¹ examines the international legal climate change regimes from a southern African perspective. Departing from how climate change is embedded in international law and particularly the United Nations system, the chapter seeks to explain relevant treaties including the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, as well as the United Nations Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD). Moreover, the chapter highlights other international law regimes relevant to climate change such as the Vienna Convention on Ozone Depletion, the Montreal Protocol and the international trade regime (GATT/WTO). Considering that states also have obligations under international human rights law to address threats to human rights from climate change, the international human rights dispensation is discussed with a special focus on specific vulnerable groups, e.g. women, children and indigenous people.

Despite Africa's relatively low contribution to the world's total GHG emissions, it is one of the most vulnerable continents to climate change.² Southern Africa is particularly vulnerable because of a combination of factors, especially poverty. The complexity of climate change means that a diverse range of institutions and legal regimes are relevant.³ It is expected that climate change will have a significant impact on national, regional and global economies, and it is likely that this will result in increased local and international conflict.⁴ This also applies with a view to the interconnectedness and interdependence of water, energy, national welfare and international economies, as climate change progresses.

The international legal climate change regime is a product of international law, which has developed rapidly over the past few decades, especially since the dawn of the United Nations (UN), when rules and norms regulating activities carried on outside the legal boundaries of nations were developed. Numerous international agreements – bilateral, regional or multi-lateral – have been concluded and international customary rules, as evidence of a general practice accepted as law, have been established. International agreements are binding upon states if the consent to be a party to them is expressed by a signature followed by ratification, or by accession, where the state is not a signatory to a treaty, or by declaration of succession to a treaty concluded before such a state existed. The sources of international law in general are listed in Article 38 of the Statute of the International Court of Justice (ICJ), the principal

1 This Chapter is largely based on Ruppel (2011b and c).
2 Boko *et al.* (2007).
3 Keohane/Victor (2010).
4 Scholtz (2010).

judicial organ of the United Nations. However, considering that Article 38 of the Statute of the ICJ was first drafted in 1920, these provisions no longer reflect all the sources of today's international law. New developments in respect of sources of law have to be considered in addition to those recognised in Article 38.

1 The 1992 United Nations Conference on Environment and Development (UNCED)

The 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, reaffirmed the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm, Sweden, in 1972, seeking to build upon it with the goal of establishing a new and equitable global order through the creation of new levels of cooperation among states, key sectors of societies and people, working towards international agreements which respect the interests of all and protect the integrity of the global environmental and developmental system, recognising the integral and interdependent nature of the earth. It proclaims first and foremost that human beings are at the centre of concerns over sustainable development. They are entitled to a healthy and productive life in harmony with nature (Principle 1). Moreover, states have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction (Principle 2). Thirdly, the right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations (Principle 3).

Governments, international organisations and other bodies should promote synergies at the national level between the United Nations Framework Convention on Climate Change and its Kyoto Protocol and the Convention on Biological Diversity, when implementing climate change mitigating activities and their relation to the conservation and sustainable use of biodiversity. Such cooperation between the Convention on Biological Diversity and all relevant international conventions, organisations and bodies, can strengthen and build on existing cooperative arrangements to enhance synergies and reduce inefficiencies in a manner consistent with their respective mandates, governance arrangements and agreed upon programmes, within the scope of existing resources. Such synergies between international environmental instruments, and the secretariats of the Convention on Biological Diversity, the United Nations Convention to Combat Desertification and the United Nations Framework Convention on Climate Change can only be mutually beneficial.

Climate change issues are cross-sectoral and, thus, a wide range of international conventions become applicable. The most relevant international agreements binding upon states and relating to climate change are those which were developed during the 1992 Rio Conference:

- United Nations Framework Convention on Climate Change (UNFCCC)
- United Nations Convention on Biological Diversity (CBD)

- United Nations Convention to Combat Desertification (UNCCD)

All of the above and the Kyoto Protocol are ‘treaties’ in terms of international law and Article 2.1(a) of the Vienna Convention on the Law of Treaties. Any treaty negotiation recognises the pre-eminence of the concept of state sovereignty. Yet, the UNFCCC and the subsequent Kyoto Protocol can at the same time be seen as an articulation of how states balance their sovereign right to follow their own development agenda with their overall responsibilities under international law, including those measures aimed at avoiding harm to areas beyond the limits of national jurisdiction. This means that the global nature of climate change demands that states scale-back some of their sovereignty by engaging in international cooperation and negotiation in the interest of the ‘common concern of humankind’ (UNFCCC, Preamble). Strictly speaking, relevant international obligations, such as those embodied in the Rio Declaration, include but are broader than the responsibility to avoid trans-boundary harm. They include responsibilities to protect ecosystems, eradicate poverty, etc.

2 The United Nations Framework Convention on Climate Change (UNFCCC)⁵

International oversight and implementation of the climate regimes are only possible through an array of institutions under the United Nations Framework Convention on Climate Change UNFCCC and the Kyoto regimes.⁶ The Conference of Parties (COP) is the supreme body of UNFCCC, which regularly reviews the implementation of the Convention and any related legal instruments that the Conference of the Parties may adopt to promote the effective implementation of the Convention.

The mandate of the COP to amend the UNFCCC and the Kyoto Protocol, or adopt a new legal instrument that either supplements or replaces the Kyoto Protocol is broadly limited by the UNFCCC’s objective and guiding principles. The UNFCCC, however, only provides a general framework to combat climate change. Parties have a responsibility to protect the climate system in accordance with their common but differentiated responsibilities and respective capabilities.⁷

The UNFCCC allows for the introduction of protocols to the Convention. The first of these is the Kyoto Protocol. This agreement came into force on 16 February 2005. A number of global initiatives are being implemented to assist in the operationalisation of the UNFCCC. For example, the Global Environment Facility (GEF) serves as an operating entity of the UNFCCC financial mechanism and has been supporting the national capacity self-assessment process at national level for some time, among other things. This is aimed at providing countries with an opportunity to articulate their own capacity needs in implementing the UNFCCC, the

5 See for further details von Bassewitz in this volume.

6 Depledge/Yamin (2009).

7 Cf. for more details http://www.unep.org/roa/amcen/docs/publications/guidebook_CLimateChange.pdf, last accessed 22 January 2012.

other two Rio Conventions and other non-Rio Conventions (e.g. chemicals). The ultimate objective of the UNFCCC is to stabilise greenhouse gas concentrations “at a level that would prevent dangerous anthropogenic interference with the climate”.⁸ Such a level – and this is generally regarded by developing countries as an integral part of the aforementioned objective – should be reached within a timeframe which allows ecosystems to adapt naturally to climate change, while guaranteeing that food production is not at risk and that development occurs in a sustainable manner.

The Convention is a framework document, identifying two major areas of action required to address climate change, namely mitigation⁹ and adaptation¹⁰. Moreover, the Convention as a legal instrument identifies a wide range of measures (see, e.g., the diversity of measures in Article 4.1) to address climate change through other activities such as scientific and technical cooperation, technology transfer, finance etc. The UNFCCC allows any state to become a party, and as at 2011 has 194 signatories, making it a global instrument. Within this framework of global participation, actual obligations of parties differ substantially between industrialised and developing countries. The UNFCCC enshrines a number of key principles (Article 3) including the principles of ‘equity’ and ‘common but differentiated responsibilities and respective capabilities’. Today’s accumulated greenhouse gas emissions originate mainly from over 150 years of carbon-based industrial activity in developed states. Therefore UNFCCC recognises that all countries have a common responsibility to tackle climate change, but places a heavier burden on industrialised states to fulfil their historic responsibility of addressing climate change.¹¹

These principles are reflected in the obligations established for developed and developing countries in the Convention, including those relating to mitigation, adaptation, technology transfer, finance as well as communication of information relating to the Convention. The Convention goes further to make provision for countries in special situations, including particularly vulnerable countries, least-developed countries, countries undergoing transition to a market economy (e.g. Articles 4(4), 4(6), 4(8), 4(9) and 4(10)). Article 4(4) UNFCCC, for instance, states: “The developed country parties (...) shall assist the developing country parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects”.

In light of the adaptation objective, the UNFCCC commits all members to formulate, implement and update adaptation measures. Article 4.1 sets out common commitments for all Parties. Article 4.2 creates differentiated mitigation commitments for Annex I Parties. Article 4.3 addresses finance. Article 4.4 addresses additional support for particularly vulnerable countries, which must be read with Article 4.8 which defines vulnerable countries.

8 UNFCCC (2009a).

9 UNFCCC (2009b).

10 UNFCCC (2009c).

11 Boisson de Chazourne (2008).

A system of grants and loans is set up through the Convention's financial mechanism and is managed by the Global Environment Facility. Industrialised countries agree to share technology with less-advanced nations.¹² Institutions and procedures of the UNFCCC are drawn from the UN system with the Conference of Parties (COP) as the ultimate policy-making body, which in turn is assisted by two subsidiary bodies. The international negotiation process on climate change revolves around the sessions of the COP, which meets every year to review the implementation of UNFCCC.¹³ Procedures are governed by the procedural rules included in the UNFCCC itself and the Draft Rules on Procedure even though the latter have never been formally adopted owing to a quarrel over the voting rules. This is why most of the decisions can only be taken by consensus.¹⁴

All parties have commitments under the UNFCCC (cf. Article 4). While some of these commitments are binding on all, other commitments have been particularly included to address the specific needs of developing countries according to the principle of common but differentiated responsibilities. Annex I parties are for example subject to specific requirements to demonstrate that they are taking the lead in combating climate change. To this end, Article 4.2 requires them to adopt policies and measures to mitigate climate change by limiting their GHG emissions and enhancing their GHG sinks and reservoirs. Another differentiation occurs with regard to Annex II parties, which are required to provide financial assistance and facilitate the transfer of technologies to developing countries to help them implement their commitments under the Convention. The group of countries with economies in transition are granted some flexibility in implementing their commitments, to take into consideration recent economic and political developments in their countries.

Special Consideration of Developing Countries Interests and Commitments for developed country Parties and Annex I Parties are regulated in Article 4.2, and include the following:

- Requirement to adopt national policies and measures which demonstrate that developing countries are taking the lead in combating climate change, with the aim of returning emissions to their 1990 levels taking into account the differences in these countries' starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these countries to the global effort regarding that objective (4.2.(a)).
- To this end communicate detailed information on policies and measures as well as on its resulting projected anthropogenic emissions (Article 4.2. (b), (c) and (d)).

Commitments for developed country parties and Annex II Parties are provided for in Articles 4.3, 4.4, 4.5 and 4.6, and include the following:

- Obligation to provide financial resources to enable developing countries to undertake emissions-reduction activities under the Convention.

12 Boisson de Chazourne (2008).

13 UNFCCC (2009d).

14 Depledge and Yamin (2009).

- Taking into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed countries, new and additional financial resources must be provided to meet the full costs incurred by developing countries in preparing their communications and the full incremental costs of implementing measures that are covered by Article 4.1.
- Assistance for the developing countries particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.
- Obligation to take all necessary steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to developing countries to enable them to implement the provisions of the Convention.

According to Article 4.9, “Parties shall take full account of the specific needs and special situations of the least developed countries in their actions with regard to funding and transfer of technology”.

3 The Kyoto Protocol¹⁵

The Kyoto Protocol came into force in 2005 and shares the objectives and the institutions of the UNFCCC. The major distinction between the two is that while the UNFCCC only encourages industrialised countries to stabilise greenhouse gas emissions, the Kyoto Protocol obliges them to do so. Just like the UNFCCC, the Kyoto Protocol imposes a heavier burden on developed nations under the principle of ‘common but differentiated responsibilities’. This group of countries must first and foremost take domestic action to address climate change, but the Kyoto Protocol allows them a certain degree of flexibility in satisfying their emissions commitments.

Under the Kyoto Protocol, actual emissions have to be monitored – each party must keep a national register to show measures carried out under the Kyoto Protocol instruments. The secretariat keeps an independent transaction log to verify that operations are consistent with the rules of the Kyoto Protocol. The most important aspect of the Kyoto Protocol is arguably the creation of an aggregate target for the developed countries (Article 3) as well as legally binding and quantified individual targets set out in Annex B. It should also be noted that there are significant commitments for reporting, review, independent assessment and compliance (Articles 5, 7, 8 and 18).

Under the adaptation objective, the Kyoto Protocol, like the UNFCCC, is designed to support countries in adapting to the inevitable effects of climate change and to facilitate the development of techniques that can help increase resilience to climate change impacts. An Adaptation Fund was set up to help with concrete adaptation projects in developing countries. The Adaptation Fund is a ‘solidarity fund’ in which a proportion of the revenue of CDM projects in developing countries is contributed to a fund to assist adaptation projects in other developing countries.

¹⁵ See for further detail von Bassewitz in this volume.

In light of the 3rd IPCC Assessment Report and new emerging science, it became abundantly clear that the measures agreed to in the UNFCCC and the Kyoto Protocol were an inadequate international response to the threats posed by climate change. The results of the Kyoto Protocol were not as expected. It imposed relatively high costs and generated only negligible benefits, while failing to provide a real solution.¹⁶

Global warming needs to be addressed more efficiently in future.¹⁷ Not only has the world's largest greenhouse gas emitter at the time, the US, pulled out of Kyoto in 2003. It has been repeatedly stated that the largest increase in greenhouse gas emissions originates from China and India, which lack quantitative emission targets under the Kyoto Protocol. This is, however, not fully accurate. India's emissions are considerably less than some other Annex I countries. Moreover, both India and China have per-person emissions lower than the global average. The characterisation of India and China as the problem is arguably part of developed country efforts to shift focus from their failure to reduce emissions and to shift the burden to rapidly developing, but still relatively poor, developing countries. The current state of affairs shall be discussed *infra*.¹⁸

4 The United Nations Convention on Biological Diversity (CBD)

The Convention on Biological Diversity (CBD) entered into force on 29 December 1993. It has three main objectives:

1. The conservation of biological diversity;
2. The sustainable use of the components of biological diversity;
3. The fair and equitable sharing of the benefits arising from the utilisation of genetic resources.

It is now widely recognised that climate change and biodiversity are connected. Biodiversity is affected by climate change, with negative consequences for human well-being, but biodiversity, through the ecosystem services it supports, also makes an important contribution to both climate-change mitigation and adaptation. Consequently, conserving and sustainably managing biodiversity is critical to addressing climate change. According to the Millennium Ecosystem Assessment, climate change is likely to become one of the most significant drivers of biodiversity loss by the end of the century. Climate change is already forcing biodiversity to adapt either through shifting habitat, changing life cycles, or the development of new physical traits. Conserving natural terrestrial, freshwater and marine ecosystems and restoring degraded ecosystems (including their genetic and species diversity) is essential for the overall goals of both the CBD and UNFCCC because ecosystems play a key role in the global carbon cycle and in adapting to climate change, while also providing a wide range of ecosystem services that are essential for human well-being and the achievement of the Millennium Development Goals (MDGs). Biodiversity can support efforts to reduce the negative effects

16 Olmstead/Stavins (2006).

17 Helm (2009b).

18 Cf. von Bassewitz in this volume.

of climate change. Ecosystem-based adaptation must integrate the use of biodiversity and ecosystem services into an overall adaptation strategy that can be cost-effective and generate social, economic and cultural benefits and contribute to the conservation of biodiversity.¹⁹

5 The United Nations Convention to Combat Desertification (UNCCD)

The United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992 called on the United Nations General Assembly to establish an Intergovernmental Negotiating Committee (INC) to prepare, by June 1994, a Convention to Combat Desertification (UNCCD), particularly in Africa. Desertification is land degradation in drylands, resulting from various factors, including climatic variations and human activities. According to the Millennium Ecosystem Assessment (2005), populations in drylands live under the worst economic conditions. Drylands have the lowest GDP per capita and the highest infant mortality rates. Soil degradation in drylands exacerbates the problem even more. The decline in the fertility of land reduces crop production and additional income sources. Land degradation can also trigger a cycle of environmental degradation, impoverishment, migration and conflicts, often also putting the political stability of affected countries and regions at risk. Increased attention to the linkage of land and soil to climate change not only enriches the substantive and conceptual debates on effective means for carbon sequestration. It also provides a new and a highly interesting platform for developing countries to enter into the adaptation and mitigation agendas, considering that for many of them soil is the single most important natural resource. One concrete way forward could be to expand the coverage of the Clean Development Mechanism towards agricultural land use, to include projects focusing on carbon sequestration in soil.²⁰

6 Other International Regimes

Apart from the aforementioned, there are of course still other international legal instruments that deal with climate change, such as the Vienna Convention on Ozone Depletion and the Montreal Protocol, which already in the 1980s introduced a series of effective steps to phase out the global production and consumption of ozone-depleting substances. The complex relationship between ozone-depleting substances and greenhouse gasses resulted in the fact that both regimes (at least until recently) acted largely independently. However, the 1987 Montreal Protocol and successor agreements are not only regarded as highly successful examples of international environmental regulatory cooperation, there are also lessons to be learned from the ozone layer experience in dealing with climate change. Moreover, the Montreal Protocol has made a substantial commitment to climate goals, and there are substantial proposals on the way to increase this. “The Montreal Protocol is widely considered one of the world’s most successful multilateral environmental agreements, having phased out 97% of almost 100 ozone-depleting substances (ODSs), placing the ozone layer on a path to recovery later

19 See <http://www.cbd.int/climate/>; last accessed 24 November 2011.

20 UNCCD (2007).

this century. Because many ODSs are also potent greenhouse gases (GHGs), their phase-out under the Montreal Protocol has provided an often overlooked bonus for climate mitigation: by the end of the decade, the Montreal Protocol will have done more to mitigate climate change than the initial Kyoto Protocol reduction target, reducing emissions in terms of carbon dioxide ('CO₂'), equivalent to 135 billion tonnes between 1990 and 2010 and delayed climate impacts – including abrupt and irreversible impacts – by about 12 years”.²¹

It has also been argued that Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) have several opportunities to take impacts of climate change into account, particularly when listing a species and when making non-detriment findings. It would go beyond the scope of this chapter to make more specific reference than this, but it needs stating that the following instruments have potential impacts on climate change: The Ramsar Convention on Wetlands of International Importance; the Convention on the Conservation of Migratory Species of Wild Animals, the Law of the Sea Regime (UNCLOS) and others.

Moreover, the international trade regime (GATT/WTO) is obviously strongly related to UNFCCC and Kyoto. In fact, both recognise that climate change policy may provide opportunities as well as challenges for the international trading system. The WTO is a remarkable example of institutional evolution and its dispute settlement system is as effective as impartial. However, similar to the climate change negotiations, the so-called Doha Development Round of multilateral trade negotiations have been complex and so far without the success. Both negotiations processes seem to be lacking the necessary consensus of the parties involved. The only difference between the two negotiations processes lies in the fact that “the climate doesn’t have time for a Doha-like approach”.²² Unfortunately, after more than 10 years of repeated negotiation failures the Doha Development Round is unlikely to be concluded in the near future. Some even contend that the “WTO risks its future by keeping Doha alive”.²³

7 International Human Rights Conventions and Climate Change²⁴

The efforts that have been made so far to place rights at the centre of any future climate change dispensation have not been human rights-focused. In fact, most international human rights instruments were drafted before the emergence of climate change as a common concern.²⁵ However, human rights impacts are a relevant aspect when formulating an African position in the international climate change negotiations.²⁶ In fact, “climate change prompts significant questions about justice and distribution. There is an acute need for intelligent collective action focusing on the human suffering that climate change will cause in future. On the one

21 Cf. <http://www.igsd.org/montreal/index.php> (also for further references); last accessed on 25 November 2011.

22 Houser (2010:16).

23 Cf. <http://www.taipeitimes.com/News/editorials/archives/2011/12/31/2003522031>; last accessed on 13 January 2012.

24 For further information also see: Ruppel (2011b).

25 Shelton (2007:161).

26 Scholtz (2010).

hand, as a matter of law, the human rights of individuals need to be viewed in terms of state obligations: it is principally the state that is responsible for human rights fulfilment. On the other hand the assignation of such responsibility to only the state seems inadequate in the context of climate change and human security”.²⁷

To mobilise the policy value, and indeed the legal force of human rights in the construction of a climate change regime, therefore, requires the introduction of likely human rights impacts and outcomes of climate change. The specific rights potentially affected by climate change, such as rights to food, water, shelter, and health or rights associated with gender, children and indigenous peoples must be addressed in context. In 2009, the Human Rights Council adopted Resolution 10/4²⁸ which noted the effects of climate change on the enjoyment of human rights, and reaffirmed the potential of human rights obligations and commitments to inform and strengthen international and national policy making. In that resolution, the Council welcomed the exchange of information between the Office of the High Commissioner for Human Rights (OHCHR) and the UNFCCC Secretariat, and stated that climate change and human rights are governed by international regimes that have evolved separately, with different premises underlying the legal frameworks of multilateral environmental agreements (like the UNFCCC) and human rights treaties.²⁹

What is remarkable is the emphasis made by Cancun Decision 1/CP.16 on a human rights oriented approach to deal with all issues relating to climate change, by:

[r]ecognising that climate change represents an urgent and potentially irreversible threat to human societies and the planet, and thus requires to be urgently addressed by all Parties [...]

And:

[n]oting resolution 10/4 of the United Nations Human Rights Council on human rights and climate change, which recognizes that the adverse effects of climate change have a range of direct and indirect implications for the effective enjoyment of human rights and that the effects of climate change will be felt most acutely by those segments of the population that are already vulnerable owing to geography, gender, age, indigenous or minority status, or disability [...]

the Conference of the Parties:

[e]mphasises that Parties should, in all climate change related actions, fully respect human rights.

27 Ruppel/Van Wyk (2011).

28 U.N. Doc. A/HRC/10/L.11.

29 McInerney-Lankford (2009).

This human rights oriented approach to climate change can be seen as the core foundation to extend climate justice to all, as it takes into account the rights of all humans, including those particularly vulnerable to the negative effects of climate change. Climate change is expected to have a severe impact on poverty alleviation. Therefore, climate protection also plays an important role in the human rights discourse aiming to reduce poverty. Climate change policy, human rights protection and development policy should, no doubt, be more closely linked in future.

Moreover, there may be complementarity in principles, in both the UNFCCC regime and the International Covenant on Economic, Social and Cultural Rights (ICESCR), such as the duty of cooperation, ‘do no harm’, or equity. Human rights are relevant to the design and implementation of responses to climate change, in relation to adaptation and mitigation. One can argue that human rights can usefully inform approaches to climate change in policy and legal terms. This dimension includes arguments based on human rights obligations of states under a variety of international legal instruments. These range from the integration of human rights into country strategies in terms of priority entitlements to be protected from the impacts of climate change (e.g., right to health, housing, water, or food), or more procedural human rights that are relevant to the design and implementation of policies related to climate change (e.g., right to information, participation, or access to decision making). Under this view, human rights obligations may provide a legal baseline for how climate change is tackled and what must be protected from its impacts. From this, it may be possible to identify ways in which addressing climate change can help realise human rights and how realising rights can help ensure greater capacity to adapt to climate change, underscoring a core compatibility of aims and outcomes between addressing climate change and realising human rights.³⁰

Both the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR), together with the Universal Declaration of Human Rights (UDHR), are often referred to as the International Bill of Rights. Many if not most African countries have acceded to both the ICCPR and the ICESCR. On 10 Dec 2008, the UN General Assembly adopted, by consensus, the Optional Protocol to the ICESCR. The Optional Protocol provides a mechanism through which persons can petition the UN Committee on Economic, Social and Cultural Rights about violations of their rights. This Protocol was opened for signing on 24 September 2009. Both the ICCPR and the ICESCR call on State Parties to take steps (legislative or other measures) to give effect to the rights contained therein. Most of the rights and freedoms recognised in the ICCPR are also entrenched in national constitutions’ Bill of Rights. This may include, amongst others, the right to dignity, the right to life, the right to health, the right to water, the right to legal representation, the guarantee against torture and other cruel or inhumane treatment or punishment, the protection against discrimination on any grounds, and others. The ICESCR and the ICCPR provide internal protection for specific rights and freedoms. Both Covenants recognise the right of peoples to self-determination; both have provisions which prohibit all

30 McInerney-Lankford (2009).

forms of discrimination in the exercise of human rights; and both have the force of law in the countries which have ratified them. States have obligations under international human rights law to address disadvantage, threats to human rights and ensure that policies aimed at limiting the effects of climate change are implemented effectively and in ways that don't overburden or discriminate against specific vulnerable groups, e.g. women, children and indigenous people.³¹

The Convention on the Rights of Persons with Disabilities, establishes the principle of respect for the evolving capacities of persons with disabilities. The same applies to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment. It becomes obvious that both Conventions also become relevant in the context of climate change, due to the special vulnerability of persons who are at risk in situations of natural disaster.

The Geneva Refugee Convention of 1951 defines a refugee as a person with a "well-founded fear of being prosecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his/her nationality and is unable or, owing to such fear, is unwilling to avail himself/herself of the protection of that country; or who, not having a nationality and being outside the country of his/her former habitual residence as a result of such events, is unable or, owing to such fear, unwilling to return to it".³² Unfortunately this definition provides numerous complications in attempting to classify climate refugees as refugees under international refugee law. The African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (hereafter the Kampala Convention)³³ was been adopted on 23 October 2009 in Kampala.³⁴ The Kampala Convention explicitly recognises its relevance to climate change induced displacement, as it states in Article 5 that "States Parties shall take measures to protect and assist persons who have been internally displaced due to natural or human made disasters, including climate change." It is the first regional legal instrument in the world containing legal obligations for states with regard to the protection and assistance of Internally Displaced Persons (IDPs). So far, the Kampala Convention has 35 signatories and 11 countries have ratified it. The Convention still has to enter into force.³⁵

7.1 Women

Article 3 of the ICESCR encourages States Parties to ensure the equal right of men and women to the enjoyment of all economic, social and cultural rights as set forth by the Covenant. The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) was adopted in 1979, and came into force in 1981. CEDAW is the first legally

31 Ruppel (2010a).

32 Article 1.A.(2). 1951 Convention Relating to the Status of Refugees.

33 Text available online at [http://www.au.int/en/sites/default/files/AFRICAN_UNION_CONVENTION_FOR_THE_PROTECTION_AND_ASSISTANCE_OF_INTERNALLY_DISPLACED_PERSONS_IN_AFRICA_\(KAMPALA_CONVENTION\).pdf](http://www.au.int/en/sites/default/files/AFRICAN_UNION_CONVENTION_FOR_THE_PROTECTION_AND_ASSISTANCE_OF_INTERNALLY_DISPLACED_PERSONS_IN_AFRICA_(KAMPALA_CONVENTION).pdf); last accessed 30 January 2012.

34 For more details see the Chapter on Environmental Law in the African Union in this volume.

35 See Ruppel/Ruppel-Schlichting (2012); Ruppel (2012e).

binding instrument relating specifically to women's rights. Signatories are obliged to take all appropriate measures, including legislation and temporary special measures, to ensure that women enjoy all their human rights and fundamental freedoms. The Optional Protocol to CEDAW adopted by the United Nations General Assembly in 1999 entered into force in December 2000. Members to the Optional Protocol recognise the competence of the Convention's monitoring body, the Committee on the Elimination of Discrimination against Women, to receive and consider complaints from individuals or groups within its jurisdiction. The Declaration on the Elimination of Violence against Women (1993) is a further commitment by the UN. States are called on to condemn violence against women and not invoke any consideration to avoid their obligations with respect to its elimination. Two major documents that still need to be mentioned here are the Beijing Declaration and the Beijing Platform for Action, which resulted from the UN's Fourth World Conference on Women, titled 'Action for Equality, Development and Peace', held in Beijing in 1995. The Beijing Declaration embodies the commitment of the international community to the advancement of women and to the implementation of the Platform for Action, ensuring that a gender perspective is reflected in all policies and programmes at national, regional and international levels. The Beijing Platform for Action, on the other hand, sets out a number of actions for national and international implementation for the advancement of women.³⁶

The vulnerability of women to climate change and natural disasters is increased for a number of reasons. Women are usually at higher risk of being placed in unsafe, overcrowded shelters, due to lack of assets, such as savings, property or land. In the context of droughts, floods and other disasters that require mobility, cultural constraints on women's movements may hinder their timely escape, access to shelter or access to health care. Exacerbating this effect, women often avoid using shelters out of fear of domestic and sexual violence, and become even less mobile as primary family caregivers. Poor women and those in countries of higher gender inequality appear to be at the highest risk: a direct correlation has been observed between women's status in society and their likelihood of receiving adequate health care in times of environmental stress. The UN has identified environmental degradation as a key threat to human security. All post-conflict countries face serious environmental issues that could undermine the peace building processes, if left unaddressed, and specifically affect women who are faced by a combination of hardships. It is thus important to identify gender-sensitive strategies for responding to human security needs and environmental and humanitarian crises caused by climate change. These efforts should focus on: reducing women's vulnerability, in tandem with men's susceptibilities; promoting gender sensitive emergency responses; and enlisting women as key environmental actors in natural disaster management decision-making processes, alongside men, tapping into women's skills, resourcefulness and leadership in mitigation and adaptation efforts. Governments should thus be encouraged to incorporate gender perspectives into their national policies, action plans and other measures on sustainable development and climate change, through carrying out systematic gender analysis; collecting and utilising sex-disaggregated data; establishing gender-sensitive benchmarks and indi-

36

Ruppel (2008b); Ruppel (2010d).

cators; and developing practical tools to support increased attention to gender perspectives.³⁷ The Convention to Combat Desertification specifically calls on its member states to promote women's participation in decision-making that addresses desertification and drought.³⁸

7.2 Children

The impact of climate change on the realisation of child rights shows multiple effects of climate change on basic rights such as water, food and health for children in countries vulnerable to temperature and precipitation change. For example, a child may be less able to enjoy an adequate standard of living, education and health, due to loss of livelihoods and food security resulting from increased water stress and habitat changes. Where natural disasters are becoming more frequent and intense, a child is at high risk of disrupted education, injury, forced migration and death. Children are vulnerable to climate change, existing social inequalities are being further exacerbated by climate change, and will become ever more severe unless action is taken to reduce the causes (emissions) and help communities adapt to the consequences, by using economic and social policy, cultural values, and legislative frameworks. Policy-makers at the international, national and local levels need to apply a cost-benefit analysis that values future quality of life. Adherence to the Convention on the Rights of the Child could require that national government policymakers, especially those in developed countries, ensure the fair representation of children and young people and that children's specific needs are given due consideration in adaptation and mitigation processes.³⁹

The Universal Declaration of Human Rights, as the most prominent and fundamental UN human rights document, provides in its Article 25 that children are entitled to special care and assistance. Furthermore, the ICCPR, a legally binding document, contains provisions specifically referring to children (Articles 14(1), 23(4) and 24). Also the ICESCR contains several children-specific provisions (Articles 10(3) and 13), with a focus on the right to education and protection from economic and social exploitation. Moreover, the Convention on the Elimination of All Forms of Discrimination against Women contains child-protection provisions, emphasising that the interests of children are paramount (Articles 5(b) and 16(1)(g)).

The most prominent UN initiative to advance children's rights is the Convention on the Rights of the Child (CRC). The Convention was adopted by Resolution 44/252 of 20 November 1989 at the Forty-fourth Session of the UN General Assembly, and entered into force on 2 September 1990. To date, the Convention has 193 parties. The CRC, which consists of 54 Articles, incorporates the full range of human rights – civil, cultural, economic, political and social – and creates the international foundation for the protection and promotion of human rights and fundamental freedoms of all persons under the age of 18 (Article 1). The Convention represents widespread recognition that children should be fully prepared to live an

37 UN/WomenWatch. 2009; at www.un.org/womenwatch, http://www.un.org/womenwatch/feature/climate_change/downloads/Women_and_Climate_Change_Factsheet.pdf; last accessed on 25 June 2011.

38 Cf. <http://www.unccd.int/convention/ratif/doiif.php>; last accessed on 13 January 2012.

39 UNICEF (2009).

individual life in society, and be brought up in the spirit of peace, dignity, tolerance, freedom, equality and solidarity. The CRC follows a holistic approach to children's rights, recognising that the rights anchored in the Convention are indivisible and interrelated, and that equal importance must be attached to each and every right contained therein. The Convention foresees the granting of international assistance or development aid for programmes geared towards children where such cooperation is needed to properly implement the provisions of the CRC and thereby advance the social, economic and cultural rights of children.⁴⁰

Particularly relevant to climate change are the principles contained in the CRC Articles 2, 3, 6 and 12, covering the issues of non-discrimination; the best interests of the child; the right to life, survival and development; and respect for the views of the child. No less important in the same context are the rights contained in the CRC referring to civil rights and freedoms, containing inter alia the right to access to appropriate information; and the right not to be subjected to torture or other cruel, inhuman or degrading treatment or punishment. The group of basic health and welfare rights are contained in the Convention's Articles 6, 18(3), 23, 24, 26, and 27(1)–(3), namely the right to survival and development; the right to special protection of children with disabilities; the right to health and health services; the right to social security and child care services and facilities; and the right to an adequate standard of living. In this context, national climate change related efforts to combat HIV and AIDS and diseases such as malaria and tuberculosis, particularly among special groups of children at high risk, need to be mentioned. Special protection measures provide for children in situations of emergency; refugee children; children in conflicts; children in situations of exploitation; and children belonging to minority or indigenous groups.⁴¹

7.3 Indigenous People

In the UNFCCC indigenous peoples in relation to climate change are not explicitly discussed. However, Article 4 calls on developed country parties to the Convention to consider the needs and challenges that developing country parties are facing with regard to adverse effects arising from climate change. Indigenous peoples are among the groups that are most vulnerable to actual and potential detrimental impacts of climate change. They live in the most vulnerable ecosystems so are often the first groups to be impacted by climate change. They are highly dependent on their lands and natural resources for subsistence and their cultural identity is closely associated with the environment and the lands in which they live. Environmental migration of indigenous peoples may be caused by climate change related developments, e.g. sea level rise, extreme weather patterns, floods, etc. Indigenous peoples are closely connected to their land through their livelihoods and spiritual bonds.

In view of the aforementioned the Declaration on the Rights of Indigenous Peoples was adopted by the UN General Assembly in 2007.⁴² Therein the General Assembly, reaffirms

40 Ruppel (2009e).

41 Ibid.

42 Resolution 61/295.

that indigenous peoples, in the exercise of their rights, should be free from discrimination of any kind, recognising the urgent need to respect and promote the inherent rights of indigenous peoples which derive from their political, economic and social structures and from their cultures, spiritual traditions, histories and philosophies, especially their rights to their lands, territories and resources. It recognises that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment and in particular the right of indigenous families and communities to retain shared responsibility for the upbringing, training, education and well-being of their children, consistent with the rights of the child. It further acknowledges that the Charter of the United Nations, the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights, as well as the Vienna Declaration and Programme of Action, affirm the fundamental importance of the right to self-determination of all peoples, by virtue of which they freely determine their political status and freely pursue their economic, social and cultural development. According to Article 1 indigenous peoples have the right to the full enjoyment, as a collective or as individuals, of all human rights and fundamental freedoms as recognised in the Charter of the United Nations, the Universal Declaration of Human Rights and international human rights law. According to Article 29 (1) indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programmes for indigenous peoples for such conservation and protection, without discrimination.⁴³

Although the Declaration does not impose binding obligations, it can be considered a strong step in strengthening the rights of indigenous groups and individuals. In order for indigenous peoples to protect their collective interests in international law they need to establish legal capacity, which requires the following criteria: (1) the will to exist, (2) the development of institutions that assist in maintaining characteristics unique to them as a minority, (3) the development of representation and the internal acceptance of such, and (4) the external recognition of the representative.⁴⁴ It is worth noting that the Cancun decision specifically recognises indigenous people, women, workers and other vulnerable groups.

Indigenous peoples have been voicing their concerns about the impacts of climate change on their collective rights as distinct peoples, and the importance of giving them a voice in policymaking on climate change at both national and international levels; further, to take into account and to build on their traditional knowledge. Customary law and indigenous knowledge should therefore be incorporated into climate change policies in order to foster the development of cost-effective, participatory and sustainable adaptation strategies.⁴⁵ Populations whose rights are poorly protected are likely to be less well-equipped to understand or prepare for climate change; they would be less able to lobby effectively for government or international action; and are more likely to lack the resources needed to adapt to expected

43 Cf. <http://www.un.org/esa/socdev/unpfii/en/declaration.html>; last accessed on 13 January 2012.

44 Meijknecht (2001).

45 Mfune *et al.* (2009a and b).

change of their environmental and economic situation. Despite the legal influence of the ex-colonial powers, a large number of Africans still live under indigenous customary law. It regulates marriage, divorce, inheritance and land tenure, amongst other things. Thus, customary law is a body of norms, customs and beliefs. However, despite this relevance for the majority of the population, customary law has for long been marginalised and even ignored owing to colonial rule. Customary law is a complex, dynamic system which has constantly evolved in response to a wide variety of internal needs and external influences.⁴⁶

In many African countries it is still the overall responsibility of traditional authorities to supervise and ensure the observance of the customary law of that community by its members. Customary law can also play an important role in the sustainable development of natural resources and the protection of biological diversity as it incorporates a broad knowledge of ecosystems relationships.⁴⁷ Thus, customary law can provide a basis for indigenous communities to address issues of poverty and food security in an increasingly globalised society.⁴⁸ Moreover, incorporating customary law and indigenous knowledge into climate change policies is likely to contribute to the development of more effective adaptation strategies that are cost-effective, participatory and sustainable. After all, indigenous people have always developed flexible mechanisms to cope with climatic conditions and their vulnerability.

Convention No. 169 of the International Labour Organisation (ILO) on Indigenous and Tribal Peoples in Independent Countries⁴⁹ provides criteria for describing the peoples it aims to protect; entails provisions regarding the principle of non-discrimination; calls for special measures to be adopted to safeguard the persons, institutions, property, labour, cultures and environment of indigenous and tribal peoples; recognises cultural and other specificities of indigenous and tribal peoples; and requires that on all issues that affect them, indigenous and tribal peoples are consulted and that these peoples are able to engage in free, prior and informed participation in policy and development processes.⁵⁰

8 Climate Finance

In the course of the United Nations Climate Change Conference held in Cancun, Mexico in 2010, a set of agreements were reached, building on the Bali Road Map⁵¹ and the Copenhagen Accord⁵², which clearly reflecting that the parties to the UNFCCC and the Kyoto Proto-

46 Hinz (2003); Ruppel (2010c).

47 Hinz/Ruppel (2008a and 2010).

48 See Ruppel/Ruppel-Schlichting (2012b).

49 The Convention came into force on 5 September 1991 and is available at <http://www.ilo.org/ilolex/cgi-lex/con-ve.pl?C169>; last accessed 12 February 2012.

50 It should be noted that of the 22 states that have ratified ILO Convention No. 169, as of February 2012 only one, namely Central African Republic, is from the African continent.

51 The Bali Road Map emerged from the 2007 Bali Climate Change Conference and includes the Bali Action Plan (Decision 1/CP.13), which launched a “comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action” along with a number of other decisions and resolutions.

52 Agreed upon by the UNFCCC Conference of the Parties, in Copenhagen on 18 December 2009 by way of Decision 2/CP.15.

col, had taken up the issue of climate justice. Three decisions have resulted from the Cancun Conference: One decision by the Conference of the Parties to the UNFCCC⁵³ and two decisions by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol⁵⁴. The reduction of greenhouse gas emissions and the support for developing nations to deal with climate change are at the core of the Cancun agreements. In order to advance action regarding the aim of the reduction of greenhouse gas emissions in a mutually accountable way, national plans are formally captured at international level under the banner of the United Nations Framework Convention on Climate Change. Support for developing nations is provided for in the Cancun agreements and includes finance, technology and capacity-building support. The financial, technology and capacity-building support for developing countries agreed in Cancun is to be realised through various mechanisms: Nationally appropriate mitigation actions (NAMA); reducing emissions from deforestation and forest degradation (REDD+); the Clean Development Mechanism (CDM); the Cancun Adaptation Framework (CAF); the Technology Mechanism; and the Green Climate Fund.

8.1 Funding Mechanisms under the UN Umbrella

As the poorest and most vulnerable countries will be most adversely affected by climate change, developed countries are asked to provide sufficient levels of secure financial and technological support for developing countries to mitigate and adapt to the effects of climate change. Funding for climate change mitigation activities is available through national, bilateral, regional and multilateral channels.

8.1.1 The Green Climate Fund

As a new long-term funding arrangement designated as an operating entity of the financial mechanism of the Convention under Article 11 of the UNFCCC, the Green Climate Fund has been provided for in the Cancun agreements.⁵⁵ The Green Climate Fund will function under the guidance of and be accountable to the Conference of the Parties (COP). Projects, programmes, policies and other activities in developing countries will be supported by the Green Climate Fund using thematic funding windows. The Fund's objective will be to provide simplified and improved access to funding, including direct access, basing its activities on a country-driven approach and will encourage the involvement of relevant stakeholders, including vulnerable groups and addressing gender aspects.⁵⁶ A Transitional Committee of 40 members has been established⁵⁷ to design the details of the fund. The Green Climate Fund was launched at the 17th session of the Conference of the Parties (COP17) in Durban in December 2011 and intends to mobilise US\$100 billion by 2020.

53 Decision 1/CP.16 *The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention*.

54 Decision 1/CMP.6 *The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its fifteenth session*; and Decision 2/CMP.6 *The Cancun Agreements: Land use, land-use change and forestry*.

55 According to paragraph 102 of decision 1/CP16.

56 See <http://gcfund.net/about-the-fund/mandate-and-governance.html>; last accessed 7 November 2012.

57 See Annex III to decision 1/CP16.

At its first meeting in September 2012 in Geneva, the new Board of the Green Climate Fund officially departed towards deciding the direction of and vision for the Fund.⁵⁸ Six countries made high quality bids to host the Green Climate Fund, namely Germany, Switzerland, Poland, Mexico, South Korea and Namibia. important evaluation criteria for deciding on the host country have been established. These criteria included recognition of the legal status of the Fund (juridical personality and legal capacity of the Fund), privileges and immunities provided to the Fund and its officials, as well as financial and administrative arrangements and logistical facilities and support.

In October 2012, the Board selected by consensus Songdo, Incheon City, Republic of Korea as the host city of the Green Climate Fund. This decision will be presented as a consensus decision by the GCF Board to the UNFCCC Conference of Parties (COP) for its endorsement at COP 18 in Doha. It is ambitiously envisaged that the Fund is fully operational by early 2014.

THE REPUBLIC OF KOREA'S OFFER WITH REGARD TO HOSTING THE GREEN CLIMATE FUND⁵⁹

Legal Framework

The Korean government stands ready to provide the legal framework that will enable the GCF to have juridical personality and legal capacity and to enjoy privileges and immunities, including tax exemptions, related to the discharge and fulfilment of its functions.

Office Site and Related Support

Office Site

The GCF will receive spacious offices of up to 21,500 m² (43 m² per person, total 500 persons) in the I-Tower rent-free for the duration of its operations, and major maintenance and repairs to the facilities will also be provided free of charge (equivalent to USD 6 million per annum). The GCF would be responsible only for normal maintenance and utilities. Up to 8,500 m² additional space can be provided, if necessary, in consultation with the local government.

Up to USD 1.4 million will be provided initially for office equipment purchases. The GCF will be able to use an auditorium that seats 434 persons and two conference rooms that seat 104 and 124 persons each, free of charge, upon request. Dedicated offices for LDCs and SIDS will be provided upon request. Rooms for cultural and religious activities for the GCF staff will be provided in the I-Tower.

Conference Facilities

In addition to the conference rooms available in the I-Tower, the GCF will be able to use ConvensiA, a world-class conference centre, 20 days per annum for the entire duration of its operations, free of charge (equivalent to USD 0.5 million per annum).

Availability of Trained Personnel

The numerous institutions of higher education in the area will provide a steady supply

58 See Schalatek (2012).

59 See http://gcfund.net/fileadmin/00_customer/documents/pdf/Republic_of_Korea_-_Executive_Summary.pdf; last accessed 7 November 2012.

of qualified and skilled human resources, including translators and interpreters who are proficient in UN official languages. In particular, up to 20 local government staff will be available to provide on-site civil administrative services to the GCF, if necessary.

Local Facilities and Conditions

Comprehensive Welcome Package

The Welcome Package includes various discounts for public transportation, cultural and sports facilities (equivalent to USD 0.3 million per annum). Educational programmes to learn Korean language, customs, and domestic laws, and administrative support for purchasing health insurance policies and acquiring driver's license, a dedicated hotline for immediate assistance and designated real-estate agencies to rent or purchase houses will also be provided to the GCF staff as part of the package.

Education Support

Reserved seats and scholarship opportunities at international schools will be provided to the children of the GCF staff.

Financial Arrangement

The Korean government will provide financial support of USD 2 million in 2012 for start-up, and subsequent to hosting the Fund, an additional USD 1 million per annum until 2019. Through new and additional financial resources, Korea, as the host country, will utilise a total of USD 40 million for the period of 2014-2017 to support capacity building of developing countries in addressing the challenges of climate change. Details on the operation of this financial support will be decided based on consultation with the GCF.

8.1.2 The UN-REDD Programme

In September 2008, the UN-REDD Programme (United Nations Collaborative initiative on Reducing Emissions from Deforestation and forest Degradation in developing countries) was launched to assist developing countries prepare and implement national REDD+ strategies.

The Programme currently has 35 partner countries spanning Africa, Asia-Pacific and Latin America, of which 14 are receiving support to National Programme activities. These 14 countries are: Bolivia, Cambodia, Democratic Republic of the Congo (DRC), Ecuador, Indonesia, Nigeria, Panama, Papua New Guinea, Paraguay, the Philippines, Solomon Islands, Tanzania, Vietnam and Zambia. To date, the UN-REDD Programme's Policy Board has approved a total of US\$59.3 million for National Programmes in these 14 partner countries. These funds help to support the development and implementation of national REDD+ strategies.

The Cancun agreements stress that national legal reform and related local development are necessary, since domestic forest management often involves various laws, regulations and stakeholder participatory processes. Competing governance structures and interests can often give rise to conflict and create barriers to REDD+ initiatives. In this regard, the Cancun agreements request developing countries to undertake several institutional reforms for REDD+ including national strategies or action plans; a national forest reference emission

level; a transparent national forest monitoring and reporting system; and a system for providing information on prescribed safeguards.⁶⁰ REDD+ related activities must be implemented in phases beginning with the development of national action plans and capacity building. National action plans must ensure the full and effective participation of relevant stakeholders and consider land tenure and forest governance amongst others. Gender related issues and the rights of indigenous peoples must be taken into account.

8.1.3 Nationally Appropriate Mitigation Actions (NAMAs)

NAMAs are voluntary commitments that non-Annex I parties have set up for proposal to the UNFCCC. These actions should include every possible activity aimed at reducing or limiting GHG emissions. NAMAs mainly provide guidance for the future mitigation policies in the countries. NAMAs are an important mechanism for developing countries to contribute to global mitigation efforts in nationally appropriate ways. The concept of NAMAs emerged during the Bali Action Plan as part of the Bali Road Map that was agreed at the United Nations Climate Change Conference in Bali, Indonesia, in December 2007. At the Copenhagen Climate Conference in 2009 it was agreed that the concept of NAMAs should be retained, adding that NAMAs would be subject to international measurement, reporting and verification in line with guidelines adopted by the Conference of the Parties. The Cancun agreements confirm that nationally appropriate mitigation actions are increasingly the primary vehicle for developing countries' mitigation efforts. Developing countries are expected to improve the content and frequency of national communications, including inventories, and to create comprehensive low-carbon sustainable development strategies.⁶¹ As of March 2011, 48 countries (Afghanistan, Algeria, Antigua and Barbuda, Argentina, Armenia, Benin, Bhutan, Botswana, Brazil, Cambodia, Cameroon, Central African Republic, Chad, Chile, China, Colombia, Republic of Congo, Costa Rica, Côte d'Ivoire, Ethiopia, Eritrea, Gabon, Georgia, Ghana, India, Indonesia, Israel, Jordan, Madagascar, Maldives, Marshall Islands, Mauritius, Mauritania, Mexico, Mongolia, Morocco, Papua New Guinea, Peru, Republic of Korea, Republic of Moldova, San Marino, Sierra Leone, Singapore, South Africa, Tajikistan, Macedonia, Togo and Tunisia) have submitted NAMAs to the UNFCCC.⁶²

8.1.4 The Clean Development Mechanism (CDM)

The CDM was established in 1997 by Article 12 of the Kyoto Protocol to assist developing (non Annex I) countries in achieving sustainable development and in contributing to the ultimate objective of the UN Framework Convention on Climate Change (UNFCCC), and to assist the industrialised countries (Annex I) in achieving compliance with their quantified GHG emissions limitation and reduction commitments under the Kyoto Protocol.

The Cancun Agreements establish a number of substantial work programmes for ameliorative guidelines and methodologies to simplify and facilitate access and to provide for a

60 Mason-Case (2011).

61 Cf. UNFCCC, Draft decision -/CP.16 (29 Nov - 10 Dec 2010) Art. III.B.60-62, 65.

62 Cf. UNFCCC Document FCCC/AWGLCA/2011/INF.1.

framework for the post-2012 period. The envisaged reforms will have to be conducted in consultation with designated national authorities and necessitate parallel legal and institutional changes in host countries on a national and local level.⁶³

8.1.5 The Cancun Adaptation Framework (CAF)

The Cancun Adaptation Framework (CAF) was adopted as part of the Cancun Agreements. The Parties emphasise that adaptation must be addressed with the same level of priority as mitigation. The CAF is the result of three years of negotiations on adaptation under the AWG-LCA (Ad hoc Working Group on Long-term Cooperative Action under the Convention) that followed the adoption of the Bali Action Plan, which sought to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012. The objective of the CAF is to enhance action on adaptation, including through international cooperation and coherent consideration of matters relating to adaptation under the UNFCCC. Ultimately enhanced action on adaptation seeks to reduce vulnerability and build resilience in developing countries, taking into account the urgent and immediate needs of those developing countries that are particularly vulnerable.

8.1.6 The Technology Mechanism

The Technology Mechanism was introduced by the Cancun Agreements in order to achieve increased action on technology development and transfer, including research and development, demonstration, deployment, and diffusion. This is to be realised by means of facilitating actions through cross-sectoral and country-to-country network partnerships.

8.2 The Risk of Corruption

The overall climate finance architecture is becoming a giant platform for financial resources being shifted from developed countries to developing countries, involving without doubt the danger of the abuse of entrusted power for private gain. The World Corruption Report 2011⁶⁴ addressed this danger and stated that corruption was indeed a risk in addressing climate change since a risk of corruption always exists where “huge amounts of money flow through new and untested financial markets and mechanisms”, which is particularly true for recent, current and future financial flows related to climate change finance, technology and capacity-building meant to support developing countries according to the principle of equity. Indigenous and rural poor communities in remote locations, the urban poor living in precarious settlements, and displaced persons, especially women and children, are especially adversely affected by climate change and they are actually meant to be the main beneficiaries of adaptive action. However, corruption eventually puts at risk the rights of those most vulnerable to the negative effects of climate change. The reasons for the high risk of corruption with regard to climate finance are rooted in the level of complexity, uncertainty and novelty that surrounds many climate issues. A multitude of regulatory grey zones and loopholes exist that are at risk

63 Mason-Case (2011).

64 Transparency International (2011).

of being exploited by corrupt interests. The report states that “US\$250 billion per annum will eventually flow through new, relatively uncoordinated and untested channels” and that “[s]ome estimate total climate change investments in mitigation efforts alone at almost US\$700 billion by 2020”. Furthermore, carbon markets have been adopted in a number of regions and countries as one method for reducing GHG emissions and it is estimated that the value of leading carbon markets has now reached some US\$144 billion. In order to ensure that the investments by the public and private sectors are properly and equitably managed, a system of good climate governance⁶⁵ with participatory, accountable, transparent, inclusive and responsive policy development and decisions and the respect of the rule of law are essential.

65 ‘Climate governance’ can be understood as the processes that currently exist at the international, national, corporate and local levels to address the causes and effects of climate change. Cf. Transparency International (2011) *World Corruption Report: Climate Change*, London, Earthscan 3.

V. INTERNATIONAL CLIMATE CHANGE POLICY AND LEGISLATION: WHERE DO WE STAND?

Nadia von Bassewitz

1 Introduction

Very few scientists today doubt that climate change is taking place and that human activities are contributing to this trend.¹

What is meant by the term ‘climate change’? In its 2006 Report of Key Terms the OECD identified four definitions of this term:²

“Climate Change –

Refers to any change in climate over time, whether due to natural variability or as a result of human activity. (IPCC TAR, 2001 a)

Refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural processes or external forcing, or to persistent anthropogenic changes in the composition of the atmosphere or in land-use. (IPCC TAR, 2001 b)

A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods. (UNFCCC Article 1)

The climate of a place or region is changed if over an extended period (typically decades or longer) there is a statistically significant change in measurements of either the mean state or variability of the climate for that place or region. (Changes in climate may be due to natural processes or to persistent anthropogenic changes in atmosphere or in land use. Note that the definition of climate change used in the United Nations Framework Convention on Climate Change is more restricted, as it includes only those changes which are attributable directly or indirectly to human activity.) (UN/ISDR, 2004).

It is therefore important to note that there is no consensus over how to define climate change.³ Generally, climate change refers to variations either in the mean state of climate or its variability observed over time, usually a decade or longer.⁴ Climate change may be due to natural internal processes or external forces, such as volcanism, solar output or human induced activities.⁵ As we have seen above, however, the United Nation Framework Convention on Climate Change makes a distinction between climate change that is induced directly or indirectly by human activities and “climate variability” due to natural causes. By contrast, the

1 According to a web-based poll undertaken by EOS in 2009, 82% of earth scientists and 97% of climate scientists are of the opinion that global warming is real and human activities are a major contributing factor to the warming.

2 OECD (2006:12).

3 Ibid.

4 IPCC (2007c:943).

5 Ibid.

Inter-Governmental Panel on Climate Change takes a broader view on climate change and states that it can occur as a result of natural variability and human activity.⁶

2 Major Legal Documents of Climate Change Policy

From its inception, international climate change policy and legislation was firmly rooted in the UN system.

During the mid to late 1980s, for the first time ever, research was able to demonstrate that man-made global warming was indeed happening.

Against this background, the United Nations Environment Programme (UNEP) and the World Meteorological Organisation (WMO) set up an Intergovernmental Panel on Climate Change (IPCC) in 1988 to gather the scientific evidence for (or against) human induced global warming.⁷

The First IPCC Assessment Report (1990) presented scientific evidence that global warming was a reality, triggering worldwide concern:

“The Report identified as main factors for climate changes (i) atmospheric gases, so-called greenhouse gases (hereinafter GHG), some of which occur naturally (e.g. carbon dioxide (CO₂) methane (CH₄), nitrous oxide (N₂O) and some of which are man-made (e.g. chlorofluorocarbons) as well as (ii) human induced tiny particles from in the atmosphere that have a similar warming effect as GHG.⁸

The IPCC proved that, with the beginning of the industrialisation 200 years ago, human doings have substantially increased the concentrations of GHGs in the atmosphere, which in turn has enhanced the natural greenhouse impact. As a result, the Earth’s surface and atmosphere is warming up, harming natural ecosystems and mankind.

The IPCC Report indicated that if GHG emissions followed a business as usual model, global temperature would increase by 1% above the present level by 2025 and by 3% before the end of next century”.⁹

2.1 UN Framework Convention on Climate Change (1992)¹⁰

The major accomplishment of the United Nation Framework Convention on Climate Change (UNFCCC or the Convention) of 1992 was that it recognised, for the first time, that there was indeed a man-made problem of climate change at a moment when there was still considerable doubt regarding the causes of global warming, its extent and impact.¹¹

6 OECD (2006:12).

7 For more information on the IPCC see Ruppel in Chapter 13 III of this volume.

8 CCES (2012).

9 IPCC (1990:22,30).

10 Also see Ruppel in this volume.

11 Bothe (2003:240).

The ultimate objective of the UNFCCC is to stabilise GHG concentrations “at a level that would prevent dangerous anthropogenic interference with the climate”.¹² The stabilisation level is not quantified in the UNFCCC. The latest climate analysis has identified a stabilisation range of 450 to 500 parts per million (ppm) CO₂. According to the UNFCCC, this level should be reached within a timeframe which allows ecosystems to adapt naturally to global warming, while making sure that food production is not at risk and that development occurs in a sustainable manner.

The UNFCCC is a framework document introduces two main policy approaches in order to address global warming: While mitigation tackles the very cause of climate change, adaptation deals with the unavoidable effects of global warming. The less mitigation takes place, the more adaptation is required and vice versa:

- Climate mitigation refers to any action taken to eliminate or decrease the long-term impact of global warming on human life or property.¹³ According to the UNFCCC Glossary, mitigation is understood as “human intervention to decrease the sources of GHG or enhance their reabsorption”.¹⁴
- Climate adaptation involves initiatives or measures to reduce the vulnerability of individuals, groups and natural system to the negative effects of climate change.¹⁵ According to the UNFCCC Glossary, the term involves the adaption of natural or human systems in response to climatic stimuli or their impact, which moderate damages or exploits beneficial opportunities. Under the UNFCCC, developed countries undertook to support developing countries in their adaptation efforts.¹⁶

Any country can become a party to the UNFCCC,¹⁷ thus making it a global instrument. Within this framework of global participation, however, the obligations of the parties vary substantially between industrialised and developing countries.

The UNFCCC notes that (i) the largest share of accumulated GHG emissions has originated in developed countries, as opposed to developing countries, and (ii) that per capita GHG emissions in developed countries are much higher than in developing countries. As a consequence, the UNCCC introduces the principle of “common but differentiated responsibility” (hereinafter CBDR principle).¹⁸ This is why the UNFCCC places the heaviest mitigation burden on industrialised states as a fulfilment of their historic liability.¹⁹

Based on the CBRD principle, the UNFCCC divides parties, as follows: (i) Annex I parties include the 41 industrialised countries, covering members of the OECD in 1990 and the for-

12 UNFCC (2012a:1).

13 UNFCCC (2009b).

14 UNFCC (2012b).

15 UNFCCC (2009c).

16 UNFCC (2012b).

17 Article 22.1 UNFCCC.

18 Article 3.1 UNFCCC.

19 Boisson de Chazourne (2008:2).

mer Soviet Bloc (the economies in transition or EITs);²⁰ and (ii) Non-Annex I parties which are mostly developing countries. Certain groups of developing countries are recognised by the UNFCCC as being especially vulnerable to the adverse effects of climate change, notably least developed countries (hereinafter LDCs) and small-island developing states (hereinafter SIDS). It is important to understand that the CBDR principle is not deemed absolute under the UNFCCC and the UNFCCC provides, to a certain degree, for transition from one group of countries to the other.

As to the questions of mitigation, the UNFCCC imposes for Annex I parties non-binding targets of reducing GHG emissions to 1990 levels by 2012. In view of this, Annex I countries are obliged to submit a yearly inventory of GHG emissions. Because economic development is vital for the world's developing countries, the UNFCCC accepts that the share of GHG emissions originating in those countries will grow in the near future. The Convention aims at helping the developing countries to limit emissions in ways that will not hold back their development.

Vis-à-vis the questions of adaptation, the UNFCCC recognises that developing nations, especially LDCs and SIDS, are more vulnerable to climate change, in part because of their greater exposure to climate trends and in part because of their low adaptation skills.²¹ Based on the CBDR principle, the UNFCCC obliges Annex I parties to support developing countries in the elaboration of national adaptations plans.²² A range of funds has been created through the UNFCCC which are managed by the Global Environment Facility. Moreover, industrialised members agreed to share adaptive know-how and technology to offer urgently needed capacity building for the developing parties.²³

Institutions and procedures of the UNFCCC are drawn from the UN system with a Conference of Parties (COP) as the highest decision-making organ, which is backed by a Secretariat, a technical advisory organ and an implementing unit.²⁴ Decisions are adopted by way of negotiation within the COP, which come together once a year to review the implementation of UNFCCC.²⁵ Procedures are governed by the procedural rules included in the UNFCCC itself and the Draft Rules on Procedure (even though the latter have never been formally adopted). This is why most of the decisions of the COP can only be taken by consensus.²⁶

20 A sub-category of Annex I countries, Annex II parties, composed only of OECD Members are held to provide funding and technology support to developing countries, while EITs are granted some flexibility.

21 Preamble of the UNFCCC.

22 Article 4.3 UNFCCC.

23 Boisson de Chazourne (2008:4).

24 Article 7 – 10 UNFCCC.

25 UNFCCC (2012c).

26 Depledge/Yamin (2009:438).

2.2 The Kyoto Protocol (1997)²⁷

The publication of the Second IPCC Assessment Report in 1995 showed that the measures taken so far under the UNFCCC to fight global warming were insufficient. As a consequence, on 11 December 1997, the Kyoto Protocol to the UN Framework Convention on Climate Change (Kyoto or the Protocol) was adopted. The Third IPCC Assessment Report in 2001, which offered further evidence that global warming is mainly considered human induced, led to enough ratifications of the Protocol for it to finally come into force in 2005.

In brief, the Protocol operationalises the UNFCCC:²⁸

- It shares the objectives, instruments and the institutions of the UNFCCC. Even more important, Kyoto replicates the CBDR doctrine, formulated in the UNFCCC. However, as opposed to the UNFCCC, Kyoto does not provide for a transition from the non-Annex I group of parties to the Annex I group of parties, thus fortifying the split between industrialised and developing countries.
- The major distinction between the UNFCCC and Kyoto is that, for the first time ever, a UN instrument imposes legally binding mitigation targets as opposed to the non-binding goals under the UNFCCC.²⁹ In line with the CBDR principle, only Annex I parties take on binding mitigation objectives, while the non-Annex I parties are expected to carry out voluntary mitigation actions.

2.2.1 Mitigation

As explained, under the mitigation objective, Kyoto introduces binding quantified reduction targets for the industrialised countries: under the Protocol, 41 industrialised countries, including EITs, and the European Union (EU) are obliged to reduce their GHG emissions by an average of 5% against 1990 levels over the first commitment period from 2008 to 2012.³⁰

The individual national targets include, from the 1990 base year, an 8% decrease for the EU,³¹ 6% each for Canada and Japan, no decrease for Russia, and an 8% increase for Australia.³² It is important to note that USA never ratified the Protocol, making it the only major industrialised state not to do so.

The Kyoto Protocol allows for more flexibility in how to meet binding GHG emissions reduction targets by designing three innovative market-based instruments:

- Emissions trading: as outlined before, the industrialised countries are subject to targets to reduce GHG emissions; these targets are formulated as levels of allowed GHG emissions over the 2008-2012 commitment period. Emissions trading, as laid down in Article 17 of Kyoto, permits countries with emissions units to spare, to trade these free units to other

27 Also see Ruppel in this volume.

28 UNFCCC (2012d).

29 UNFCCC (2012e).

30 Article 3.1 Kyoto Protocol.

31 This value includes reduction targets of 21% for Germany, 12.5% for the UK and 0% for France, while Spain may increase its emissions by 15%.

32 Cf. http://unfccc.int/kyoto_protocol/items/3145.php; last accessed 8 October 2012.

countries that are over their allowance.³³ Since CO₂ is the key GHG, this instrument is also known as trading in carbon or carbon markets. Emissions trading under Kyoto is not limited to actual emissions units but include for instances emissions reduction units obtained under the clean development mechanism or the joint implementation mechanism.³⁴ The trading of GHG emissions units is documented in the registry under the Protocol. Emissions trading can be organised as climate policy instruments both at national level and regional level. The European Union Emissions Trading Scheme (EU ETS) is the largest in operation and generally acknowledged for its pioneering role.³⁵

- Clean Development Mechanism (CDM): under this instrument, countries with Kyoto targets may implement an emissions reduction project in developing countries, based upon which they obtain certified emissions reduction (CER) units, which count towards fulfilling their Kyoto obligations.³⁶ A CDM project must confer measurable and verifiable emissions reductions that are additional to what would otherwise have occurred without the CDM.³⁷ Government funding for CDM project activities must not result in less overseas development assistance. CDM is supervised by the CDM Executive Board, which in turn is monitored by the countries that are members of the Kyoto Protocol.³⁸ Operational since the beginning of 2006, the mechanism has already registered 3,497 projects and is anticipated to produce CERs amounting to more than 2.9 billion tonnes of CO₂ equivalent in the first commitment period of the Kyoto Protocol 2008 to 2012.³⁹
- Joint Implementation (JI): similar to CDM, but the emissions reduction project must be implemented in industrialised countries; the emissions reduction units obtained via JI count likewise towards the fulfilment of the Kyoto obligations.⁴⁰ Like a CDM project, a JI project must lead to GHG emissions reduction, which is considered real, measurable and additional to what would have occurred without the project in question, which is supervised by a JI Supervision Committee.⁴¹ CDM and JI are the first global investment tools of their kind, stimulating foreign investment and knowledge transfer in the host country, while offering industrialised countries flexible and cost-efficient ways of meeting a part of their Kyoto Protocol obligations⁴².

Under the Kyoto Protocol, parties are obliged to monitor their GHG emissions and to keep a national registry of the trades carried out under Kyoto.⁴³ The UNFCCC Secretariat keeps an independent transaction log to verify that operations are consistent with the Kyoto Protocol.

33 UNFCC (2012f).

34 Ibid.

35 Farnsworth (2007:29).

36 Article 12 Kyoto Protocol.

37 Hepburn (2009:412).

38 UNFCCC (2012g).

39 UNFCCC (2012g).

40 Article 6 Kyoto Protocol.

41 UNFCC (2012h).

42 UNFCCC (2012g).

43 UNFCCC (2012e).

Furthermore, a compliance mechanism has been established to verify the implementation of the Protocol by its members.

2.2.2 Adaptation

Under the adaptation objective, the Kyoto Protocol, like the UNFCCC, is designed to support developing countries, especially LDCs and SIDS, in adapting to the inevitable impacts of climate change and to facilitate the development of know-how and technologies that can help increase resilience to climate changes impacts.⁴⁴ It is important to note that, while there are various references in the Kyoto text to the need for adaptation, priorities in terms of implementation clearly lie with mitigation at the beginning.

3 The post-2012 Framework – Which Way Forward?

3.1 Assessment of the UNFCCC/Kyoto Protocol

When evaluating Kyoto toward the end of its first commitment period in 2012, we have to recall the logic behind the agreement: Kyoto was always deemed an initial step towards a low-carbon future,⁴⁵ introducing humble reduction targets of 5% for the industrialised countries over a short period of five years only. After 2012 Kyoto was to be followed by a chain of other agreements to impose ever wider and deeper reductions for Annex I parties. Developing countries were expected to follow suit in time, so that at last, all countries would have binding GHG emissions goals.

However, the results of Kyoto are mixed, to say the least. Economists agree that the Kyoto Protocol imposes relatively high costs and generates negligible benefits, while failing to provide a real solution.⁴⁶ Additionally, most climate researchers warn that the Protocol has failed to decrease GHG emissions to the extent necessary.⁴⁷

Progress towards the GHG emissions reduction targets under Kyoto has not been satisfying:

- According to the Netherlands Environmental Assessment Agency (NEAA) the industrialised countries will, as a group, probably meet their GHG emissions goals as imposed under Kyoto.⁴⁸ When extrapolating the trend of the years 2000-2007 from 2008 to 2012, NEAA forecasts an average emissions reduction of almost 16% for this group of countries in the Kyoto commitment period 2008-2012.⁴⁹ However, NEAA also indicates that the expected decrease of 16% is mainly attributable to large GHG emissions reductions

44 IPCC defines resilience as ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change.

45 UNFCCC (2012e).

46 Olmstead/Stavins (2006:1).

47 Helm (2009b:16).

48 NEAA 2012.

49 Ibid.

of about 40% in Germany and the EITs after the fall of the Berlin Wall.⁵⁰

- The World Bank reports that there were significant differences in the performance across individual countries.⁵¹ When looking at the individual level, the compliance gap⁵² for many states is quite noteworthy⁵³, including Canada with a gap of 60.2%, New Zealand 22.7%, Japan 13.1% and Switzerland 12.6%. Likewise, some EU members are well off target, including Spain with a gap of 44.8%, Luxemburg with 28.4% and Ireland and Denmark with more than 11% each.⁵⁴

Various factors have contributed to the underachievement, some linked to the Kyoto Protocol itself, others going beyond the scope of Kyoto.

- An important deficiency of the Kyoto regime itself is the lack of broad participation, i.e. the number of countries who is willing to take real action is quite small.⁵⁵ First of all, the world's largest GHG emitter at the time, the US, pulled out of Kyoto in 2003. Moreover, the largest increase in GHG emissions originates today from the seven larger developing countries, including the BASIC group (i.e. Brazil, China, India, South Africa), Mexico and Indonesia, none of which took on binding quantitative emission targets under Kyoto. As a consequence, today, Kyoto addresses only 30% of global emissions.⁵⁶ Besides, observers note that Russia and other EITs were given "hot air" targets⁵⁷ leading in fact to an increase in their emissions.
- Another great, if not the greatest, weakness of Kyoto is its inflexible partition of countries in two factions, which has reinforced the already existing ideological North-South divide.⁵⁸ Only Annex I parties are subject to legally binding mitigation targets. Kyoto has no graduation process by which to verify if some of the fast industrialising developing countries are ready to join Annex 1.⁵⁹ This gulf between richer and poorer nations under Kyoto is clearly outdated and inaccurate with 50 non-Annex I countries now having a larger per capita income than some of the Annex I countries.⁶⁰ But, more important, this partition means that today's biggest GHG emitter, China, remains unconstrained in its emissions output, implying that half of all worldwide emissions will in the near future be generated in a country without binding reduction targets.⁶¹

50 Ibid.

51 World Bank (2008:6).

52 That is the difference between reduction target and actual performance.

53 Barrett (2009:62).

54 Thanks to the European "bubble" commitment, these states are not bound by their individual targets, as long as the original EU-15 meet their joint obligation. Yet, for 2005, the EU-15 showed a compliance gap of 4%.

55 Barrett (2009:61).

56 Gao (2007:7).

57 PEW Center of Global Climate Change defines hot air targets as a situation in which emissions (of a country, sector, firm) are well below a target due to the target being above emissions that materialised under the normal course of events (i.e. without deliberate emission reduction efforts). Hot air can result from over-optimistic projections of growth.

58 Gosh/Woods (2009:454).

59 Depledge/Yamin (2009:443).

60 Olmstead/Stavins (2010:2).

61 Ibid.

- Some observers indicate that the very methodology of Kyoto is flawed in that it takes a geographical approach to GHG emission responsibilities, the so-called production basis methodology (as opposed to the consumption methodology).⁶² Emissions are attributed to states on the basis of territory.⁶³ All emissions produced within a state are attributable to its emissions total. Hence, Kyoto places the burden of GHG emission reduction on those states which produce emission-intensive goods, rather than those which import and finally consume these goods. The weakness of this methodology is that industrialised countries (which are subject to binding emissions targets) can relocate CO₂-intensive production abroad to developing countries (with no such goals) in order to meet their Kyoto targets.⁶⁴
- Furthermore, while the Kyoto Protocol covers a broad range of emission sources, it does not include important GHG sources like air and maritime transport, the volume of which has grown dramatically over the recent years.⁶⁵
- Many experts believe that Kyoto with its five-year time horizon represents a short-term approach to a long-term dilemma.⁶⁶ In order to stimulate investment and technology innovation, especially in the markets which are required to address the challenges of global warming, a long-term international climate policy is indispensable.
- Another important shortcoming of Kyoto relates to the lack of compliance incentives and enforcement mechanisms to deter non-participation and non-compliance.⁶⁷ The UNFCCC as well as Kyoto include rules for monitoring compliance, in particular for the GHG emissions targets of Annex I countries. But monitoring is still inadequate, both in terms of linking it to effective implementation and including issues of importance for developing countries.⁶⁸

In defence of Kyoto, it must be said, however, that the problem of global warming does not easily lend itself to a binding international agreement. To name but a few issues: the allocation of responsibility for the existing level of GHG is complex; the measurement of emissions is at best weak; GHG emissions per head are low in those nations most rapidly increasing their overall emissions; the impact of global warming varies between countries, etc.⁶⁹ Additionally, the sheer complexity of CC in terms of participants and issues is growing all the time and begins to have an impact on the international negotiations,⁷⁰ which is why each negotiation round has become more difficult.⁷¹

62 Helm (2009b:20).

63 Pan *et al.* (2009:145).

64 A country, e.g. the UK could produce low greenhouse gas-intensive goods (i.e. services instead of manufacture) and import high greenhouse gas-intensive goods (aluminum, steel) from abroad. By transferring energy-intensive production to China, India or other DCs, the UK could achieve a Kyoto obligation without making any noticeable difference to climate change.

65 Helm (2009b:17).

66 Olmstead/Stavins (2010:5).

67 Barrett (2009:63); Aldy/Stavins (2009:8).

68 Gosh/Woods (2009:463).

69 Helm (2009b:19).

70 Depledge/Yamin (2009:446).

71 For instance, the COP in Copenhagen was tasked not only with deciding new emission obligations for industri-

3.2 Montreal 2005 (COP 12)

As we have seen, virtually all observers concur that Kyoto on its own was insufficient to fight global warming and that additional measures were needed.

Recognising this, the COP in Montreal adopted a set of decisions which laid the foundation for an innovative dual climate negotiation process:⁷²

- The first branch is led by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (Kyoto Working Group) and negotiates future obligatory emission targets for Annex I parties beyond 2012. This branch is only open for Annex I parties.
- The second branch involves the negotiation of emissions goals for industrialised countries, which have not ratified Kyoto, i.e. the USA. This track also covers negotiations for “national appropriate mitigation actions” (NAMAs) of developing countries. This track is open to all UNFCCC parties. (For this negotiation stream, the Ad Hoc Working Group for Long Term Cooperative Action under the UNFCCC or LCA Working Group was set up in Bali.)

This two-track negotiation and decision-making process aims at broadening the participation and improving the effectiveness of the international climate regime.

3.3 Bali 2007 (COP 13)

In 2007 the Fourth IPCC Assessment Report substantially increased the pressure on the international community to urgently address the challenges of global warming:

- “The IPCC Report indicated that observed and predicted future trends of a changing climate are unequivocal and (with 90% certainty) caused by human socio-economic activities.
- The Report exposed that the impacts and hazards of global warming are more imminent and severe than previously thought. Between 2050 and 2100 climate change could have disastrous effects. It highlighted that the poorer countries do not only lack the means to tackle climate hazards, but their economies are much more dependent on climate-sensitive resources, with Africa and Small Island Developing States (SIDS) being uniquely vulnerable.
- The Report concludes that existing technology, together with new developments in the pipeline, can solve the problem at a cost that is affordable (between 1% and 3% of global GDP by 2100).”⁷³

alised states, together with modifying the Kyoto rules, but as well with setting-up a whole new architecture for the better involvement of developing states and of the US. To name just a few agenda items: financial provisions, technology access incentives, new reporting guidelines for developing nations, provision on CO2 storage, concessions for oil exporters, sectoral approach, and a new joint vision.

72 UNFCCC (2005).

73 IPCC (2007a).

3.3.1 Outcome

The 2007 COP in Bali decided to uphold the dual stream negotiations under both UNFCCC and Kyoto with the expectation that the two streams should be consolidated in Copenhagen in 2009.

The COP adopted the ‘Bali Roadmap’, which is an overarching term to include all the decisions made in Bali, identifying the work that has to be done under the two negotiation streams.⁷⁴ Its main objective was to achieve a legally binding inclusive climate agreement in Denmark 2009, which was to replace Kyoto after 2012 and which would ideally include all major GHG emitters. The Bali Roadmap included the ‘Bali Action Plan’ (BAP), which formally inaugurated the above-mentioned LCA Working Group. The BAP is a tool to enable the implementation of the UNFCCC through long-term cooperative action, involving all UNFCCC parties.⁷⁵

The BAP is built on five cornerstones, i.e. shared vision, mitigation, adaptation, technology and funding. The work on each of these key issues was later distributed between the two working groups:

- The BAP calls for a “shared vision of long-term cooperative action”, recognising the need for a long-term mitigation objective beyond 2012, but failed to quantify this long-term goal.⁷⁶
- For the first time, developing countries accepted the urgent need for joint mitigation efforts and pronounced their willingness to “consider taking national appropriate mitigation action”, softening the rigid CBDR viewpoint they held beforehand.⁷⁷ The BAP introduced a new criterion, according to which mitigation efforts of all states, as well as the funding for developing states have to be “measurable, reportable and verifiable” (MRV).
- With regard to funding, the COP called for new efforts to support developing countries and managed to operationalise the Adaptation Fund under Kyoto in support of LDCs and SIDS.⁷⁸ In Bali, the parties established a 16-member Adaptation Fund Board to manage the fund on behalf of the COP with the Global Environment Fund operating as secretariat.
- Deforestation, which accounts for 20% of all GHG emissions, was put on the agenda for the first time in international climate negotiations. The parties agreed to study the issue, especially on how to measure GHG emissions from deforestation with a view to launch a ‘Reduced Emission from Deforestation and Degradation in Developing Countries’ (REDD) initiative.

74 CCES (2007c:2).

75 UNFCCC (2012i).

76 Initial proposals supported by the EU foresaw that developed countries would have to reduce greenhouse gas emissions by 25–40% below 1990 levels by 2020. Due to strong opposition from the US, but also Canada and Japan, the final decision only asks for “deep cuts in global emission”. See also TWN (2007).

77 UN NGLS (2008:2).

78 CCES (2007c:6).

3.3.2 Assessment

When evaluating the COP 13 in Bali, the outcome was considered a leap forward in many respects. The BAP was notable in being the first international climate decision after Kyoto, which the US joined despite vigorous earlier opposition. This gave hope that the US could be re-engaged in the post-2012 climate negotiations.

Yet, Bali also highlighted the on-going quarrels between industrialised nations that are party to Kyoto and the US, as well as between the rich and poor nations over the terms of future negotiations under the UNFCCC and Kyoto.

As a consequence, many vital issues remained open in Bali:⁷⁹

- The LCA Working Group under the UNFCCC stream established in Bali did not succeed in determining what kind of procedure, i.e. formal negotiations, informal dialogues, or both, would be adopted in the working group.
- The objectives to be achieved under the BAP are not quantified, especially with respect to (i) the long-term global GHG emissions goal under the UNFCCC and (ii) the funding by industrial countries of adaptation and mitigation efforts of developing countries.
- Even more significant, due to considerable differences in opinion, parties were unable to reach an understanding on the form of a post-2012 climate agreement: three legal frameworks were discussed in and after Bali: (i) a new protocol under the UNFCCC concurrent with the amended Kyoto Protocol; (ii) a new protocol overriding the Kyoto Protocol; or (iii) a set of decisions of the COP and an amended Kyoto Protocol.⁸⁰ Of the three, option (ii) would represent the most ambitious outcome as it would have provided a single framework for all countries willing to take on binding mitigation targets and would have resolved the issue of industrialised countries that are not party to Kyoto. Furthermore, this option would capture the outcome of both negotiation streams in one legal instrument.

3.4 Copenhagen 2009 (COP 15)

The COP 15 in Denmark was meant to finalise two years of intense negotiations that had been launched with the 2007 Bali Roadmap.

3.4.1 Expectations

Expectations before the start of the COP 15 were running high:

- It was hoped that the COP in Denmark could produce a new legally binding global climate agreement to replace the Kyoto Protocol after 2012, involving all major GHG emitters (or at least a strong commitment by all nations to work toward this goal).⁸¹

79 UN NGLS (2008:3).

80 Bodansky (2009:2).

81 Stavins /Stowe (2010:2).

- Furthermore, the COP was expected to recognise the imperative of limiting global warming to 2 °C.⁸²
- In terms of mitigation, it was hoped that the industrialised parties could agree to quantified long-term mitigation targets such as the 50 % reduction by 2050 (50 by 50) goal formulated by the G8.⁸³ The largest developing states, such as China, India, Brazil and Mexico, should take on a wider range of quantifiable policy-based mitigation commitments, e.g. sectoral GHG emissions targets, intensity goals.⁸⁴ The agreement should furthermore establish the terms for the reporting and verification of parties' mitigation actions.
- The COP was also meant to decide on new instruments to generate sustainable funds to bolster mitigation and adaptation efforts by developing countries.⁸⁵

3.4.2 Outcome

With the negotiations on the verge of breaking down and after an all-night final session, all the COP15 managed to deliver was the Copenhagen Accord (Copenhagen or Accord), a three-page document with two empty annexes:

- First, the Accord recognises the scientific view as outlined in the Fourth IPCC Assessment Report that global warming must be limited to 2 °C in order to prevent the most damaging impacts.⁸⁶
- Copenhagen introduced a new instrument in the form of 'national pledges', which every UNFCCC member had to submit by the end of January 2010.⁸⁷ The Accord is labelled 'a portfolio of national commitments', under which each state commits and enrolls to observe its domestic GHG reduction targets, whether those are in the form of laws, regulations or multi-year action plans.⁸⁸ By the end of 2010, the Accord had become the first-ever vehicle to include explicit, if not unconditional, mitigation pledges from all the world's major economies, including China, India and other large developing states.⁸⁹
- Furthermore, the Accord highlights the need for scaled up and predictable funding to developing countries. It called US\$30 billion for a three-year period from 2010 to 2012, to be split equally between mitigation and adaption and identified a "goal" of US\$100 billion per year as from 2020.⁹⁰
- Copenhagen endorsed the maintenance of two formal negotiating platforms (Kyoto and LCA working group). While some parties hoped that these negotiating forums could be used to operationalise the Accord, no formal link between the working groups and the Accord was established.

82 UNFCCC (2009b:2).

83 Stavins/Stowe (2010:2).

84 CCES (2009b:2).

85 WRI (2002:4).

86 Egenhofer/Giorgiev (2009:3).

87 Ibid.

88 Stavins/Stowe (2010:2).

89 Falkner *et al.* (2010:253).

90 Egenhofer/Giorgiev (2009:2).

3.4.3 Assessment

The gathering in Copenhagen drew a level of political attention well beyond expectations in that an unprecedented number of heads of government, almost 120, decided to meet to provide the final input for a new global climate regime.

Had this strategy paid off?

Initially, most observers showed profound frustration, as for them the three-page Copenhagen Accord represented all that was wrong with international climate negotiations:⁹¹

- It was felt that the COP made no ground whatsoever towards a post-2012 binding climate agreement, as neither of the two working groups, i.e. the Kyoto or the LCA working group, was able to reach a formal decision. Instead, the Copenhagen Accord is a non-binding political decision, which was not even supported by all UNFCCC members. Due to opposition by a handful of states at the eleventh-hour, the COP only “took note” of the decision.⁹²
- Copenhagen fell dismally short on other expectations as well: The Accord does not impose a long-term GHG reduction goal on all industrialised states, nor does it foresee mitigation commitments for the rapidly industrialising developing states. Instead it introduces an ‘open enrolment’ framework under which states can register their voluntary domestic mitigation pledges.⁹³ In spite of highlighting yet again that developing countries are more vulnerable, the funding pledges, especially as to long-term funding, remained unspecified.
- What is more, from the outset, experts had been wary about the quality of the voluntary mitigation pledges to be registered under Copenhagen:
 - Indeed, today, experts are unanimously of the view that the pledges to date would not suffice to keep global warming at 2°C below pre-industrial level; instead they reflect a target of approximately 3°C.⁹⁴ Highlighting the gap between pledged and needed GHG emissions reductions (the so-called ambition gap), experts since have called for increased reduction targets.
 - Moreover, in only a few cases are the pledges unconditional:⁹⁵ Only Australia, Norway and the EU offered unconditional reduction targets (5% below 2000, 30% and 20% below 1990, by 2020), and pledged to go further if there is an ambitious international climate deal. Most other countries’ pledges are conditional, e.g. the USA’s target, which foresees mitigation in the range of 17% below 2005, is contingent on the enactment of domestic US legislation (as is Canada’s virtually identical pledge). Japan and New Zealand say their targets are subject to obtaining a more ambitious in-

91 Falkner *et al.* (2010:252).

92 Anderson (2009:2).

93 Cao (2010:3).

94 UBA (2010:5).

95 Diringer (2010a:1).

ternational climate deal. China and India said they “will endeavour” to decrease their carbon intensity by 40-45% and 20-25%, respectively (while once again emphasising the voluntary nature of their pledges). Most of the developing countries’ pledges rely on support from developed countries.

- Copenhagen revealed like no other COP the divisive stances of the parties on who should contribute how much to counter global warming and which form this contribution should take:
 - Regarding the issue of contribution, the developing world underlined the historic responsibility of Annex I parties and insisted that those must lead the way towards mitigation.⁹⁶ On the other hand, all industrialised states, in particular the USA, referred to the quickly increasing GHG emissions of the large developing states and demanded that they also take on mitigation goals.⁹⁷
 - About the form question, industrialised countries that are party to Kyoto were unwilling to go any further without noteworthy commitments from the USA and the rapidly industrialising developing countries.⁹⁸ They wanted Kyoto replaced by a new binding agreement, ideally covering all large GHG emitters, including the USA and China. The USA for its part indicated that any new climate agreement should be very different from the obligatory top-down Kyoto model and called for a voluntary bottom-up model instead, including all large GHG emitters.⁹⁹ In contrast, the G77 insisted on the extension of Kyoto in its current state, as a manifestation of the historical liability of the industrialised nations, in parallel with a separate agreement under the LCA working group.¹⁰⁰ Moreover, G77, in particular China and India, refused to take on binding GHG emissions reduction goals.

However, observers soon realised that with the Copenhagen Accord a total break-down of the climate negotiations had been prevented.¹⁰¹ Experts now believe that the Accord is a compromise of what was realistically possible given the political impasse.¹⁰²

Other observers go as far as implying that Denmark could have seen the emergence of a new climate architecture – moving away from the top-down model of Kyoto with its internationally-agreed obligatory emission limits and designated instruments towards a bottom-up model relying on voluntary national pledges and using flexible instruments.¹⁰³

96 Sterk *et al.* (2011a:4).

97 Ibid.

98 Sterk *et al.* (2011b:5).

99 Sterk *et al.* (2011b:6).

100 Sterk *et al.* (2012:5).

101 Falkner *et al.* (2011:252).

102 Ibid.

103 Egenhofer/Giorgiev (2009:3).

3.4.4 Beyond Copenhagen

Undoubtedly, the weak outcome in Denmark raised important questions about the international climate negotiations.

The first question was how to incorporate Copenhagen, which is a non-binding political decision reached outside the UNFCCC process, into the UNFCCC legal framework.¹⁰⁴ After Copenhagen, three possible scenarios were discussed: (i) to use the Copenhagen Accord as an alternative negotiation stream, a route favoured by the US; (ii) to ignore the Copenhagen Accord and to continue with the LCA and Kyoto Protocol mandate only; and (iii) to pick those elements of the Copenhagen Accord, where progress was achieved, and integrate them into the Kyoto Protocol and LCA framework of the UNFCCC negotiations, which was the EU view.¹⁰⁵ For most observers, the third option appeared to be the most realistic for Cancun. The even more important question to discuss was the one about the form of a post-2012 climate treaty and how best to reach it. In view of the COP in Denmark, quite a few observers argued that the ‘global climate deal’ strategy of the EU was obsolete and that a new approach to formulating a climate treaty was necessary.¹⁰⁶

- What is meant by global climate deal strategy? It involves a package deal with legally binding commitments on all the key issues, i.e. mitigation, adaptation and funding, which is universal in its application.¹⁰⁷ This strategy was first used when negotiating the Vienna Convention on Ozone Layer Protection of 1985 and has dominated international climate policy till Kyoto. Kyoto exemplifies both the achievements of the global deal strategy and its weaknesses.¹⁰⁸ While the EU and most developing nations have always been in favour of a universal all-inclusive climate deal, the US has been wary of this approach from the outset, which is why it never ratified Kyoto.
- Denmark had exposed major hurdles on the way to a new legally binding global climate agreement:¹⁰⁹ (i) of the major GHG emitters that account for 2/3 of CO₂ emissions (China, the EU, India, Russia and the USA), only the EU supports unequivocally the idea of a new global legally binding treaty; (ii) the EU was however unable to exercise leadership at Copenhagen; and (iii) instead the negotiations were overshadowed by the political impasse between the USA and China: Washington made the ratification of a new binding treaty contingent upon obligatory GHG emissions reduction goals for key developing countries, such as those of the BASIC group. On the other hand, China remained opposed to any kind of binding objectives unless the US would take the initiative in limiting GHG emissions.¹¹⁰

104 Diring (2010b:2).

105 Ibid.

106 Falkner *et al.* (2010:256).

107 Ibid.

108 Falkner *et al.* (2010:255).

109 Bodansky *et al.* (2010:3).

110 Barriault (2010).

- Experts have, before and after Copenhagen, investigated various other options for a post-2012 climate treaty, and there is unfortunately only room to discuss two pertinent aspects:¹¹¹
 - **Top-down vs. bottom up:** The EU and developing countries, in particular LDC's, and SIDS insist that a top-down model, à la Kyoto, with quantified obligatory commitments is the only way to achieve the long-term 2 °C objective under the UNFCCC. In contrast, the USA and others are of the view that a bottom-up approach with informal pledges and voluntary measures is likely to be more effective, as countries will submit only what they can actually realise. A growing number of observers postulate that what is really needed is something in-between, an international legal instrument that is flexible enough to guarantee wide participation, and binding enough so that parties can be reasonably confident that others will fulfil their obligations.¹¹² Although dispensing with the idea of a legally binding climate deal, this option maintains the need for a strong international climate framework by embedding national pledges in a wider international regime.¹¹³
 - **All-inclusive treaty vs. fragmented agreements:** Instead of waiting for a comprehensive post-2012 climate deal, which includes all cornerstones of the Bali Roadmap, many observers today suggest a fragmentation of the climate negotiations.¹¹⁴ They want to disaggregate the key issues into components that can be developed in a more flexible way through parallel agreements using various sets of instruments, institutions and methods which are only integrated and linked over time.¹¹⁵ They favour negotiating (i) issue-specific agreements or (ii) agreements which target specific industries or specific policies or (iii) agreements involving only a few like-minded countries.¹¹⁶ Specifically, considering the logjam between the US and China, there is a growing number of experts who recommend a 'coalition of the willing' including the EU, Japan or Russia and progressive developing countries such as Korea, Mexico or Indonesia, should continue with Kyoto beyond 2012.¹¹⁷

The last major question that needed to be looked at after Denmark was the obvious weaknesses of the UN negotiation framework. Observers agreed that there was an urgent need for more effective decision-making rules, which simultaneously guarantee participation and inclusiveness.¹¹⁸ After Copenhagen, various options were discussed: Under the first main option, negotiations continue under the UN umbrella but the decision making procedure is overhauled by (i) introducing majority rule or (ii) keeping voting rules as they are, but use

111 For an overview see Kuik *et al.* (2008).

112 Diring (2010b:1).

113 Falkner *et al.* (2010:259).

114 Falkner (2011:258), Bodansky/Day O'Connor (2011:10).

115 Bodansky *et al.* (2010:10).

116 Kuik *et al.* (2008:327).

117 Falkner *et al.* (2010:259).

118 UBA (2010:28).

more exclusive negotiation groups.¹¹⁹ Other experts looked beyond the UN as a negotiation platform and suggest using other fora.¹²⁰ Alternative include specialist institutions i.e. International Maritime Organisation, International Civil Aviation Organisation or other broader international for a, like the G8, G20 or the Major Economy Forum (MEF).¹²¹

3.5 Cancun (COP 16)

3.5.1 Expectations

In light of the on-going discussion about the right approach forward and with the gridlock between the US and China unresolved, negotiators began organising the next COP in Mexico.

- Expectations were low. In particular, the USA had nothing to bring to the table given that any new climate deal would not reach the quorum in the US Senate. This is why, as opposed to a year earlier, the COP 16 was not thought to produce a new legally binding climate deal but a set of decisions to move forward on key elements of climate policy.¹²² The parties should at least declare their intention to work towards a new binding climate deal, while leaving on the table all options regarding a specific legal framework, including new obligations under Kyoto.
- It was hoped that the COP in Mexico would consolidate the various discussions and negotiation streams which existed: the two formal negotiation streams, supervised by the Kyoto and LCA Working Group and the more informal Copenhagen Accord.¹²³ The key issue to resolve in this regard was how to integrate the non-binding Copenhagen Accord in the wider UNFCCC framework.
- The COP was expected to at least decide on basic parameters of new or improved mechanisms in those areas where negotiations have reached a certain level, for instance the initiative concerning deforestation (REDD+), finance or technology.¹²⁴

3.5.2 Outcome

The Cancun Agreements (Cancun or Agreements) did extremely well to integrate the key elements of the Copenhagen Accord into the UNFCCC:

- Cancun includes, for the first time in an official UN document, the objective to limit the temperature increase below 2°C. Unlike the year before, in Cancun the parties formally agreed to the goal instead of only taking note of it. The Agreements calls for a periodic review to consider strengthening this long-term goal, including the option to decrease it to 1.5 °C. The first review is to begin in 2013 and conclude by 2015.
- By incorporating the mitigation targets and actions pledged under Copenhagen into the

119 Falkner *et al.* (2010:258).

120 Bodansky/Day O'Connor (2011: 3-10).

121 Bodansky *et al.* (2010:19).

122 CCES (2010b:1).

123 Stavins (2010a:3).

124 Ibid.

UNFCCC, the new agreements set GHG emissions reduction goals for some 80 countries.¹²⁵ As a consequence, for the first time, all the large GHG emitters, including Brazil, China, the EU, India and the US, have signed up under the UNFCCC for targets and actions to reduce GHG emissions by 2020.¹²⁶ While the content or level of ambition of these pledges was not subject to negotiation, industrialised nation are urged to scale-up their targets to a level consistent with the recommendations of the Fourth IPCC Assessment Report.

Moreover, as hoped for, Cancun embraced a number of operational decisions by the parties under both the LCA and Kyoto working group.

- The LCA-stream decision inaugurated the Cancun Adaptation Framework in order to improve adaptation efforts and institutes an Adaptation Committee to provide technical support to LDCs on adaptation-related matters.¹²⁷ While the emphasis of Kyoto was on mitigation, Cancun now puts adaption firmly on the table in line with the Fourth IPCC Assessment Report. The funding goals set in the Copenhagen Accord are reiterated.¹²⁸ A Green Climate Fund is established which will be designated as an operating entity of the financial mechanisms of the UNFCCC and will be operated under the guidance of the COP with the World Bank as interim trustee.¹²⁹ Moreover, the decision outlines a phased approach to boost efforts by poorer countries to limit GHG emissions as a result of deforestation (REDD+ initiative), though the states did not reach an understanding about funding for this initiative.¹³⁰ Parties decided to establish a new technology mechanism including a Technology Executive Committee.
- The Kyoto-stream decision referred the issue of an extension of Kyoto beyond 2012 to the COP 17. It however made progress on several others issues.¹³¹ The participants decided that in the next commitment period, 1990 will also serve as the base year, while enabling the parties to use other reference years. The Kyoto Protocol's emissions trading and other market-based instruments will continue to be available to the industrialised world as a means to satisfying their targets.

3.5.3 Assessment

Despite very gloomy predictions ahead of the Cancun COP, the participants achieved unprecedented consensus on a range of issues going forward.

Why did Mexico produce tangible outcomes where Denmark failed?

125 Stavins (2010b:1).

126 CCES (2010c:1).

127 CCES (2010c:3).

128 Copenhagen foresaw the joint commitment by developed countries to provide US\$30 billion in start-up finance for developing countries in 2010-12; and their willingness to try to mobilise US\$100 billion a year as from 2020.

129 UNFCCC (2012i).

130 CCES (2010c:3).

131 CCES (2010c:6).

Observers suggest that much of the progress reached can be linked to a somewhat changed negotiation approach:

- Importantly, Cancun blurs the distinction between industrialised and developed countries, a key step to overcome the rich-poor gulf which has hobbled climate negotiations for many years.¹³² As outlined before, this split between Annex I and non-Annex I parties is today considered a major flaw of Kyoto, which left out more than 140 nations without any commitments, including China and India who between them account for more than 50% of all GHG emissions. The Cancun Agreements formulates two principles, based upon which (i) all countries must recognise their historic GHG emissions (the industrialised world) and (ii) all countries are liable for their future GHG emissions (the industrialised and the larger developing countries).¹³³
- Moreover, the parties seem to have, at least implicitly, recognised that moving forward in incremental steps is going to be more effective than holding out for an all-inclusive global climate deal. Negotiators highlighted that the outcomes were “incremental progress, but progress nonetheless.”¹³⁴ In Cancun, for the first time, the UNFCCC showed a constructive attitude towards other initiatives by the MEF or the G22.
- Likewise, after the hostile finger-pointing and recriminations between the US and China, which in fact deadlocked the COP in Denmark, these countries adopted a more productive tone in Mexico, with India as key broker.¹³⁵ In general, the parties were quite scared that another failure could once and for all hamper the UN climate process; therefore they were far more ready to accept outcomes not necessarily reflecting their initial demands. In a way, countries appear to have understood how to navigate through the divisive bickering of industrialised and developing countries. The host even managed to work around the last minute opposition of Bolivia, compared to the COP 15 where similar opposition had derailed the whole negotiations.¹³⁶ Mexico’s skilful chairmanship kept the negotiations open and inclusive, preventing the impression of exclusivity that had alienated some countries in Denmark.¹³⁷

3.6 Durban 2011 (COP 17)

3.6.1 Expectations

Despite the progress achieved in Mexico, it was still far from clear where the negotiations would be heading after Cancun.¹³⁸ Though COP 16 integrated the long-term goal of 2°C and anchored the Copenhagen pledges in the UNFCCC, it was once more unable to solve the ma-

132 Stavins (2011a:1).

133 Stavins (2010b: 3).

134 Stavins (2010b:2).

135 CCES (2010c:1).

136 Stavins (2011a:1).

137 Stavins (2011a:2).

138 CCES (2010c:2).

major question of what to do with the Kyoto Protocol beyond 2012, when the first commitment period would run out.

The issue of a possible extension of Kyoto for the Annex 1 countries had been discussed in the COP in Bali and had been put off ever since. However, with little more than a year to go before the end of Kyoto, observers pointed out that the question could not be further delayed, given that the necessary ratification would itself take at least a year.¹³⁹ This made Durban the last genuine opportunity to extend Kyoto into a second commitment period (CP2) and thereby prevent a so-called commitment gap.

In the run-up to the COP 17, experts discussed various possible negotiation options for Durban, ranging from a worst-case scenario to a very ambitious scenario:

- In the worst case parties would fail to agree on a prolongation of Kyoto beyond 2012. Many experts thought this was the most likely option going into the negotiations because even those Kyoto parties that supported its formal extension were no longer inclined to do so without reciprocal commitments by other nations:¹⁴⁰ For instance, the EU was willing to accept a CP2, but only as part of a new climate deal including the US and China.¹⁴¹ Then again, the US would only agree to such a new climate deal if it included GHG emissions goals of the “same legal force” for all of the major emitters (including China and India), although these obligations could be differentiated.¹⁴² China, on the other hand, seemingly kept on opposing any binding targets, no matter how differentiated. Unless one or more of these parties backed down from their hardline stance, experts predicted that Durban would fall victim to this gridlock.¹⁴³ What would be the consequence? Although Kyoto’s mitigation obligations have a fixed time limit, the Protocol as a whole does not. The agreement would continue to operate, so would its institutions and some of its mechanisms. However, the absence of binding GHG emissions targets would deprive the Protocol of its key *raison d’être*.
- In a very ambitious scenario, industrialised countries would agree in Durban to a formal extension of Kyoto. But most observers viewed this option as unrealistic. As just illustrated, even the EU would find it difficult to ratify a CP2 unless the COP in Durban would launch negotiations towards a new universal climate deal. Yet, the opening of such negotiations was highly unlikely due to the deadlock between the USA and China.¹⁴⁴ Moreover, with Japan, Russia and Canada’s opposition to agree to a CP2 of Kyoto, which they declared just before Durban, observers pointed out that there would be even fewer industrialised countries subject to GHG emissions reduction targets than under the original Kyoto.¹⁴⁵

139 Stavins (2011b:3).

140 Bodansky (2011:5).

141 Stavins (2011b:3).

142 Bodansky (2011:2).

143 Ibid.

144 Diringer (2011a:1).

145 Bodansky (2011:7).

- Viewed by most as the best-case scenario, a transitional deal could start a political CP2, in which GHG emissions goals would be political rather than legally binding obligations.¹⁴⁶ Due to the political nature of the new targets, their endorsement would not require a formal modification of Kyoto but only a simple decision under Kyoto. What would be the difference between a political CP2 versus a legal CP2? While a legally binding agreement is usually more effective than a political instrument, the agreement to a political CP2 could have similar gravity and visibility as a legal CP2 depending on how the objectives are formulated.¹⁴⁷ Moreover, as political commitments would leave more flexibility to the states, they could even be willing to increase the level of ambition of these commitments.¹⁴⁸

On top of the issue of an extension of Kyoto beyond 2012, it was hoped that the Durban COP would advance the LCA negotiation stream and include (i) the review of the long-term objective of keeping global warming at 2°C and (ii) the elaboration of incremental steps to implement Cancun (involving the overall level of the mitigation pledges, improved MRV, REDD+, adaptation issues, technology and finance).

3.6.2 Outcome

In spite of the doom and gloom at the opening of Durban, the parties agreed on a range of issues, with the Durban Agreement (Durban or Agreements) launching steps that may lead to a historic breakthrough in international climate negotiations. What is sure for now is that COP17 kept discussion of global climate efforts from breaking down and moving in the right direction.¹⁴⁹

Thirty hours after the scheduled end of the Durban COP, the parties agreed to a prolongation of Kyoto beginning in 2013. However, the specifics of the new quantified reduction targets are to be decided in at COP18 to be held in Doha, Qatar from 26 November to 7 December 2012; also the length of the CP2 has not yet been decided, options include five-year (2013-2017) or eight-years (2013-2020).¹⁵⁰ This is largely due to the EU insisting that the CP2 should be consistent with its domestic legislation running to 2020. The terms of Kyoto have not been amended insofar as China and India (and other major GHG emitters) do not have binding targets, while the EU, Australia and New Zealand and several other industrialised countries remain subject to mitigation goals¹⁵¹. The terms have been modified insofar as Canada, Russia and Japan do not take part in the CP2 of Kyoto.¹⁵² The nature of the mitigation obligations under the CP2 has also changed in that parties will list voluntary quantified GHG emissions goals in 2012 in a “pledge and translate” regime that, unlike the original Kyoto, will have no common level of ambition.¹⁵³

146 Ibid.

147 Bodansky (2011:9).

148 Ibid.

149 Diringer (2011b:1).

150 Sterk *et al.* (2011b:3).

151 Boyle (2011:4).

152 Ibid.

153 Ibid.

The extension of Kyoto beyond 2012 was combined with the launch of a new platform to negotiate a post-2020 climate agreement by way of “a protocol, another legal instrument or an outcome with legal force”, implying but not explicitly mandating that it be legally binding.¹⁵⁴ This post-2020 agreement is meant to include all parties and notably does not invoke the UNFCCC principle of “common but differentiated responsibility”.¹⁵⁵ Negotiations have to kick off in 2012 and finish no later than 2015 and are supervised by a newly formed ‘Ad Hoc Working Group on the Durban Platform for Enhanced Action’.¹⁵⁶ The new climate deal is to come into effect only from 2020 onwards. Negotiations under the LCA stream will continue for at least one more year.¹⁵⁷

Under the LCA stream, the COP took various significant steps to further the implementation of the Cancun Agreements:

- A major outcome is the operationalisation of the Green Climate Fund to serve as key vehicle for climate funding.¹⁵⁸ For years, funding has been an issue of on-going conflict between developing and industrialised countries. Developing countries have always underlined that, besides reduction of GHG emissions, funding is the other side of the liability of the developed countries in tackling global warming.¹⁵⁹ Though the UNFCCC does include funding mechanisms, it has a very weak role and sums pledged to the different funds (e.g. LCD, Adaptation) are notoriously low.¹⁶⁰ However, while parties were able to decide on the institutional structure of the GCF, the decision gives no indication where the money for the fund will actually come from beyond 2012.¹⁶¹ As a result, the COP launched a work programme to investigate potential sources of long-term funding.
- Importantly, in order to further improve monitoring under the UNFCCC, the COP introduced (i) a voluntary international assessment and review mechanism for developed states and (ii) a non-binding international consultation instrument for developing states.¹⁶² All countries will have to prepare biennial reports, covering updates on GHG emissions inventories, national appropriate adaptation plans (NAMAs) and funding.
- Building on BAP and the Nairobi Work Programme, Durban resulted in the official launch of the Adaptation Committee and important steps towards a framework for the development of a national adaptation policy and of a mechanism for loss and damages from weather impacts, thus confirming the importance of adaptation issues at the COP.¹⁶³
- Finally, parties agreed on various other operational actions including: (i) the continued use of market-based instruments, such as carbon markets in a post-2020 deal, (ii) the

154 CCES (2011:1).

155 Rajamani (2011:1).

156 Sterk *et al.* (2011b:8).

157 Boyle (2011:1).

158 Boyle (2011:7).

159 See Art 4 of the UNFCCC.

160 Sterk *et al.* (2011b:23).

161 Sterk *et al.* (2011b:25).

162 CCES (2011:3).

163 Boyle (2011:9).

up-coming inauguration of the new technology instrument in 2012 and (iii) funding and technical aspects of the REDD+ initiative.¹⁶⁴

3.6.3 Assessment

Observers believe that Durban keeps the international climate negotiations intact and moving in the right direction, thus increasing the likelihood of meaningful long-term climate action.¹⁶⁵ By agreeing on a prolongation of Kyoto, launching a fresh negotiation stream and wrapping up many of the outstanding issues under Cancun, South Africa has reopened the door to legally binding GHG reduction targets for all major emitters – a door which seemed to have been closed after Denmark.¹⁶⁶ The agreement by key parties, including the US, China and India, to even consider an inclusive and robust legal agreement beyond 2012 is certainly an important move forward.¹⁶⁷

From a glass half full perspective, Durban was a step forward in more than one respect:

- The key importance of the innovative Durban platform is not so much that a new stream has been launched. Why inaugurate a new forum where it would have been sufficient to prolong the LCA stream beyond 2012? However, while the LCA stream included a firewall between rich and poor countries, the notorious split between Annex I and Non-Annex I countries, which is out of touch with global economic realities, the Durban platform does not.¹⁶⁸ Notably, the text to launch the platform does not include a reference to the UNFCCC principle of CBDR in spite of the insistence of developing nations. Hence, Durban offers nations, for the first time, a platform for a more symmetrical agreement.¹⁶⁹
- The fact that Kyoto will live to see yet another day, has been hailed as a major *realpolitik* victory for the progressive countries, such as the EU and others.¹⁷⁰ Despite tough opposition by the US, China and India, the EU managed to form a “green coalition” with the most vulnerable nations, LCDs and two of the BASICs (Brazil and the host) and succeeded in obtaining a roadmap for a new universal treaty.¹⁷¹ In doing so, the EU was vital to avoid another Copenhagen outcome, which, at times, was a very real possibility in Durban.¹⁷² According to observers, the failure to agree on a roadmap would have stopped the EU from committing to a CP2 under Kyoto, which in turn would have led to developing nations blocking any headway under the LCA stream, with potentially devastating consequences for the overall international climate negotiations.¹⁷³

164 Boyle (2009:10-12).
165 Stavins (2011c:1), Diringer (2011b:1).
166 Climatico (2011:1).
167 Boyle (2011:1).
168 Stavins (2011c:2).
169 Diringer (2011:1).
170 Sterk *et al.* (2011bb:4).
171 Sterk *et al.* (2011:31).
172 Ibid.
173 Ibid.

- The parties agreed to a range of potentially significant details on various elements of the Cancun Agreement. As outlined, this included among others the inauguration of the Green Climate Fund, with the intended purpose of operating as the central long-term funding vehicle of climate initiatives in developing nations.
- What is also significant is the fact that old alliances were crumbling: While, in the past, developing countries used to negotiate as one G77 block, often hijacked by the larger emerging nations, in Durban the LDCs and the smaller island states formed a coalition with the EU.¹⁷⁴ Likewise, the BASIC group fractured in Durban, with South Africa and later Brazil insisting on a roadmap for a new universal treaty and China indicating its willingness to ponder adopting binding goals after 2020.¹⁷⁵

Yet, from a glass half-empty perspective, observers raise various concerns:

- Great ambiguity remains over the legal nature of the post-2020 climate deal and in particular the binding force of the targets: The agreement, launching the new negotiation platform, is “to develop a protocol, another legal instrument or an agreed outcome with legal force under the UNFCCC”. However, apart from the question of what is meant by “agreed outcome of legal force”, which is a novel term in international law, even a legally binding agreement must not necessarily contain legally binding commitments.¹⁷⁶ The Durban forum may well provide for a legally binding agreement by referring to “an outcome with legal force”, but it does not state anywhere that this new agreement is to include legally binding mitigation targets. It can be expected that the US and others will continue “to fight tooth and nail” against having quantified binding goals in a 2020 agreement.¹⁷⁷ Additionally, Durban made little, if any progress on the stringency of future (binding) GHG emissions reduction goals.¹⁷⁸ Though Durban invites states to scale up ambition on their existing climate change mitigation pledges in order for the eventual 2020 treaty to merely close the ambition gap, it fails to provide guidance about when global GHG emissions need to peak or on a long-term emissions reduction objective (such as the 50% reduction target by 2050).¹⁷⁹
- Regarding the CP2 for Kyoto, critics highlight that these new commitments will be weaker than the first, as it is based on a voluntary pledge and review system which is not tied to an overall global climate change mitigation objective.¹⁸⁰ The big developing country GHG emitters have no binding targets, Russia and Japan will not participate in the CP2 and Canada abandoned Kyoto for good just after Durban.

Observers agree that only the future will reveal if Durban had seen a historic breakthrough or whether it was just another pyrrhic victory.

174 Sterk *et al.* (2011b:33).

175 Ibid.

176 Bodansky (2012:1).

177 Sterk *et al.* (2011b:33).

178 Bodansky (2012:2).

179 Ibid.

180 Boyle (2011:2).

In the next three sections we will investigate what policy instruments and methods individual countries use to tackle global warming. For this we will look at (i) two industrialised societies – the EU, which is party to Kyoto, and the USA as the second-largest GHG emitter and not a party to Kyoto; (ii) a member of the BASIC group of larger developing countries – China as the largest GHG emitter today; and (iii) lastly the developing world with particular regard to LDCs.

4 Climate Change and Industrialised Countries

4.1 The European Union

The EU, representing 27 member states, with a combined output of 4.050 million tonnes of CO₂ in 2010, is the world's third largest GHG emitter after China and the USA, accounting for 12.3% of global CO₂ emissions, and having shown an increase of 3% from 2009 (and a decrease of 5% from 1990).¹⁸¹ The EU's CO₂ emissions/unit of GDP intensity of 0.30 kg CO₂ per 2000 US\$ in 2009 is about a third lower than the USA's (0.46) and China's (0.52) and has decreased by 31% from 1990.¹⁸² Per capita GHG emissions in the EU totalled 8.1 tonnes CO₂ in 2010, which was about half of the value of that of the USA at the time. This signifies a decrease of 12% from 1990.¹⁸³

The EU has long been at the vanguard of international efforts to address global warming and has been a party to the UNFCCC since 1993 and the Kyoto Protocol since 2002. The EU is the only regional trade bloc that is a party to the Convention and Kyoto, as are all its member states individually.¹⁸⁴

The European Climate Change Programme (ECCP I) of 2000,¹⁸⁵ replaced in 2005 by the ECCP II¹⁸⁶, serves as the main EU climate change mitigation framework. Unlike the US, the EU follows an approach that is built on obligatory GHG emissions mitigation goals under Kyoto and other regulatory instruments (such as emissions permits), complemented by incentive-based instruments.¹⁸⁷ In terms of a carrot-and-stick approach, the EU (as do many other nations) argues that using this approach is the most efficient way to fight global warming at the lowest cost.¹⁸⁸ Besides, direct regulation such as permits and CO₂ taxes are measures that are more certain to deliver quantifiable outcomes in the short term, as deemed necessary by various IPCC papers and Kyoto itself.¹⁸⁹

181 NEAA (2011:11,14).

182 IAE (2011:94): note that the numbers relate to CO₂ emissions from fossil fuel combustion, which accounts for over 90% of all CO₂ emissions.

183 NEAA (2011:14).

184 Environment is a so-called “shared competence”, where both the EU and the Members can have legal authority. The EU decides on a case by case basis on its representation in international negotiations.

185 European Commission (2000).

186 European Commission (2005).

187 Kuik *et al* (2008:320).

188 Kuik *et al*. (2008:321).

189 Ibid.

4.1.1 Mitigation

Under Kyoto the 15 older EU member states (EU-15) took on the obligation of reducing their collective emissions by 8% on average in the CP1 until 2012, compared to base year emissions.¹⁹⁰ While the 5th National Communication under the UNFCCC by the EU in 2009 projected that the EU-15 would overshoot their Kyoto target by 5.8% in 2010¹⁹¹, individual members had varied results in achieving their targets. Though some member states, like the United Kingdom, France and Greece have reduced domestic GHG emissions beyond their Kyoto targets, others like Austria, Denmark, Italy, Portugal and Spain, are lagging in compliance.¹⁹²

Regarding the follow-up between 2013 and 2020, the EU, in March 2007, took the unilateral decision to reduce GHG emissions by at least 20% by 2020, compared to 1990 levels. In order to implement this obligation, the EU adopted in June 2009 a Climate and Energy Package (CEP)¹⁹³, in which it reiterated the overall target of a 20% GHG emissions reduction with an additional commitment to push this up to 30% if a satisfactory international agreement involving all big GHG emitters is reached. Apart from these new mitigation targets, the package obliged EU members to generate 20% of their energy from renewables by 2020. In a communication of May 2010¹⁹⁴ and a Staff Work Document of February 2012,¹⁹⁵ the EU Commission investigated various options for moving towards a 30% GHG emissions reduction, underlining that the 20% target was well within reach given a much quicker GHG emissions decrease than originally anticipated, due to high oil prices as well as the on-going global financial crisis.

With regard to the long-term ambition of keeping the global temperature increase to below 2°C, the CEP contains an EU objective of reducing domestic GHG emissions by 80-95% below 1990 levels by 2050, which was reconfirmed by the European Council in February 2011. In March 2011 the EU Commission proposed a roadmap¹⁹⁶ outlining scenarios on how to achieve this target.

As illustrated, the EU uses various regulatory instruments, central to which is the trade in GHG emissions permits (EU Emissions Trading System or ETS), a system which was launched in 2005.¹⁹⁷

- The 2005 Directive introduced a mandatory “cap and trade” regime: A GHG emissions limit for the whole ETS is fixed and for each year a certain quantity of GHG emissions allowances is granted to EU members (“cap”), which in turn distribute these via public

190 European Commission (2011c).

191 European Commission (2009a:vi).

192 Barrett (2009:62).

193 European Commission (2007).

194 European Commission (2010a).

195 European Commission (2012a).

196 European Commission (2011b).

197 Directive 2003/87/EC of the European Parliament and the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community, Official Journal L 275, 25. 10.2003, p. 32-46

sale to the 10,800 installations throughout the bloc participating in the scheme.¹⁹⁸ If an installation emits more than the allowances it has obtained it has to buy unused allowances from other installations under the ETS.¹⁹⁹ Currently in phase II (until 2012), a revised ETS directive was adopted in 2008 to further improve the EU scheme for the third phase running from 2013 to 2020. Moreover, the EC wants to promote the creation of a robust OECD-wide carbon market by 2015, to be further extended to the larger developing countries by 2020.

- Until 2012, the EU ETS involves only CO₂ emissions in the power and heat generating sector, as well as a few other emissions-intensive industries (oil, iron and steel), across the 27 EU members plus Iceland, Liechtenstein and Norway. While overall ETS guidelines are set at EU level, allocation rules and GHG emission caps are determined at national level. The firms in question obtain allowances to emit a certain tonnage of GHG each year:²⁰⁰ The overall emissions level is reduced over time. It is currently some 6.5% below the 2005 level and by 2020 will be 21% lower. In 2008, three billion tonnes of CO₂ were traded at a market value of US\$92 million.²⁰¹
- While the EU ETS is generally acknowledged for its pioneering role, its success was at times disputed, as it was unclear if ETS was indeed more effective in reducing GHG emissions than carbon taxes.²⁰² In phase II, the ETS only covered 40% of all EU GHG emissions, leaving out the important transport sector.²⁰³ Other weaknesses included the need for further harmonisation of rules within the EU and the increased predictability of the market, stricter enforcement tools as well as the linkage to ETS in third countries.²⁰⁴ Following intensive studies, leading to an amendment of the EU ETS directive in 2009²⁰⁵, the coverage of the ETS has been broadened for phase III in order to include CO₂ from the chemical industry and aviation sector, as well as certain other gases e.g. N₂O. Moreover, caps will be set at EU level and there will be EU wide harmonised allocation rules.

The ETS is complemented by other top-down legal instruments laying down individual mandatory goals in various fields to meet the EU's overall target of 20% by 2020.²⁰⁶ The decision on effort sharing in GHG emissions reduction of 2009 imposes on EU members the obligation to reduce their emissions in sectors outside the ETS (i.e. agriculture, construction, transport and waste management) by 10%, compared to 2005 levels.²⁰⁷ Going beyond this, the 2011 White Paper on Transport foresees a reduction of GHG emissions in transport of

198 European Commission (2009a:84-86).

199 Ibid.

200 For an overview, see Massai (2007:18).

201 CCES (2009a:3).

202 Helm (2009a:229).

203 Farnsworth (2007:29).

204 Massai (2007:21).

205 Directive 2009/29/EC of the European Parliament and the Council of 23 April 2009 amending Directive 2003/87/EC to improve and extend the greenhouse gas emission allowance trading scheme of the Community, Official Journal L 140, 5.6.2009, 63–87.

206 European Commission (2009a:81-82).

207 European Parliament/Council (2009a).

60% by 2050, compared to 1990 levels, combined with fuel standards for the aviation and maritime sectors²⁰⁸. The new directive of 2009 on the use of renewable energy lays down binding targets for each EU member to achieve an overall EU objective of a 20% share of renewable energy in the energy consumption mix (including electricity, heating and cooling and transport) by 2020.²⁰⁹

As to the other main regulatory instrument usually discussed by observers – carbon taxes – it is noteworthy that while quite a few EU members have introduced some form of eco-taxation²¹⁰, there is no EU-wide carbon tax yet. However, proposals for a carbon taxation dispensation have been floating around since 1999, based upon which in 2010 the EU Commission proposed to amend the Energy Taxation Directive of 2003, laying down common rules for the taxation of energy products,²¹¹ in order to introduce a CO₂ tax mainly for those sectors not included in the ETS.²¹² However, the proposal has yet to reach a majority in the Council due to considerable lobbying by industry.

These regulatory instruments are accompanied by incentive-based mechanisms which promote the transition to a lower carbon system. The Energy Review of 2008, which stress that the EU's climate goals for 2020 will necessitate an overhaul of EU energy arrangements, looks at the challenges facing the bloc between 2020 and 2050 and formulates an EU Strategic Energy Plan.²¹³ This plan tries to speed-up the development of innovative, inexpensive, low-carbon, technologies and is built on a wide-ranging research and development scheme.²¹⁴ The initiative is complemented by the European Recovery Program, which allocated EUR 1 billion for CCS installations and EUR 550 million for offshore wind installations.²¹⁵ In 2011, the EU Commission proposed a 'Roadmap for 2050', which is based on the view that innovative ideas are needed to scale up investments in energy, transport, industry and IT technologies and that more focus is necessary to combat energy inefficiency.²¹⁶ Together with the Energy Efficiency Plan of 2011 and the White Paper on Transport of 2011, the Roadmap 2050 is a key deliverable to achieve the EU's long-term objective of reducing GHG emission up to 95% by 2050.²¹⁷

208 European Commission (2011b:6).

209 European Parliament/Council (2009b).

210 Finland and The Netherlands (1990), Norway and Sweden (1991), UK (1993), Germany (1999), Denmark (2002) and Ireland (2010) have a CO₂ tax in place; Austria, Belgium and Slovenia have some kind of carbon elements in their tax regime; in 2010 Spain was investigating the options for introducing carbon taxations, see Wilkinson (2012).

211 European Commission (2009a:109).

212 FSB (2010:2).

213 European Commission (2012b).

214 European Commission (2010b).

215 European Commission (2012c).

216 European Commission (2011a:3).

217 European Commission (2011a:4).

4.1.2 Adaptation

The White Paper on Adaptation to Climate Change was published in 2009.²¹⁸ It builds on the wide-ranging consultation launched in 2007 by the Green Paper and the European Climate Change Programme. The White Paper describes the scope of the EU Adaptation Framework, which aims to (i) complement and reinforce members' actions, particularly through existing funding channels, the provision of accurate climate information and appropriate guidance; and (ii) ensures that adaptation is integrated in important EU policy areas and (iii) promotes solidarity between countries and regions. In the first phase (2009-2012) the paper will lay the groundwork for a more comprehensive adaptation strategy to be implemented as from 2012, through:

“Building a solid knowledge base on the impact and consequences of climate change for the EU. A first step will be to establish a Clearing-House Mechanism (CHM) as an IT tool and database for exchanging information on the impact of climate change, vulnerabilities and best practices.

Integrating adaptation into EU key policy areas; the second pillar focuses on the integration of adaptation into sectoral policies at European level to reduce the vulnerability of sectors such as: agriculture, forests, biodiversity, fisheries, energy, transport, water and health.

Employing a combination of policy instruments (market-based instruments, guidelines, public-private partnerships) to ensure effective delivery of adaptation measures.

Stepping up international cooperation on adaptation.”²¹⁹

4.1.3 Financial Support for Developing Countries

As an Annex I Party under the UNFCCC, the EU is obliged to assist developing countries to tackle global warming, both to reduce GHG emissions and to adapt to the unavoidable impacts of climate change.

The EU's financial contributions to mitigation and adaptation projects in developing nations have steadily increased from EUR 160 million in 2004 to EUR 511 million in 2008.²²⁰

Before the COP in Denmark in 2009, the EU Commission adopted the ‘Scaling-Up International Climate Financing’ blueprint, recognising that this issue was vital to reaching an ambitious outcome at the COP in Denmark. The blueprint identified that developing countries will, by 2020, incur yearly costs of EUR 100 billion to finance mitigation and adaption activities and proposed that industrialised nations and larger developing countries grant funding of some EUR 22-50 billion a year (with the remaining EUR 50 billion coming from national sources and expanded international CO₂ markets.²²¹

218 European Commission (2009b).

219 European Commission (2009b:7).

220 European Commission (2009a:254, 257-258).

221 European Commission (2009a:244).

In Denmark 2009 and Mexico 2010, the EU and other industrialised countries vowed to jointly grant nearly US\$30 billion from 2010-2012 to kick-start the scheme and offered to mobilise US\$100 billion a year by 2020. Despite budgetary constraints, the EU did manage to award EUR 2.34 billion in 2010 and 2011 respectively, bringing the EU contribution to EUR 4.68 billion, or 65% of the overall pledge for 2010-2012, most of which is deployed through existing instruments.²²²

With the assistance of the EU, the Durban COP in 2011 launched a new funding instrument, the Green Climate Fund, which is intended to serve as the key long-term financing vehicle. However, the parties were unable to reach consensus on where the money for the fund would come from, in either the medium (beyond the fast start resources) or the long term.²²³

In recent years, three funding mechanisms have been set up by the EU Commission, pooling more than EUR 1.5 billion in grants from the EU budget and EU members, while it is estimated that these tools will leverage around EUR 14 billion in climate finance by 2013:²²⁴

- The Global Climate Change Alliance (GCCA) became operational in 2008, replacing the EU Action Plan on Climate Change and Development of 2004 and intends to provide resources and technical help to LDCs and small island nations to develop climate change adaptation and mitigation strategies. Between 2008 and 2011, the GCCA committed more than EUR 200 million via 31 programmes in various countries around the world.²²⁵
- The Global Energy Efficiency and Renewable Energy Fund (GEEREF) offers venture capital for investments in sustainable energy in developing countries, with the focus on the ACP countries, and has granted EUR 250 million, including private sector contributions of EUR 132 million.²²⁶
- So-called Climate Change Windows have been set up to improve climate funding in five regional investment vehicles – Western Balkans Investment Framework, the Neighbourhood Investment Fund, the EU-Africa Infrastructure Trust Fund, the Latin American Investment Facility and the Investment Facility for Central Asia.

4.1.4 Access to Technology

Under the UNFCCC, the EU has undertaken to promote and fund access to low carbon technology for developing countries.²²⁷ Funding for low-carbon technology more than doubled within three years, from EUR160 million in 2004 to EUR318 million in 2007.²²⁸ The 7th Framework Programme for Research and Technological Development (FP7) remains the most important EC financial mechanism to support research on global warming and the develop-

222 European Commission (2012d).

223 Boyle (2011:2).

224 European Commission (2012d).

225 European Commission (2012d).

226 Ibid.

227 Article 4.5 UNFCCC. Access to technology is defined as a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change among different stakeholders.

228 European Commission (2009a:264).

ment of energy efficient technologies, including cooperation with non-EU countries. The key element of FP7, running between 2007 and 2013, is a EUR 32.4 billion cooperation programme, which is divided into 11 research themes, one of which is called Environment (including climate change), with a total budget of EUR 1.89 billion.²²⁹ It includes a number of projects which are targeted at developing countries and aimed to obtain private sector funding, e.g. the EU-China CDM Facilitation Project.

4.2 The United States of America

The USA with an output of 5.250 million tonnes of CO₂ in 2010 is the world's second largest GHG emitter after China and ahead of the EU in third, and accounts for 15.9% of global CO₂ emissions, showing an increase of 4% from 2009 (and an increase of 5% from 1990).²³⁰ The USA's CO₂ emissions/unit of GDP intensity of 0.46 kg CO₂ /2000 US\$ in 2009 is almost as high as China (0.52) and about a third higher than the EU (0.30) and has decreased by 33% from 1990 levels.²³¹ Per capita emissions in the USA total 16.9 tonnes CO₂ in 2010, which is about double the value of the EU's 8.1 tonnes CO₂. This signifies a decrease from 1990 of 14%.²³²

While the USA became a party to the UNFCCC in 1992, it only signed the Kyoto Protocol on 12 November 1998, as the first Bush Administration declined to ratify the Protocol making the USA the only major industrialised country (and the world's largest GHG emitter at the time) to do so. As the international community works to agree on a post-2012 climate framework, the domestic actions and international positions on global warming of the USA are significant.

Unlike the EU, the USA pursues more incentives-based approaches in trying to encourage the development of low-carbon technology through voluntary partnerships with industry, which is complemented by regulatory devices, i.e. energy standards and mandates. Over the years, there have been a few attempts to introduce an obligatory US federal policy explicitly or via the back door, none of which was successful.

4.2.1 Mitigation

Having not ratified the Kyoto Protocol, the US has not ascribed to internationally-agreed binding climate change mitigation targets to date. Following the COP in Denmark in 2009, the USA signed up to the Copenhagen Accord and took on the voluntary goal of reducing GHG emissions by 17% below 2005 levels.²³³ With regard to the long-term vision of keeping global warming at 2°C, the US government at the 2009 COP in Denmark expressed that it sought to voluntarily reduce GHG emissions by 85% by 2050 compared 2005 levels.

The USA, at national level, has not enacted obligations to reduce GHG emissions:

- Up to the Denmark COP in 2009, the only (voluntary) goal announced by President George

229 European Commission (2009a:262).

230 NEAA (2011:11,14).

231 IAE (2011:94): note that the numbers relate to CO₂ emissions from fossil fuel combustion, which accounts for over 90% of all CO₂ emissions.

232 NEAA (2011:14).

233 CCES (2010a).

W. Bush, in 2002, did not even concern the reduction of GHG emissions as such, but the reduction of emissions intensity in the USA by 18% per US\$ of GDP in 2012.²³⁴ Observers pointed out that a GHG intensity target can lead to a net reduction of GHG but only if it is strictly applied. Decreasing GHG emissions intensity by 18% from its 2002 level, however, represents only a very modest improvement when considering historical patterns.²³⁵

- Following the Denmark COP, the US government under President Barack Obama listed a voluntary goal of reducing GHG emissions by 17% by 2020 compared to 2005.
 - In order to implement this goal, the Obama administration made an inclusive federal climate bill one of its legislative priorities. In June 2009, the US Congress passed the American Clean Energy and Security Act (or Waxman-Markey Bill).²³⁶ The Waxman-Markey Bill would have created a nationwide cap-and-trade scheme covering 85% of US GHG emissions with the long-term goal of achieving an 80% reduction in GHG emissions relative to 2005 levels by 2050.²³⁷ Emissions limits would have been placed on power generation, oil refining, natural gas supply, and other energy intensive industries, such as iron and steel, cement and paper, covering approximately 85% of US GHG emissions by 2016. These limits would have been defined relative to 2005 levels and would risen from a 3% reduction by 2012, to 17% by 2020, 42% by 2030 and 83% by 2050.²³⁸ Notwithstanding a Democratic majority in the US Senate, a parallel climate bill was put off in June 2010 due to the institutional requirement of a super-majority of 60 votes and the new focus on healthcare by the Obama Administration.²³⁹ Since the mid-term Congress elections in November 2010, which installed a Republican majority in the Senate, the adoption of obligatory climate change mitigation measures, through federal cap and trade instruments, has become highly unlikely.
 - Since national cap and trade legislative initiatives have been put on hold, the Clean Air Act of 1970 has become a vital instrument in the development of mandatory instruments to draw down GHG emissions in the US.²⁴⁰ The modern Clean Air Act (CAA) formulates the broad authority of the Environmental Protection Agency (EPA) to develop regulations to mitigate harm from air pollution. Based on a judgment of the Supreme Court in 2007, the EPA determined that GHGs were dangerous to health and the environment, which obliges the EPA to mitigate the harm and forms the legal basis for the EPA's regulation of GHG emissions.²⁴¹ In 2011, the EPA succeeded in implementing regulations imposing mandatory fuel standards for vehicles, thus introducing, for the first time, obligatory emissions targets at national level via the 'back door' of the Clean Air Act.²⁴²

234 Parker (2011:8-9).

235 UNFCCC (2009g:9).

236 CCES (2009c).

237 Ibid.

238 Ibid.

239 Zusman *et al.* (2012:3).

240 Butraw (2011:1).

241 Ibid.

242 US (2010:44).

- The question, however, is if by shelving the Waxman-Markey Bill in 2010, the voluntary goal of a 17% GHG emissions reduction as called for in the Copenhagen Accord is still feasible? The 5th UNFCCC National Communication of the USA under the UNFCCC published in 2010 forecast that, without the measures envisaged under the Waxman-Markey Bill, GHG emissions would increase by 4% by 2020, above 2005 levels²⁴³, thus missing the voluntary target. This projection has to be seen against the fact that, according to the 5th National Communication, GHG emissions have increased by 17% from 1990 through to 2007.²⁴⁴ However, other observers project today that the measures under the new EPA decisions together with cap and trade instruments at state level could yield emission reductions of 10% by 2020, which would virtually match those emission reductions forecast under the Waxman-Markey Bill.²⁴⁵

As outlined earlier, US climate change mitigation policy at federal level is still essentially incentive driven and aims to achieve reduction of GHG emissions by way of investment in low carbon technology and renewable energy. The main policy instrument is the American Recovery and Reinvestment Act (ARRA) of 2009, through which the US government offers subsidies and tax incentive of more than US\$90 billion for investment in sustainable energy technologies.²⁴⁶ Key aspects include:

- “Appropriating funding for numerous grant programs and tax incentives for clean energy technologies, including solar, wind, biomass, geothermal, marine, hydropower, fuel cells, plug-in electric vehicles, and other technologies that have the potential to reduce GHG emissions;
- Emphasising energy-efficient technologies, practices, and policies, including a 30% tax credit for residential energy efficiency investments, as well as mandates for improved energy efficiency standards for electric heat pumps, central air conditioners, water heaters, wood stoves, oil furnaces, and hot-water boilers.
- Increasing the investments allocated to new clean renewable energy bonds and qualified energy conservation bonds
- Investing in critical energy infrastructure by providing loan guarantees for new or upgraded electric power transmission projects, and by providing funding for the Smart Grid and new Smart Grid technologies.
- Asserting an energy efficiency leadership role for the federal government, investing in the “green” conversion of federal facilities, and purchasing vehicles for government use with higher fuel economy, including hybrid and electric vehicles”.²⁴⁷

Another very important incentive scheme is the Energy Improvement and Extension Act,

243 US (2010:78).

244 US (2010:25).

245 Burtraw (2011:6).

246 US (2010:41).

247 For more information see US (2010:40).

adopted in 2008, which offers a set of incentives for renewable energy production, clean coal and carbon sequestration, as well as energy efficient transportation.²⁴⁸

This incentive promoting legislation is complemented by regulatory federal instruments. In 2011 the EPA implemented three regulatory devices: (i) The first is new vehicle fuel economy standards regulations that took effect in January 2011, affecting vehicles beginning with the 2012 model year; (ii) the next instrument introduces the need for permits for the construction of new GHG emissions producers and major alterations to installations. From January 2011, this permitting instrument applies to about 900 construction projects per year at sites that emit large quantities of GHGs; (iii) the third and most important tool is performance standards that apply to the operation of new GHG emissions producers in various categories. The EPA will begin by proposing rules for new and old fossil-fired steam power plants and refineries in 2011 and was due to finalise those rules in 2012.²⁴⁹

In the absence of inclusive, overarching and obligatory federal GHG emissions mitigation targets, individual states have been taking the lead in introducing binding GHG emissions reduction goals:

- As of November 2009, 23 of the 50 states had adopted a state GHG emissions reduction target, although these vary in stringency, timing, and enforceability. As the first state to adopt mandatory emissions reduction goals, California introduced its Global Warming Solution Act in 2006, which capped the state's GHG emissions at 1990 levels by 2020.²⁵⁰
- As for CO₂ trading systems, the most important is the Regional Greenhouse Gas Initiative (RGGI) involving 10 northeast US states, which was launched in 2009 as the first ever-obligatory trade and cap programme.²⁵¹ Emissions from large power generators in 10 Northeast and Mid-Atlantic states are capped at 2009 levels, and the cap will be reduced by 2.5% in each of the four years from 2015 through 2018, for a total reduction of 10% below 2009 levels.²⁵² The Western Climate Initiative (WCI), launched in 2007 with the goal to reduce GHG emissions by 15% below 2005 levels by 2020, will from 2015 onward be expanded beyond the power generation sector to include transportation fuels and residential, commercial, and industrial fuels not otherwise covered.²⁵³ California will introduce a similar programme in 2013 which will expand into an economy-wide programme in 2015.²⁵⁴

4.2.2 Adaptation

Between 2006 and 2009, the US government completed a range of assessments of high-priority climate research questions. As a result, 21 Synthesis and Assessment Products (SAPs)

248 US (2010:43).

249 Butraw (2011:2).

250 US (2010:62).

251 Burtraw (2011:1).

252 US (2010:61).

253 US (2010:62).

254 Burtraw (2011:2).

were produced which aim to improve the scientific understanding of climate impacts, vulnerability and ways to adapt and to encourage the inclusion of climate issues into decision-making and to help avoid maladaptation.²⁵⁵ These SAPs were synthesised in a unified assessment, 'Global Climate Change Impacts in the United States' (GCCCI), which was released in June 2009.²⁵⁶ Based on the GCCCI, initiatives have been undertaken to develop an overarching adaptation strategy. In 2009, President Obama issued Executive Order 13514 which seeks to organise national efforts on adaptation and calls for widespread programmes across the US government. All federal agencies are meant to participate in a new US Interagency Climate Change Adaptation Task Force that is developing domestic and international dimensions of a US strategy for adaptation to climate change.

4.2.3 Financial Support for Developing Countries

As with the EU, the USA is committed to helping developing countries in their mitigation and adaptation efforts. Since 1991, the US Agency for International Development (USAID) has included global climate change in its development funding, spending approximately US\$2.6 billion on climate-related development programmes.²⁵⁷ However, the UNFCCC noted in its evaluation of the 4th UNFCCC National Communication in 2009 that resources, which expressly target most vulnerable nations, i.e. LDCs and small island states, were modest.²⁵⁸ This is mainly due to the US approach based on which progress will be best achieved by embedding climate goals in a wider development agenda. This is why the Obama Administration enacted the Consolidated Appropriations Act of 2010, which nearly tripled climate-related foreign assistance to over US\$1 billion in 2010, including a first-ever US contribution of US\$50 million to the Least Developed Country Fund (LDCF) and Special Climate Change Fund (SCCF) and a contribution of US\$375 million to the World Bank-managed Climate Investment Funds, and substantially increased funding for the USAID climate programmes.²⁵⁹ At the Mexico COP in 2010, the USA pledged to contribute US\$1 billion between 2010 and 2012 as aid to reduce GHG emissions from deforestation, land degradation, and other activities.²⁶⁰

In recent years, global warming considerations have been incorporated into various development projects, whether their focus is energy, land management, or vulnerability and adaptation, operated by USAID and the EPA, the US Departments of Energy (DOE), State (DOS), Agriculture (DOA), and Commerce (DOC), as well as the National Space Administration (NASA) and the National Oceanic Administration (NOA).²⁶¹ Furthermore, in 2004, the Millennium Challenge Account (MCA) was launched. To date, the MCC has signed agreements with 20 countries totalling nearly US\$7.2 billion, much of which consists of grants designed

255 US (2010:87).

256 Ibid.

257 US (2010:77).

258 UNFCCC (2009g:30).

259 US (2010:98).

260 US (2010:99).

261 US (2010:99-102).

to help partner countries improve natural resource management, enhance institutional capacity, and implement lower-carbon strategies.²⁶² It is hoped that this mechanism will also directly support on-going adaptation efforts of small island states.

4.2.4 Access to Technology

There are a number of national and regional programmes, which focus on granting access to low-carbon and sustainable technology to developing and transition countries.²⁶³ These include the USAID Climate Change Programme but also a range of voluntary partnerships, e.g. the Asia-Pacific Partnership on Clean Development and Climate or The Energy and Climate Partnership of the Americas, to speed up clean energy technology development.

5 Rapidly Industrialising Developing States: China

China with an output of 8.950 million tonnes of CO₂ in 2010 is the world's largest GHG emitter, accounting for 27.1% of global CO₂ emissions, showing an increase of 10% from 2009 (and of 257% from 1990).²⁶⁴ The main reason for this rise is the increased use of coal in the world. Coal constitutes 70% of China's primary energy, more than twice the international average.²⁶⁵ China's CO₂ emissions per unit of GDP intensity of 0.52 kg CO₂/2,000 US\$ in 2009 is slightly higher than the US value of 0.46 and more than one third higher than the EU's value of 0.30, and has decreased 51.6% since 1990.²⁶⁶ Per capita CO₂ emissions in China total 6.8 tonnes CO₂ in 2010, which is still below the value of the EU's 8.1 tonnes CO₂ and less than half of the USA value of 16.9 tonnes CO₂. This signifies an increase from 1990 of 205%.²⁶⁷ The NEAA forecasts, however, that, by 2017, China will overtake the USA as highest per capita GHG emitter.²⁶⁸

5.1 Climate change policy at international level

China has been participating actively in the international climate negotiations since the beginning and has ratified the UNFCCC as well as the Kyoto Protocol. As a non-Annex 1 (developing) country, China did not take on quantified binding GHG emissions reduction targets under Kyoto.²⁶⁹ In line with its status as a non-Annex I Party, the PRC in 2004 delivered its first UNFCCC National Communication on GHG Emissions.

For years, China, together India, followed a rather inflexible policy at the climate negotiations, rejecting each attempt to commit it to setting (binding) GHG emissions goals, empha-

262 US (2010:102).

263 US (2006:79).

264 NEAA (2011:11, 14).

265 CELP (2012:1).

266 IAE (2011:94); note that the numbers relate to CO₂ emissions from fossil fuel combustion, which accounts for over 90% of all CO₂ emissions.

267 NEAA (2011:14).

268 NEAA (2011:12).

269 China is an active participant in the Clean Development Mechanism (CDM) established under the Protocol. China is by far the largest source of CDM credits, accounting for over 40% of those generated to date.

sising the historical liability of the industrialised nations and its own development needs.²⁷⁰ While this line was reiterated once more at the G8 Summit in Germany in 2007, where President Hu Jintao argued that climate policy was essentially development policy, there were indications, following the COP13 in Bali that China was willing to take on a more pro-active role in climate negotiations.²⁷¹

In November 2009, the PRC stated its intention to reduce the intensity of GHG emissions per unit of GDP by 40-45% by 2020, compared with 2005 levels.²⁷² According to China, this is a “domestic voluntary action” which will be included as a compulsory indicator in its medium and long-term planning for economic development.²⁷³ In January 2010, China followed up on its statement and voluntarily pledged to reduce GHG emissions intensity up to 45% by 2020, a target which was reiterated at the COP in Mexico a year later.

In Mexico 2011, the PRC, at least officially, continued to put forward its view that any legally binding climate change mitigation objectives were unacceptable provided the US accepts them as well.²⁷⁴ However, in Durban 2012, for the first time, the PRC stated its willingness to participate in a legally binding international climate treaty, depending on the outcome of negotiations.²⁷⁵ Accordingly, the PRC is willing to take on legally binding commitments matched with its economic development and in line with the CBDR principle under the UNFCCC²⁷⁶ identifying five requirements:

1. Parties must extend Kyoto through a second commitment period;
2. Developed countries must meet its funding obligations under the Green Climate Fund;
3. The consensus reached in Durban on funding, technology, REDD+, adaptation, and MRV measures must be institutionalised;
4. The obligation to review the adequacy of long-term goals scheduled to take place between 2013 and 2015 must be completed.
5. A framework for a post-2020 agreement must be defined that upholds the CBDR, respective capacities, and environmental integrity.²⁷⁷

5.2 Climate change policy at national level

With growing political attention focused on the impacts of global warming, a first National Report on Climate Change was issued in late 2006 and in June 2007 China adopted a Natio-

270 Gupta (2007:167).

271 Oberheitmann/Sternfeld (2009:141).

272 Xinhuanet (2009).

273 Ibid.

274 Gupta (2007:177).

275 Hsu (2011:2).

276 Xinhuanet (2011).

277 Hsu (2011:2).

nal Climate Change Programme, outlining a list of key measures until 2010²⁷⁸, thus becoming the first developing country to have an overarching strategy.²⁷⁹ In 2008, the State Council issued a White Paper on Climate Change.

It is noteworthy that the PRC, unlike many industrialised states, does not (yet) take the direct climate policy approach (the ‘front door’ approach) but tries to achieve its climate goals indirectly as side effects of other policies (the ‘back door’ approach).²⁸⁰ While many observers insist that ‘back door’ instruments are inferior to ‘front door’ policy, others understand the value of using already matured legislative provisions, e.g. on air quality, energy security and renewables.²⁸¹ Accordingly, the PRC’s climate-related policy focuses on two main aspects: (i) to reduce energy intensity²⁸², acknowledging that coal will be the primary energy source for many more years and (ii) to improve the use of green forms of energy (including nuclear energy and renewables, but also CO₂ storage).²⁸³

In line with this, China’s 11th Five-Year Plan (FYP) (2006-2011) and the ‘Medium and Long Term Development Plan for Renewable Energy’ (DPRE) of 2007, introduce binding goals for energy intensity and the use of renewables and describe various means to achieve these objectives:

- The 11th FYP formulates the target to decrease energy intensity by 20% by 2010, below 2005 levels²⁸⁴, which would reduce China’s GHG emissions by 10% in 2010, compared to 2005, by way of industrial up-grading and restructuring, as well as energy conservation in buildings. One of the key initiatives is the ‘Top 1,000 Energy-Using Firms’ scheme, which intends to improve the energy balance of 1,000 large undertakings in nine high energy-consuming industries, including iron and steel, chemicals, power generation (which together account for one third of all power used), by determining energy intensity objectives with these firms and sectors.²⁸⁵
- The DPRE foresees the increase of the share of renewables in the overall energy mix from 5% in 2005 to 10% by 2010 and to 20% by 2020²⁸⁶. In order to reach this objective, China will more than double the use of hydroelectric power from 125 GW in 2005 up to 300 GW in 2020.²⁸⁷ The use of other renewables, i.e. wind, biomass and solar, is likewise expected to increase, although to a lower degree than hydroelectric power.²⁸⁸ Furthermore, the DPRE envisages increasing nuclear power by more than nine times from 8 GW in 2005 to 70 GW in 2020, although without much consideration of safety issues and ques-

278 CCES (2007c).

279 CELP (2012:1).

280 Lewis (2007:1).

281 Kuik *et al.* (2008:323).

282 Energy intensity is generally defined as the amount of energy used in producing a given level of output or activity. It is measured by the quantity of energy required to perform a particular activity (service), expressed as energy per unit of output or activity measure of service.

283 Oberheitmann *et al.* (2008:143).

284 CCES (2007c:2).

285 Oberheitmann *et al.* (2009:145, 146).

286 Lewis (2007:2).

287 Oberheitmann *et al.* (2009:147).

288 Oberheitmann *et al.* (2009:148, 149).

tions of long-term waste disposal.²⁸⁹ There will be pilot initiatives to develop ‘clean coal’ technologies, such as the upstream or downstream capture and storage of CO₂, leading to a much higher efficiency of coal-based power generation.

- Besides the energy intensity issue and questions of renewables, the 11th FYP and the DPRE incorporates schemes that deal with adaptation to global warming, such as measures to tackle deforestation and erosion, to improve irrigation, to save water and to control desertification.²⁹⁰

In March 2011, the new 12th Five-Year Plan (2011-2016) was revealed which formulates new targets for 2015 and outlines key measures to achieve them:

- The 12th FYP sets two national intensity targets, one goal for reducing overall energy intensity by 16% by 2015, below 2010 levels, and another one for lessening CO₂ intensity per unit GDP by 17% by 2015, compared to 2010.²⁹¹ These goals are deemed in line with the voluntary pledges as submitted by China in Denmark in 2009 and reaffirmed in Mexico in 2010.²⁹² In order to meet these goals, the intention is to broaden the ‘Top 1,000 Enterprises’ scheme to include 10,000 large energy-intensive enterprises covering the entire national industrial complex.²⁹³ Even more important, China announced that it would undertake measures to gradually introduce provincial and regional voluntary carbon-trading schemes until 2015, by drawing on the experiences of international carbon-trading markets.²⁹⁴
- As to renewables, the 12th FYP provides for increasing the share of non-fossil energy to 11.4% of overall primary energy consumption by 2015 through optimising the energy mix and development of clean energy²⁹⁵. Measures to achieve this goal involve the installation of an additional 70 GW of wind power and additional 30 GW of solar power by 2015. For nuclear power the object is to install an additional 40 GW by 2015, which would mean China could have the world’s largest installed capacity of nuclear energy by 2020²⁹⁶. However, the Fukushima nuclear disaster in Japan in March 2011 may somewhat limit the appetite for nuclear expansion.²⁹⁷ Other measures include the development and accelerated use of clean coal technology and unconventional gas-oil resources such as coal-bed gas and shale gas.
- As to other climate instruments, the 12th FYP affirms China’s Copenhagen goal regarding forestry – to increase the area covered with forest by 12.5 million ha in 2015 to reach a total forest coverage of 1,3 billion ha by 2020 via massive reforestation and the country commits to improve rail transport, both long distance and in urban areas.²⁹⁸

289 Oberheitmann *et al.* (2009:145).

290 Oberheitman *et al* (2009:146).

291 Seligsohn/Hsu (2011a:1).

292 Wyns (2012:1).

293 Seligsohn (2011).

294 Xinhuanet (2011:VIII).

295 Seligsohn/Hsu. (2011a:3).

296 Ibid.

297 Seligsohn/Hsu (2011b:2).

298 Seligsohn/Hsu (2011a:1,2).

In order to implement the targets set out in the 12th FYP, in July 2011 the Chinese government issued its work plan, under which the two-national intensity targets were broken down by assigning obligatory energy and CO₂ reduction targets to the 28 Chinese provinces, with reductions ranging from 10 to 18%.²⁹⁹ Similar provincial goals were introduced for reducing other GHGs (SO₂, NO₂, COD and AN).³⁰⁰ This key document also highlights a number of measures to achieve these goals, such as public finance incentives, tax breaks and financial support schemes. It is important to note that the work plan underscores China's intention to launch carbon-trading pilot projects, although only on a voluntary basis.³⁰¹ In July 2011, the government announced that it would launch pilot project trading schemes in six provinces by 2013.

Besides piloting carbon-trading schemes, the government is reportedly considering implementing a nation-wide carbon tax, according to Chinese media in January 2012.³⁰² While plans have yet to be finalised, the proposed tax could become operational before 2015 and could start with a rather low amount of US\$1.50 per tonne of CO₂ emitted by large industrial installations, with the tax amount to be increased quickly thereafter.³⁰³ Discussions about introducing a carbon tax had been around since the release of the 12th Five-Year Plan and late in 2011, and a national resource tax has already been launched.

Next to domestic climate-related instruments, the PRC is involved in a range of international partnerships concerning access to climate-friendly technology:

- China-EU Partnership – A UK-led initiative, part of a broader China-EU partnership on climate change, is promoting carbon capture and storage at coal power plants. Phase one is a three-year study of technology options for the capture of carbon dioxide emissions from power generation and the potential for geological storage, leading towards a possible demonstration project between 2010 and 2015.
- Asia Pacific Partnership – China is collaborating with international partners on coal and carbon capture and storage technologies through the Asia Pacific Partnership on Clean Development and Climate (APP). Officially launched in January 2006, APP brings together China, the US, Australia, India, Japan and the Republic of Korea to promote the development and deployment of clean energy technology.

6 Least Developed Countries (LDCs) with an Emphasis on Africa

Although global warming potentially threatens all countries, observers and experts concur that developing states, in particular the LDCs and the SIDS will be most affected.³⁰⁴ The poor nations are more affected than the rich ones because of (i) their greater vulnerability to climate shocks and (ii) lower adaptive capacities³⁰⁵:

299 Finamore (2011:1-2).

300 Ibid.

301 Finamore (2011:3).

302 Gera (2012:1).

303 Ibid.

304 Collier *et al.* (2009:127).

305 World Bank (2009:40).

- The biggest vulnerability is that rising temperatures affect developing countries' most important sources of national income – farming and tourism.³⁰⁶ The World Bank forecasts that a 2°C warming above pre-industrial temperatures, which is the minimum to expect, could result in a permanent loss in GDP of 4 to 5% in Africa and South Asia as opposed to minimal losses in high-income countries and a 1% loss in world average GDP.³⁰⁷ Global warming is seemingly causing both more floods and droughts, which renders land less productive. World farming production could fall by 16% by 2080 and by as much as 21% in developing countries.³⁰⁸ Moreover, developing nations are more prone to flooding as ten of the developing world's 16 biggest cities can be found in coastal areas which are vulnerable to rising sea levels.³⁰⁹ Increasing temperature will have severe effects on health, in particular in developing countries, where humans will be exposed, even more than presently, to life-threatening illnesses such as malaria.³¹⁰ And lastly, whereas for other regions the impacts of global warming will only unfold in the future, in developing countries, especially in Africa, many of the negative effects are already visible.³¹¹
- Compounding this vulnerability to global warming is the fact that developing countries lack the institutional capacity, financial resources and technical expertise necessary to address the ever-increasing impacts of climate change. Recognising this, based on the CBDR principle, the UNFCCC obliges industrialised nations to support the developing world with finance and access to innovative technology in order to increase the adaptive capacities of developing nations.

Then again, the higher vulnerability to global warming of developing countries is accompanied by a much lower responsibility for GHG emissions.³¹² The present carbon footprint of developing nations is extremely low.³¹³ The CO₂ per capita of a low- (or middle-) income country is 1.3 to 4.5 tonnes of CO₂, respectively, compared to 15.3 tonnes for high-income countries.³¹⁴

6.1 Adaptation

Whereas for the industrialised states the key concern is mitigation of GHG emissions, for developing nations, due to their higher vulnerability, the overriding concern is adaptation to the inevitable impacts of global warming.

The UNFCCC urges all parties to formulate and implement national adaptation measures, as well as to cooperate internationally on adaptation issues³¹⁵. Article 4.9 of UNFCCC recogni-

306 *Economist* (2009:1).

307 World Bank (2009:5).

308 *Economist* (2009:2).

309 Ibid.

310 World Bank (2009b:42).

311 For an overview of regional impacts of Climate Change see World Bank (2009).

312 Collier *et al.* (2009:125).

313 World Bank (2009b:39).

314 World Bank (2009b:44).

315 Articles 4.4, 4.8 and 4.9 UNFCCC.

ses the specific needs of LDCs, in that they do not have the necessary capacities to deal with adaptation to global warming.

- In 2001, at the COP7 in Morocco, in order to implement Article 4.9, the states established a working plan for LDCs in particular, including so-called ‘National Adaptation Programmes of Action’ (NAPAs), with the objective of communicating urgent and immediate adaptation needs of LDCs.³¹⁶ The main content of NAPAs is a list of ranked adaptation measures, in order to facilitate the development of projects for the implementation of the NAPAs.³¹⁷ Once a NAPA has been submitted to the UNFCCC secretariat, the country becomes eligible to apply for funding for NAPA projects under the LDC Fund.³¹⁸ By January 2012, the UNFCCC secretariat had received 47 NAPAs.
- In Nairobi 2005, the UNFCCC secretariat launched the Nairobi Work Programme on Impacts, Vulnerability and Adaptation (NWP). The NWP is an international framework, which operated initially from 2005-2010 and was extended in Mexico, to assist especially developing states to better understand adaptation and to make informed decisions on practical adaptation options.³¹⁹ Today, over 250 organisations are listed as partners to the NWP, including the UN, governmental institutions and NGOs, enterprises as well as research institutes, and 168 action pledges have been received so far.³²⁰ The NWP involves reporting on nine key areas, including methods and tools, data and observations, climate modelling, socio-economic information, technologies for adaptation and economic diversification.
- In Bali 2007, the Bali Action Plan identified adaptation as one of the cornerstones of the sustained implementation of the UNFCCC.³²¹ Since Bali, the Working Group on Long-Term Cooperative Action has mainly dealt with adaptation issues.
- In Mexico 2010, the states established the ‘Cancun Adaptation Framework’ (CAF) with the objective of intensifying cooperation on adaptation issues under the UNFCCC while confirming that adaption must have the same priority as mitigation.³²² The framework is meant to enable LDCs to formulate and implement national adaptation plans (NAPs) in order to identify intermediate and long-term adaption needs and to develop strategies to tackle these needs, building on their experience with the NAPAs.³²³ As opposed to NAPAs, NAPs can also be submitted by developing countries other than LDCs and the focus of the NAPs is on medium and long-term adaptation needs. As part of the CAF, the COP established a programme in order to investigate mechanisms and systems to address potential damage caused by global warming (e.g. climate risk insurance.)³²⁴
- In Durban last year, the states agreed on procedure, the work modalities and institutional structure of a new Adaptation Committee.

316 UNFCCC (2012k).

317 *Ibid.*

318 UNFCCC (2012l).

319 UNFCCC (2012m:1).

320 SBSTA (2012:4-6).

321 UNFCCC (2012l).

322 UNFCCC (2012n).

323 UNFCCC (2012o).

324 UNFCCC (2012n).

6.2 Mitigation

As already outlined, historically, the increase in GHG emissions from the industrial revolution to present is mainly accounted for by Western Europe and the USA, while the developing world has contributed little. This is why, according to the CBDR principle, as formulated in Article 3.1 of the UNFCCC, Kyoto obliges developed states to take the lead in mitigating GHG emissions and imposes binding reduction targets on them while developing countries are not subject to such obligations.

However, today most GHG emissions growth occurs in the developing world. In 1990 the industrialised countries with a mitigation target for GHG emissions under the Kyoto Protocol (including the USA which did not ratify the protocol) had a share in total CO₂ emissions of 68%, versus 29% for developing countries.³²⁵ In 2010, the picture has turned upside down and developing countries now account for 54% of global GHG emissions and industrialised countries for 43%.³²⁶ Note, however, that the 2010 figure for the developing world includes the BASIC group of large developing nations, which today account for 35.2% of all CO₂ emissions.³²⁷ LDCs are still minor contributors, with Africa having a share of just 3.4% of total GHG emissions in 2009.³²⁸

6.3 Funding

Funding is vital in order for developing countries to implement adaptation (and mitigation) initiatives.

6.3.1 Adaptation funding

Estimates for funding for adaptation initiatives vary considerably. In 2010 the World Bank estimated that it would cost US\$70-100 billion each year (at 2005 prices) to adapt to global warming.³²⁹ The UNFCCC has projected that adaptation would require supplementary investments of US\$60–182 billion per year. Of these funds developing countries would need US\$28-67 billion a year.³³⁰ There has been a significant increase in adaptation funding, from US\$587 million (8% of total climate funding) in 2010 to US\$957 million (21% of total funding) in 2011.³³¹

There are presently five multilateral funds that support adaptation in developing countries:

- The Global Environmental Facility, an independently operating funding institution established in 1991, with the World Bank serving as trustee, operates two climate funds – the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF), both established in 2001. The LDCF is tasked with funding the preparation and imple-

325 NEAA (2011:12).

326 Ibid.

327 NEAA (2011:14).

328 IEA (2011:13): note that the numbers relate to CO₂ emissions from fossil fuel combustion, which accounts for over 90% of all CO₂ emissions.

329 World Bank (2009).

330 UNFCCC (2007:38).

331 Nakhooda *et al.* (2011a:2).

mentation of NAPAs. As of December 2011, LCDF has approved some US\$217 million for short-term NAPA projects and mobilised millions more in co-financing arrangements, and now funds 52 projects.³³² The SCCF was established to fund long-term adaptation measures and access to innovative technology. Under its adaptation programme, the SCCF has approved some US\$150 million for 39 projects (of which US\$80 million has been disbursed³³³), and leveraged about US\$1 billion in co-financing.³³⁴ The demand for SCCF funds is high and exceeds current resources.³³⁵ Under the technology programme of the SCCF, some US\$15 million was approved for three projects.³³⁶

- The Adaptation Fund (AF) under the Kyoto Protocol began operating in 2008 and is managed by the Adaptation Fund Board, with the GEF as secretariat and the World Bank as trustee. The Adaptation Fund was established to support adaptation projects in developing countries and is funded by a 2% levy on sales under the Clean Development Mechanism (CDM) and through contributions by governments, businesses and individuals.³³⁷ Since 2010, the AF has approved funding of over US\$100 million for 17 adaptation projects³³⁸, of which US\$22 million was disbursed.³³⁹ Projections indicated that demand for funding would be US\$341 million in 2012, while the fund only has US\$146 million available.³⁴⁰
- Pilot Programme for Climate Resilience is a programme under the Climate Investments Fund, administered by the World Bank together with various regional development banks, and was established in 2008 to fund initiatives for incorporating climate resilience into national development planning. As of November 2011 it has approved some US\$366 million for 12 countries and regions, with no funding yet disbursed.³⁴¹
- The Global Climate Change Alliance (GCCA) is a bilateral funding vehicle of the EU that was initiated in 2007 to fund the implementation of adaptation and deforestation projects (as well as CDM investments) in target countries (mainly LDCs and SIDS) and the integration of global warming issues into their development strategies.³⁴² From 2008 to 2010, some EUR 100 million was disbursed to projects in 18 countries (plus EUR 40 million from the 10th European Development Fund).³⁴³

Apart from multilateral funding vehicles, climate funds in general, including for adaptation, are increasingly received through bilateral instruments or national trust funds.³⁴⁴

332 GEF (2012a).

333 Nakhooda *et al.* (2011a:3).

334 GEF (2012a).

335 *Ibid.*

336 *Ibid.*

337 AF (2012a).

338 AF (2012b).

339 Nakhooda *et al.* (2011a:3).

340 *Ibid.*

341 *Ibid.*

342 GCCA (2012a).

343 GCCA (2012b).

344 For more information see Nakhooda *et al.* (2011b).

6.3.2 Mitigation funding

Estimates of the costs of climate change mitigation initiatives vary considerably. The UNFCCC estimated in 2007 that US\$176 billion would be required by 2030 to fund mitigation activities. Between 2004 and 2011, US\$2.97 billion was approved for mitigation initiatives, of which US\$1.17 billion has been disbursed.³⁴⁵ Today, mitigation represents about 66% of total climate funding, much of which has been directed at India and China, where emissions are growing rapidly.³⁴⁶

- The Clean Development Mechanism, which was established under the Kyoto Protocol and is operational since 2008, provides an incentive-based mechanism linking mitigation to financing for sustainable development.³⁴⁷ It allows industrialised countries to meet their binding mitigation targets under Kyoto by implementing a GHG emissions reduction project in developing countries, earning them tradable certified GHG emissions reductions (CER) units, which count towards meeting the Kyoto goals.³⁴⁸ CDM has already registered more than 3,497 projects in 72 countries and has issued CERs of almost 750 million tonnes and transactions involving CERs were valued at approximately US\$20 billion in 2010.³⁴⁹ Yet, CDM ventures are mainly located in a few of the larger developing countries of the BASIC group, especially in China (46%), India (21%) and Brazil (6%) while LDCs have generally been by-passed – Africa represents less than 2% of CDM projects.³⁵⁰ To lower the high transaction costs, a programme-based approach should be introduced, under which developing nations could undertake to achieve a level of GHG emissions reduction in a certain sector or the country as a whole.³⁵¹ The scope of CDM, which is currently very restrictive, has to be broadened to include the power-generating industry (hydropower) and avoid deforestation, thus opening up new opportunities, especially for Africa.³⁵²
- A number of additional multilateral funds to support mitigation efforts in developing countries have emerged since 2008, including the Clean Technology Fund (CTF) and the Scaling-Up Renewable Energy Fund (SREP), both of which operate under the Climate Investment Funds of the World Bank.³⁵³ For instance, US\$4.6 billion has been pledged to the CTF, of which US\$1.5 billion has been approved for initiatives to demonstrate and use low-carbon technologies in 15 advanced developing countries.³⁵⁴ Under the SREP, US\$327 million has been pledged and four initiatives to support investments in access to sustainable energy technology and renewables have been approved.³⁵⁵ The Global Energy Efficiency and Renewable Energy Fund is a public-private partnership, which was

345 Nakhooda *et al.* (2011c:2).

346 Ibid.

347 CDM (2012).

348 UNFCCC (2012p).

349 CDM Executive Board (2011:4-5).

350 Nakhooda *et al.* (2011d:1)

351 UNDP (2007:154).

352 Collier *et al.* (2009:138).

353 Nakhooda *et al.* (2011c:2).

354 Ibid.

355 Ibid.

launched in 2006 by the European Commission to invest in equity funds that provide resources to small and medium developers and ventures and has approved US\$165 million in funding to date.

6.3.3 Funding gap

However, on the whole, the funds that are presently offered under the UNFCCC and the Kyoto Protocol are small compared to the scale of the adaptation and mitigation costs identified. In 2007, the UNFCCC estimated that funds needed in 2030 are likely to be US\$28-67 billion per year for adaptation and US\$176 billion for mitigation per year. At present, there is a vast funding gap that needs to be closed. Funding for adaptation (and mitigation) efforts in developing nations, as committed to by wealthier nations, is less than 5% of what may be needed annually by 2030.

In light of this funding gap, at the COP in Copenhagen in 2009, industrialised countries pledged to grant new and additional resources of US\$30 billion, to be operational almost immediately, from 2010 to 2012, and to mobilise long-term funding together with developing countries of US\$100 billion a year by 2020. The informal pledge was incorporated in Mexico 2010 and the COP reaffirmed that funding for climate change adaptation would be prioritised for the most vulnerable developing countries – LDCs, SIDS and Africa. While the Durban COP saw the launch of the Green Climate Fund, the question of medium and long-term funding remains unresolved and needs urgent attention.

7 Concluding Remarks

What is clear is that in Durban key steps were taken to make sure that a future climate agreement would be one that included all big GHG emitters. In many ways, nations are moving away from over-exploited and untenable divisive stances that have characterised international climate negotiations between industrialised and developing countries over the past 15 years.³⁵⁶

What is also obvious is that, regardless of having opened a new window of opportunity, the success of the Durban agreements is far from certain given the existing differences between the big GHG emitters – the EU, the US and the BASIC group. This is why some observers argue that the issue is not the format of the international negotiation process – the top-down Kyoto approach or the bottom-up Copenhagen model – but the lack of national political will in some countries to tackle global warming and climate change.³⁵⁷ The US, Russia and Canada have nothing to bring to the table at the moment and the only intention of Saudi Arabia and other oil-exporting countries is to block any further progress.³⁵⁸ In light of this impasse, the question remains as to what the best way forward is to a more robust international climate policy dispensation. Experts suggest that nations determined to address global warming

356 Stavins (2011c:2).

357 Sterk *et al.* (2011b:35).

358 *Ibid.*

and climate change could form a climate leaders alliance, which should speed ahead of the slow-moving UN climate train and further deepen their partnership so as to inject momentum into UN-led climate negotiation processes.³⁵⁹

What is unfortunately clear as well is that the voluntary climate change mitigation targets and NAMAs pledged by the parties and integrated into the Cancun Agreements are not enough to limit the temperature increase to 1.5 or 2 °C over the course of the 21st century and urgently need to be intensified. According to most climate scientists, global GHG emissions need to peak by 2015 in order to have a meaningful chance of limiting global temperature rise to 2°C. Instead GHG emissions rose by 6% in 2010.³⁶⁰ However, even if the climate negotiations under the Durban stream are successful, a new global agreement would only kick in as from 2020.³⁶¹

359 Falkner *et al.* (2010:259), Sterk *et al.* (2011b:37).

360 Bodanksy (2012:1).

361 Ibid.

CHAPTER 14

CUSTOMARY LAW AND THE ENVIRONMENT

Manfred O. Hinz

1 Introduction

The very special relationship of – often referred to as traditional or indigenous – communities to nature, to the use of natural resources in general and to plants and animals in particular has been the subject of many empirical studies and theoretical reflections.¹ Nevertheless, the focus on customary environmental law is a rather recent focus. So far, customary environmental law has not been of much concern to authors of textbooks on environmental law or legal anthropological treatises.²

In Namibia, the interest in customary environmental law developed when, after independence, the Ministry of Environment and Tourism drafted a new conservation policy, which changed the inherited approach to conservation. Instead of focusing on nature alone, i.e. nature minus human beings, the new approach took note of the relationship between nature as such and human beings living in and with nature, and by doing so, also acknowledged that traditional communities had their own ways of dealing with nature. What characterises those ‘own ways’? Were there customary rules and practices that modern conservation policies could utilise? With these questions on hand, the new approach in Namibia tapped into an on-going international and regional African debate.

It was in this context that customary environmental law research was initiated. The legal side of the research resulted in the publication of *Without chiefs, there would be no game. Customary law and nature conservation*³. And it was also in this context that the internationally designed and conducted BIOTA project requested legal anthropological research on the potential of customary law for the protection of biodiversity. *Biodiversity and the ancestors: Challenges to customary and environmental law. Case studies from Namibia*⁴ a first set of studies was accomplished within the BIOTA project in 2008.⁵ A second set is currently in

1 Cf. Hinz (2003:16ff.) with further references.

2 An exception is the discourse about the legal protection of traditional knowledge. Cf. on this below.

3 Cf. Hinz (2003).

4 Hinz/Ruppel (2008a). *Biodiversity and the ancestors* is (apart from the introduction by Hinz/Ruppel (2008b) – and a summary by Hinz (2008b) composed of 11 pieces of research which were conducted by students of the Faculty of Law of the University of Namibia under the supervision of this author.

5 BIOTA stands for *Biodiversity Transect Africa*. The aim of the project (it started in 2000 and ended in 2010) was to monitor the state of affairs of biodiversity and to develop strategic options for political interventions in favour of the sustainability of biodiversity. Cf. Hinz/Ruppel (2008b:59ff.), but in particular the comprehensive account of the project in Jürgens/Schmiedel/Hoffman (2010) and in this: Hinz/Ruppel (2010); Hinz/Mapaure (2010); Pröpper *et al.* (2010).

preparation for publication.⁶ The three publications are important sources for this Chapter.⁷ The following observations have been divided into six parts. The first part takes note of the development of the post-independence conservation policy and the implications for customary law in environmental matters. Following this, I look at the place of customary law in the overall legal system of Namibia, with special attention on customary environmental law. The next part offers information on the development of conservancies in Namibia and the role played by customary law in the implementation of the conservancy policy. Then I give an overview of customary law research in the context of the BIOTA project, followed by a Section on customary law and the protection of traditional knowledge.

2 Post-Independence Conservation Policy in Namibia: Gateway for Customary Environmental Law⁸

The history of nature conservation in colonial and post-colonial Africa went through various stages. After exploration and exploitation, preservation was the principle that governed conservation policies for many years. Preservation was defined as the “complete insulation of wildlife and their habitat from human interference”.⁹ Reserves were established to which only conservation officials had access, aside from visitors and other, especially permitted persons.

Conflicts between those living inside such nature conservation areas and conservationists have not been resolved and are still a matter of lively debates. In many instances, people were moved from their ancestral lands, without any rights, not even visiting rights to sacred locations. In many cases, their move was facilitated by promises that they would eventually benefit from this change by receiving, e.g. a share in park fees or the sale of licences to hunters.

A particular problem exists with people living close to parks. In some cases, such park borders on paper only, meaning that animals come and go. Instead of promised returns from cooperation with the official conservation policy, people often suffer from so-called problem animals, which are raiding fields and livestock. The purist approach to nature conservation, which primarily focused on animals, did not develop mechanisms to mediate this kind of conflict between humans and animals. In as much as park borders are not necessarily borders that stop the movements of animals, people very often do not understand that human behaviour and movements are disturbing to animals and cause them to develop into problem animals. How can people who moved into an area known as an area of elephants since time immemorial expect to settle without problems? To declare animals that follow or even defend

6 The second publication *Knowledge lives in the lake. Case studies in environmental and customary law from Southern Africa* is edited by Hinz/Ruppel/Mapaure, Windhoek: Namibia Scientific Society, 2012. This volume contains 9 pieces of research by students of the Faculty of Law of the University of Namibia under the supervision of Oliver Ruppel and this author.

7 Part 6 of this chapter on traditional knowledge and customary law extends the relatively short references to traditional knowledge in the introduction to *Biodiversity and the ancestors*. (Cf. Hinz/Ruppel (2008b:17f.). An earlier version of this part 6 was published in Vol 3(1) of the *Namibia Law Journal*; Hinz (2011a).

8 Cf. for the following Hinz (2003:2ff.).

9 Yeager/Miller (1996:34).

their customs ‘problem animals’ that need to be shot is certainly not the best solution.¹⁰ European concepts of nature conservation through preservation were, step by step, replaced with other approaches. Strategies for the ecologically balanced use of natural resources gained ground in the debate. The IVth World Congress on National Parks and Protected Areas resolved that protected areas

cannot co-exist with communities, which are hostile to them, but they can achieve significant social and economic objectives when placed in a proper context. The establishment and management of protected areas and the use of resources in and around them must be socially responsive and just.¹¹

This statement is based on the very obvious fact that “communities living in and around protected areas, often have important and long-standing relationships with these areas.”¹²

However, the new approach manifested itself in concepts with implications differing according to the emphasis put on conservation through protection versus sustainable rural development for which conservation is not an end in itself.¹³ While the first would still support the existence of protected areas, the second would opt for radical revision of the existing system of conservation through protection and would eventually abandon the concept of human-free protected areas.

This second concept is associated with the policy of creating Integrated Conservation and Development Projects (ICDP) as put forward by US-American conservationists¹⁴ and adopted by the World Wildlife Fund (WWF).¹⁵ The WWF proposes the introduction of ICDPs in government-operated protected areas, also in conservation projects under the jurisdiction of indigenous people and in specifically designed initiatives on communal or private land in terms of joint management arrangements between the state and the respective communities.

Although the Ministry of Environment and Tourism in Namibia was reluctant to introduce the ICDP approach in its entirety, it nevertheless subscribed to its principles outside protected areas.¹⁶ The introduction of conservancies into the Nature Conservation Ordinance is proof of this.¹⁷

After the approval of the Ministry’s Policy on Wildlife Management Utilisation and Tourism in Communal Areas by Cabinet, the Ministry stressed that the new policy intended

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- 10 Many concerns about problem animals were raised to the author when he did fieldwork for Hinz (2003), Cf. Hinz (2003:2). See also *The Namibian* of 24 November 2010, which reports that the Ministry of Environment and Tourism compensated each conservancy in Namibia with N\$60,000 for losses caused by wild animals.
- 11 IUCN, Parks of Life. Report of the IVth World Congress on National Parks and Protected Areas, quoted from Jones (1997:1).
- 12 Ibid.
- 13 Cf. Jones (1997:6ff.).
- 14 Cf. Wells / Brandon (1992); Brown/Wyckoff-Baird (1992).
- 15 WWF (1995:1ff.).
- 16 Cf. Jones (1997:10).
- 17 Ordinance 4 of 1975 as amended by the Nature Conservation Amendment Act, No. 5 of 1996.

To remove discriminatory provisions of the Nature Conservation Ordinance ... by giving conditional and limited rights over wildlife to communal area farmers that were previously only enjoyed by commercial farmers;

To link conservancies to rural development by enabling communal farmers to drive a direct financial income from the sustainable use of wildlife and tourism;

To provide an incentive to rural people to conserve wildlife and other natural resources through shared decision-making and financial benefit.¹⁸

The Ministry's policy document refers to the development to the actual situation, which is characterised by the alienation of rural people from their environment who, in contrast to commercial farmers, have been, denied access to wildlife and game by the legislation in existence at independence,

[r]ural communities in pre-colonial times had a well-established conservation ethic based on religious beliefs, the right of chiefs and other cultural values. However, successive colonial administrations throughout Africa have alienate rural people from their environment by taking away their rights and responsibilities in favour of centralising control over natural resources and making traditional practices illegal.¹⁹

The policy document continues:

If Namibia is to successfully conserve the wildlife that still exists on communal land and which migrates annually from reserves into communal land and across international borders into Angola, Botswana and Zambia, then the needs and aspirations of rural people living in these areas still have to be addressed.

Not only will they have to gain some direct benefit from wildlife conservations, but they have to be re-empowered to take responsibility for wildlife management and to take responsibility themselves for managing natural resources sustainably.²⁰

These policy considerations eventually led to the amendment of the Nature Conservation Ordinance by the Nature Conservation Amendment Act of 1996.²¹ The Amendment Act is a very interesting example of the interrelatedness between customary law and the practices and statutory law of the government. The development and legal implementation of the conservancy policy in Namibia is significant because it took note, explicitly, of the relevance of environmental concerns in customary law and practices? The adoption of the conservancy policy resulted in a very specific recognition of customary law in environmental matters although, as will be seen in the following, the implementation of both appears to be much more difficult than expected from the words of the policy.

18 MET (1995).

19 Ibid:7.

20 Ibid:8.

21 No. 5 of 1996.

3 Customary Law and Customary Environmental Law within the General Legal System

Customary law in general terms enjoys a special constitutional status. Article 66 (1) of the Constitution states:

Both the customary law and common law of Namibia in force on the date of independence shall remain valid to the extent to which such customary or common law does not conflict with this Constitution or any other statutory enactment.

This constitutional provision has changed the position of customary law. Under Apartheid, customary law was a set of second-class law – if law at all. With the enactment of the Constitution, customary law received constitutional confirmation and was placed at the same level as the imported Roman-Dutch common law.

What is customary law?²² The Traditional Authorities Act describes customary law in its Section 1 as the “norms, rules, traditions and usages of a traditional community”.²³ This definition is a clear indication of the difficulties existing in the jurisprudence of modern (Western) law in determining African customary law. Traditions and usages are usually distinct from legal rules. The statutory definition of customary law does not follow this distinction, thus acknowledging that African customary law operates differently from modern law. This is one of the reasons why colonial rule created, better accepted, a duality of legal systems in most African countries: the system of imported (modern) law and the system of inherited African customary law. African customary law was only usually only applied subject to the so-called repugnancy clause. This clause implied that where customary law was understood to be against public policy or natural justice, it had to give way to the imported colonial law. This state of affairs led to substantial inroads into and to deformations of customary law, to which remedies had to be found after the African countries gained independence from colonial domination. The duality of legal systems survived the move from colonialism to independence. Up to now, most African countries recognise or at least accept legal pluralism as their way of legal order.²⁴

In the case of Namibia, the blueprint for independence was developed under the guidance of the United Nations Institute for Namibia; it provided for the recognition of the importance of customary law, hence its inclusion as a constitutional clause.²⁵ Customary law neglected during the Apartheid era required space and freedom to develop out of the stagnation into which it had been forced by South African jurisprudence, centred, as this jurisprudence was, on Roman-Dutch law. Namibia enacted a number of statutes which provided the necessary space for the development of customary law in line with the country’s new constitutional dispensation. Of these, the already quoted Traditional Authorities Act is the most important: a kind of constitution of traditional governance.

22 Cf. for the following Hinz (2003:8ff.).

23 No. 25 of 2000.

24 Cf. here Hinz (2006b).

25 UNIN (1986:963).

The Namibian parliament enacted the first version of the Traditional Authorities Act in 1995.²⁶ The act was amended in 1997 and a fully revised version was enacted in 2000. In pursuance of the 1995 act, a process of recognition of traditional authorities began. To date, 49 traditional authorities have been gazetted in the Government Gazette of Namibia. All 49 traditional authorities are represented in the Council of Traditional Leaders, established under the Council of Traditional Leaders Act.²⁷

Section 3 of the Traditional Authorities Act deals with the powers, duties and functions of traditional authorities. The powers and duties have to be seen as part of the overall responsibility of the traditional authority which is to “promote peace and welfare” amongst the members of their community.²⁸

Section 3(2)(c) of the Act is about the environmental responsibility of traditional authorities. The provision stipulates that the members of the traditional authority

shall ensure that the members of his or her traditional authority use the natural resources at their disposal on a sustainable basis and in a manner that conserves the environment and maintain the ecosystem for the benefit of all persons in Namibia.

Although the wording of this provision is reminiscent of the wording of Article 95(1) of the Constitution, the legal status of Section 3(2)(c) of the Traditional Authorities Act reaches beyond the limits of Article 95(1) of the Constitution. Article 95 is part of Chapter 11 of the constitution, titled Principles of State Policy, which, as stipulated in Article 101, are not “of and by themselves enforceable by any Court”. Section 3(2)(c) of the Traditional Authorities Act is fully legally enforceable in a court of law, be it a traditional court (community court in terms of the Community Courts Act²⁹) or a state court.

It is part of the already quoted overall responsibility of traditional authorities to supervise and to ensure the observance and enforcement of customary law.³⁰ According to Section 3(3)(c) of the Act, traditional authorities “may make customary law”. It is obvious that the law-making capacity of traditional authorities is of utmost importance for any undertaking that looks at customary environmental law as it confirms the power of local stakeholders to embark on the necessary legislative translations of the rapidly growing concerns with regard to the environment, the protection of biodiversity and the sustainable use of natural resources.

The first volume of customary laws of Namibia contains customary law of the Owambo, Kavango and Caprivi communities and gives an important insight into the state of affairs with

26 No. 17 of 1995.

27 No. 13 of 1997.

28 Cf. Section 3(1) of the Traditional Authorities Act.

29 No. 10 of 2003.

30 See the Chapeau of Section 3(1) of the Traditional Authorities Act.

respect to customary environmental law.³¹ The Laws of Oukwanyama³² provide for the protection of trees, fruit trees in particular, plants and water. It is an offence to cut fruit trees, and all water has to be kept clean. The Laws of Ondonga³³ provide for the protection of trees with specific reference to fruit trees, palm trees and the Marula tree. The use of fishing nets is only allowed when permission is given by the traditional authority. The Laws of Uukwambi³⁴ provide for the protection of water, the protection of trees, wild animals and grass. The Laws of Shambyu³⁵ provide for the protection of water: Anyone who pollutes or contaminates water commits an offence. In the Caprivi Region, the Laws of the Masubia³⁶ prohibits the cutting of fruit trees, causing veld fires and the use of fishing nets to catch small fishes.

It is interesting to note that the more recent versions³⁷ of the self-stated customary laws pay more attention to environmental issues than the earlier noted versions of self-stated customary laws. Obviously, environmental awareness is growing among traditional authorities. This led these to consider the extension and further development of their customary law in terms of the authority conveyed to them by Section 3(3)(c) of the Traditional Authorities Act.

4 Conservancies and Customary Law

Since the enactment of the Nature Conservation Amendment Act of 1996, 59 conservancies have been established on communal land.³⁸ The number of established conservancies shows that the policy of government to open nature conservation in terms of the above-quoted policy was taken up positively. Indeed, there is no doubt that the possibility to establish conservancies, met the aspirations and expectations of many people living on communal land.³⁹

What does the Nature Conservation Amendment provide for? According to Section 24A(1)

any group of persons residing on communal land and which desires to have the area which they inhabit, or any part thereof, to be declared a conservancy, shall apply therefore to the Minister in the prescribed manner

An application must be supported by the following: a document that lists the names of the

31 Cf. Hinz (2010a). See in this publication the introduction by Hinz (2010b), which, inter alia clarifies that what can be found in what has been commonly referred to as the self-stated customary laws of the various communities is never a full reflection of the customary law in existence in a given community. Self-statements offer only aspects of the customary law in place, usually those aspects that are seen of particular importance to the community. The second volume with the self-stated laws of the central and southern traditional authorities will be published later this year.

32 Hinz (2010a:169ff.).

33 Ibid:87ff.

34 Ibid:233ff.

35 Ibid:311ff.

36 Ibid:467ff.

37 Such as the Laws of Uukwambi.

38 Cf. The Namibian of 24 November 2010.

39 Cf. NASCO (2006). It is noteworthy that this publication is not a result of empirical research, with recorded details on the internal workings of conservancies. So far, not much is known about this. Cf. the critical comments in reports in *Daily Sun* of 19 November 2010 and *The Namibian* of 25 November 2010.

persons who are members of the conservancy committee; the constitution of the committee; and a statement that sets out the boundaries of the area to be declared a conservancy. Before approving the application, the minister must be satisfied that the conservancy committee is representative of the area's community.⁴⁰ It is also necessary that the conservancy constitution contains provisions for the sustainable management and utilisation of game in the proposed conservancy. Further to this, it is required that the committee is able to manage funds accountably, and that it can guarantee the equitable distribution of the benefits derived from the consumptive and non-consumptive use of game in its area. The proposed area has to be sufficiently delimited and the views of the relevant Regional Council have to be accommodated.

The amendment to the Nature Conservation Ordinance does not make any reference to traditional authority, traditional leaders or other institutions recognised under the Authorities Act.⁴¹ What the amendment act applied is a civil society approach looking at individuals living in a particular area and by this in a way ignoring the traditional governmental structure that may be relevant to the individuals and the areas in which the individuals live.⁴² However, practice shows that most if not all conservancies established on communal land are clearly related to traditional territories.⁴³ Their administrative structure is, in particular, in areas where traditional governance is firmly grounded in the local culture as it is the case in North and North-Eastern Namibia, closely linked to the respective traditional authority by providing the respective traditional authorities with possibilities to influence the process of decision making in the conservancies.⁴⁴

The constitutions of conservancies are a very relevant source of the customary law of the various traditional communities. The constitutions of conservancies are striking examples for the potential of customary law to adopt statutory stipulations and to develop them in a creative manner. While the Nature Conservation Amendment Act provides for conservancies with respect to wildlife, many constitutions of conservancies go beyond wildlife and take note of other natural resources in their areas. Wildlife management, indeed, requires a comprehensive planning that includes the use of grass, water, forests etc.⁴⁵

The conservancy concept reflected in provisions of this nature is a product of the living customary law. It is an alternative to the concept of the Nature Conservation Amendment Act. The need to draft constitutions for conservancies also contributed to what was termed elsewhere as challenging to open the collective memory and to develop social visions:

40 Cf. here and for the following Section 24A(2) of the Nature Conservation Amendment Act.

41 See here also Hinz (2011b).

42 The submission through the Faculty of Law of the University of Namibia to the Ministry Environment and Tourism, which pleaded for a clause on traditional authorities in the draft Nature Conservation Amendment Act was not accepted.

43 This was the result of the research done for Hinz (2003). New research is needed that would take note of the many conservancies established since 2003.

44 Cf. here again the findings produced in Hinz (2003:88ff.).

45 An analysis of the various constitutions of conservancies has not been done yet.

In the preparatory stage of the above-mentioned Nyae Nyae conservancy constitution, people were asked to rate the importance of animals in their area. The ranking criteria were: healing, meat, household items, photographic safaris, professional hunting and national biodiversity. Seven species of animals were selectable: roan, elephant, buffalo, giraffe, gemsbok, leopard, and wild dog. 25 points could be allocated to those species separately and with one rank. Leaving aside interests only indirectly linked to the community (safaris, professional hunting and national biodiversity), the results show an interesting concentration on some animals.⁴⁶ Eland and giraffe scored 22 marks, gemsbok 15 and roan 9. Eland and giraffe had 8 respectively 7 marks for healing. The same animals do not rate as well in terms of the indirect benefits for the community, i.e. through photographic safaris and professional hunting.⁴⁷ Roan gained the highest number of marks (10) while eland and giraffe received 4 and gemsbok 2 each. An explanation given in the conservancy constitution for the criteria of healing refers to the spirits of animals, which are “used to provide guidance to traditional healer”.⁴⁸

Social visions were developed and implemented in the Nyae Nyae constitution in the benefit distribution scheme of the conservancy. In view of the sub-divisions of the area into districts and localities (*n!oresi*)⁴⁹ possible income from various sources were allocated in percentages to the whole of the conservancy, the district and the holder of a *n!ore*. 100% of the proceeds from subsistence hunting goes to the *n!ore*, while income from the sale of live game and concessions for trophy hunting goes to the whole community. Fees for the use of resources and the use of tourist camps are shared between the three levels.⁵⁰ This scheme of income distribution reflects the vicinity principle as it is known on customary law.⁵¹ Those closest to the income-generating activity are given the bigger share of it or may even have the right to the whole.

It can be assumed that a more comprehensive analysis of the conservancy constitutions would add to what has been said so far.

5 BIOTA Research on Customary Law and the Environment⁵²

The self-stated customary laws which many traditional communities in Namibia contain, as noted above, only parts of the customary laws in operation in the various traditional communities. There is still unwritten customary law; there is customary law in development, there are changes to the law inherited from previous times. It is, therefore, of special importance to look into the reality of the application of customary law. Trends in the development of customary law can only be established by looking into what is going on in the communities; and policy options can only be modelled and successfully implemented, if these are based on empirical research that includes the perceptions in the researched communities.

46 Nyae Nyae Constitution (1996:15).

47 Ibid.

48 Ibid.

49 Ju/'hoan for a “block of land that surrounds each water hole and provides the resources on which the people of the water hole depend”; Lee (1979:334).

50 Ibid:12.

51 Cf. Hinz (1998:201).

52 Cf. for the following Hinz (2006:211ff.).

The customary law research within the BIOTA project covered a broad range of topics. The research addressed questions to traditional and modern stakeholders, ordinary villagers and people who spend only part of their time in the village, younger and older people, people with different degrees of formal education, women and men were interviewed. A gender balance was not always achieved although it was part of the overall instruction to the researchers that women's voices were to be given prominence, as the majority of households in the northern and central part of the country are led by women.⁵³ In their capacity as heads of households, women are in many instances closer to nature than men. However, in some cases, it proved impossible to get women's views because the allocation of land and the granting of grazing rights were seen to be the business of men. Had the researcher who experienced this been a woman, or had he had the chance to stay in the field for a longer period, perhaps answers would have been different.

All researchers went out with questionnaires. For the first few days they tested whether the questions they had drafted at home were suited to the task. In many cases, the questions had to be changed, shortened or simplified. Of course, it helped that the majority of the researchers were able to communicate in the respective vernacular. This language competency was particularly important with respect to the use of terms for which no easy interpretation was available. At the end, the questionnaires were not more than guides that had to be adapted as the situation demanded, as some of the researchers explained. Adaptations occurred in focus group discussions in particular.

The overall picture emerging from the research shows that customary law has mechanisms to protect biodiversity and natural resources, albeit with certain limitations. The same limitations also determine the extent to which these mechanisms are implemented. Traditional communities have knowledge about the value of biodiversity and the need to protect it against non-sustainable external and internal exploitation. Although this knowledge is very often bound by social and economic constraints, it indeed has the potential to be transformed into societally efficient norms.

The law applied in traditional communities certainly has more impact on the sustainable protection of biodiversity than the concurrent norms of the state. Under customary law, traditional communities enjoy more or less full responsibility for the administration of natural resources. However, the examples of difficulties caused by the complex interface between statutory law and customary law need further exploration.

Where traditional communities are reluctant to employ mechanisms of customary law or to develop them further although, even if environmental awareness should suggest such a development, there is need for political intervention. The administration of the allocation of land and grazing rights is a case in point, as is the regulating of the forest resources. Balancing economic interests against those of environmentally sustainable use, the examples

53 Werner (2008:6ff.).

explored show that decisions are more likely to surrender to economic interest than to take a stand for biodiversity and sustainability.

The environmental discourse in general and the discourse in anthropology in particular have for years been occupied with interpreting traditional ecological and environmental approaches. Traditional conservationism is a topic that has filled countless pages in anthropological publications.⁵⁴ It is therefore worthwhile to place the results in a broader legal and political anthropological framework. A short summary of what is understood by traditional conservationism or by relating biodiversity to the ancestors will be helpful in preparing the skeleton of this framework.

Environmental and anthropology-based environmental literature allows for the identification of two extreme views about traditional concepts of nature conservation:⁵⁵ The one denies their existence or ignores them as irrelevant in view of the modern mainstreams which prevail in environmental approaches. The other view overemphasises traditional conservationism. Traditional communities and their environmentalist approaches are said to reflect positions of the so-called Indian⁵⁶ eco-saint who always knew what to take from nature and never went as far as modern societies did – in their exploitation of nature to the point of irreparable destruction.

Ecological anthropology has undergone important theoretical changes. One of its last transformations no longer believes in the Indian ‘eco-saint’, the ‘noble savage’ and other myths that were the products of European escapists. The American anthropologist Headland can be quoted here: his views led to a far-reaching debate amongst scholars in this field.⁵⁷ Headland is a moderate revisionist, searching for a middle road which he defines as “history-grounded” and of “good anthropology”.⁵⁸ He argues that “all ecosystems have been greatly modified by humans for thousands of years”.⁵⁹

Radical revisionism, on the other hand, rejects the view, held by many that “tribal peoples lived generally in great harmony, health, and happiness and in balance with their stable environment.”⁶⁰ “Primitive polluters” is the title of a publication by the anthropologist Rambo.⁶¹ Its message is to demonstrate “the essential functional similarity of the environmental interactions of primitive and civilised societies.”⁶²

54 Cf. Ingold (2000); the collection of articles in Grim (2001); but also Hinz (2003:19ff.); Falk (2008) and Proepper (2009).

55 The following relies on Hinz (2003:19ff.).

56 Indian from the Americas, i.e. Native Americans.

57 Headland’s (1997) article was published in *Current Anthropology*. Ten scholars reviewed his article, with Headland responding. See also Vol. 101 of *The American Anthropologist*.

58 Headland (1997:609).

59 Ibid:605.

60 Edgerton (1992), quoted by Headland (1997:607).

61 Rambo (1985).

62 Ibid:2.

In a brief, but empirically founded response to the debate on Headland's revisionism,⁶³ the hypothesis was submitted that people in traditional societies do conserve, but do so only in respect of natural resources whose "depletion they can envisage".⁶⁴ The author of the hypothesis, Dye, adds that such societies must "rely on very limited data to ascertain whether a particular resource is being seriously depleted."⁶⁵ In his research among a group of rain forest people in Papua New Guinea, Dye saw how crocodiles that had gathered in a small lake – the only bit of water available in an extraordinary dry season – were harvested to extinction. This occurred alongside the community's refusal to use long gill-nets for fishing in the lake, because they "would fish out the lake".⁶⁶

Why is there a lack of conservationism in the case of the crocodiles, but conservationism in the case of the fish? Dye answers this by referring to the fact that the community had already experienced having wiped out fish when they had used their traditional way of fishing, i.e. by poisoning fish in pools in small streams. Dye discussed this with the villagers, who numbered only 125, saying that they would never be able to fish out a lake measuring five square miles, but they were resolute in their defence: "What does he know, with only 10 years here? And anyway, he doesn't even fish."⁶⁷

Dye's explanation that the lack of conservationism resulted from the lack of capacity to assess probabilities and the lack of traditionalised experience is certainly helpful to place conservationist concerns within the respective societal context. The efficiency of mechanisms of balancing short-term societal interests in using and consuming natural resources against long-term interests in sustaining those same resources depends on all sorts of factors; and these factors determine the actual situation of the given society or community and the environmental framework they live in. It is not only the knowledge of the consequences of certain behaviour, however: such knowledge must also – as the villagers' answer to Dye shows – have become part of the collective memory, thus influencing the behaviour of the villagers. Dye's arguments did not reach out to this last point. Reaching out to it would have meant delving into the very difficult legal sociological and anthropological question of how knowledge becomes societally accepted, and how such knowledge is transformed into, again societally accepted, normative principles.

Bodley, an anthropologist whom revisionists criticise as a supporter of the 'noble savage' argument, warns against the exaggeration of revisionism with its focus on myths, which are easy to target, but, at the same time, "miss the point of the cultural ecological realities".⁶⁸ Contrary to what revisionists hold against him, Bodley quotes from his own writing where he does, in fact, employ a balanced view.⁶⁹ While he stresses, on the one hand, that man has

63 Dye (1998:352f.).

64 Ibid:353.

65 Ibid.

66 Ibid.

67 Ibid.

68 Bodley (1997:612).

69 Bodley (1976).

always been a significant force for environmental modification and that primitive cultures have sometimes seriously disturbed their local environment, he says on the other hand that “primitive cultures achieved a far more stable environmental adaptation than presently assumed by industrial civilisation”.⁷⁰

Anthropological records are full of reports on rites that have formed part of traditional approaches to natural resources.⁷¹ Traditional interventions into nature, such as fishing or hunting, had to be counterbalanced by acts of restoration and re-harmonisation. However, the interventions were not undertaken from a position of strength and superiority of humans over nature,⁷² but from a position of caution. From a modern perspective, one may ask whether traditional rites were performed to secure the necessary supremacy over the animals the hunter wanted to hunt, or rather to prepare for a situation of disturbed forces which would arise with the killing of the animal and, thus, prompting efforts to bring the situation back to equilibrium.

If the first were the prevailing function of the rites, then it would be very easy to understand why they became redundant: not only because of diverging ideological and religious influences, but also because of the increasingly available modern weapons that secured superiority and rendered the inherited practices superfluous. If the second were the function, an element of true and genuine traditional conservationism could be assumed. Whether this alternative approach would entail more than achieving the same goal through different avenues, or a goal that was grounded more securely, is difficult to ascertain. But even if only the first possibility were true, it would be worthwhile to pursue. To those whose way of life is more closely aligned to traditional concepts than to modern ones, a conservationism based on the traditional avenue would be more convincing than one based on modern approaches.⁷³

In other words, and as it apparently gains increasing prominence in the interpretation of what is called traditional, instead of juxtaposing the so-called ‘traditional’ to the so-called ‘modern’, one should rather emphasise that the so-called ‘traditional’ of today is but one manifestation of several possibilities of modernity, or an alternative modernity. Such an interpretation will, indeed, open an unbiased approach to assess environmental perceptions and practices to the benefit of the protection of the environment and natural resources.

70 Ibid:47.

71 Cf. for Namibia e.g. Fisch (1994).

72 Cf. Hinz (1974:69ff.).

73 The Constitutional Court of South Africa held that it would be more convincing for certain parts of the South African population to argue against the death penalty by referring to *ubuntu* than to international and national human rights discourses. Cf. *S v Makwanyane* 1995 (6) BCLR 665 (CC).

6 The Protection of Traditional Knowledge on the International and National Agenda⁷⁴

Brown writes in the preface to a book with the title *Who owns native culture?*⁷⁵

In the late 1980s, ownership of knowledge and artistic creations traceable to the world's indigenous societies emerged, seemingly out of nowhere, as a major social issue. Before then, museum curators, archivists, and anthropologists had rarely worried about whether the information they collected should be treated as someone else's property. Today the situation is radically different. Scarcely a month passes without a conference examining the ethical and economic questions raised by the worldwide circulation of indigenous art, music, and biological knowledge.

Legal examinations have added their questions to the debate. While a few countries enacted statutes to protect traditional knowledge,⁷⁶ to be more precise: access to biodiversity and genetic resources, the main focus of the debate lies in international and regional fora. The aim here is to establish, a consensus on legal mechanisms suitable to the protection of traditional knowledge.⁷⁷ When in 1997 WIPO, the World Intellectual Property Organisation, established its Global Intellectual Property Issues Division, it provided space to so far neglected voices in its first programme. The aim for this was

to identify and explore the intellectual property needs and expectations of new beneficiaries, including holders of indigenous knowledge and innovations, in order to promote the contributions of the IP system to their social, cultural and economic development.⁷⁸

WIPO conducted a worldwide fact-finding mission in 1998 and 1999, which, *inter alia*, took note of existing customary rules and practices employed in many communities as instruments to protect cultural assets against misuse and unwanted exploitation.⁷⁹ WIPO's fact-finding report is up to today the most comprehensive collection of legal anthropological data relevant for the still on-going effort to develop legal answers to the challenge posed by the demands to protect traditional knowledge. The Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore of WIPO meets regularly and is currently busy drafting Articles on the Protection of Traditional Cultural Expressions / Expressions of Folklore.⁸⁰

74 Cf. for the following the comment on the *Swakomund Protocol on Traditional Knowledge and Expressions of Folklore* by the author of this article in the forthcoming Volume 3(1) of the Namibia Law Journal.

75 Brown (2003:IX).

76 Cf. WIPO (2010).

77 Cf. the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights of 1995 and its Art 27 2, which accepts the possibility of *sui generis* regimes for certain intellectual property rights, albeit within certain limits set by the agreement in general terms.

78 Main Programme 11, Programme and Budget 1998-1999, quoted from WIPO (2001:16).

79 Cf. WIPO (2001:57ff.and 207ff.).

80 Cf. document WIPO/GRTKF/IWG/1/3 of July 2010.

At the regional level,⁸¹ the Harare-based African Regional Intellectual Property Organisation (ARIPO) has added to the debate by adopting the Legal Instrument for the Protection of Traditional Knowledge and Expressions of Folklore adopted in Lesotho in 2007 and, in pursuance of this, the Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore on 9 August 2010. 17 African countries are members of ARIPO,⁸² of which nine have signed the protocol, amongst them Namibia.⁸³ In accordance with its Section 27(3) of the Protocol, it will come into force three months after six ARIPO members have deposited their instruments of ratification or accession.

In order to understand where the Swakopmund Protocol stands in the debate about the protection of traditional knowledge, the question about what traditional knowledge is and why it is relevant to protect it will be discussed. Thereafter, it will be inquired what approaches have been explored to provide legal protection of traditional knowledge. An overview over the most important Sections of the Swakopmund Protocol will follow and lead to some preliminary concluding remarks.

What is traditional knowledge and why is it relevant to protect?

There is not one generally accepted definition of traditional knowledge.⁸⁴ The fact-finding report of WIPO lists examples for what is commonly understood to be traditional knowledge, and illustrates the nature of such traditional knowledge:⁸⁵

Traditional knowledge is not limited to any specific field of technology or the arts. Traditional knowledge systems in the fields of medicine and healing, biodiversity conservation, the environment and food and agriculture are well known. Other key components of traditional knowledge are the music, dance, and “artisanat” (i.e. designs, textiles, plastic arts, crafts, etc.) Although there are creations which may be done purely to satisfy the aesthetic will of artisans, many such creations are symbolic of a deeper order or belief system. When a traditional singer performs a song, the cadence, melody, and form all follow rules maintained for generations. Thus, a song’s performance entertains and educates the current audience, but also unites the current population with the past.

Modern art and modern science are predominantly products of individual accomplishments. Traditional knowledge represents the cooperative efforts of communities. Plants used in accordance with traditional knowledge do very often carry symbolic values. When certain traditional sculptures are crafted, the process of crafting may be informed by inherited practices and with performing rituals in order to generate religious potential to be activated when need

81 As the focus of this article is on Namibia, other initiatives to deal with traditional knowledge and folklore will not refer.

82 The 17 countries are: Botswana, Gambia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mozambique, Namibia, Sierra Leone; Somalia, Sudan, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe.

83 Cf. Saez (2010).

84 Reflection of the difficulty to determine the concept of traditional knowledge is also that local knowledge is sometimes used instead of traditional knowledge. See Hinz (2002:4f.). Cf. also Wekesa (2009:267).

85 Ibid:211.

arises.⁸⁶ In the words of the fact finding report:⁸⁷

Traditional knowledge is a multifaceted concept than encompasses several components. Traditional knowledge is, generally, produced in accordance with the individual or collective creator's responses to and interaction with their cultural environment. This may apply to all forms of knowledge, however, whether "traditional" or "modern". In addition, traditional knowledge, as representative of cultural values, is generally held collectively. This results from the fact that what can sometimes be perceived as an isolated piece of literature (a poem, for example) or an isolated invention (the use of a plant resource to heal wounds, for instance) is actually an element that integrates a vast and mostly coherent complex of beliefs of knowledge, control of which may not vest in the hands of individuals who use isolated pieces of knowledge, but be vested in the community or collective.

The reference to 'traditional' in traditional knowledge is not to mean that the knowledge so characterised is ancient and static. Traditional knowledge is traditional only in so far as the knowledge referred to is part of the – often - only orally transmitted cultural tradition of a given community.⁸⁸

While the fact-finding mission of WIPO still follows a very broad understanding of traditional knowledge, other discussions (including discussions in WIPO) distinguish between traditional knowledge and expressions of folklore.⁸⁹ One can assume that the reason behind this distinction can be found in the different practical relevance of traditional knowledge in the narrower understanding and the expressions of folklore.⁹⁰ Traditional knowledge about plants, in particular their medicinal facilities, holds extreme societal values and is, above this, in high demand by manufacturers of industrially produced pharmaceuticals. More than half of the world population relies on traditional medicine. In some countries, more than 70% of the people depend on traditional medicine. More than 80% of the medicines used worldwide are of plant origin. ARIPO maintains that "a significant part of the global economy is based on the appropriation of traditional knowledge".⁹¹ However, the same statement concludes that in spite of the important role traditional knowledge plays in sustainable development, it continues to be largely disregarded in development planning. It currently plays only a marginal role in biodiversity management and its contribution to the society in general is neglected. Furthermore, traditional knowledge is being lost under the impact of modernisation and of on-going globalisation processes.⁹²

How to provide legal protection to traditional knowledge? At the very beginning of the debate about the protection of traditional knowledge (understood to include expressions of

86 Ibid:212.

87 Ibid.

88 Ibid.

89 So also the Swakopmund Protocol.

90 Cf. Wekesa (2009:269f.) and LeBeau (2003:26ff.).

91 ARIPO (2006).

92 Ibid.

folklore) is the statement that intellectual property law, as it stands in international treaties, domestic legislation and decided cases, is unable to protect traditional knowledge. As a rule, intellectual property law aims at unknown knowledge generated by an individual.⁹³ Hence, the main purpose of such law is to protect the knowledge of the mentioned individual against the unauthorised trading of this knowledge. The need to create so-called *sui generis* protection for traditional knowledge was, therefore, seen to be a logical consequence.⁹⁴

Yet, this approach turned out to be too simple. Although the just-quoted statement about conventional intellectual property law holds truth, it could not exclude the possibility of developing intellectual property law further so that it would also offer at least some protection of traditional knowledge. An example for this is the extension of copyright law to protect the performance of a traditional song, which would as such not qualify for protection under copy right law, against the free recording (fixation) of the performance.⁹⁵ South Africa, where matters relating to traditional knowledge have been discussed extensively since the change to democracy,⁹⁶ suggested a far-reaching Intellectual Property Laws Amendment Bill in 2007,⁹⁷ the intention of which is to provide for amendments to a wide range of intellectual property statutes so that the scope of these would also cover aspects of traditional knowledge. The Bill has met with different comments: While the Congress of Traditional Leaders of South Africa (CONTRALESA) welcomed the Bill in principle as it intended to protect “indigenous knowledge systems in the same way as western systems of knowledge”,⁹⁸ others have criticised the Bill for being “ill-conceived” and to be replaced with a law “dedicated to the protection of indigenous knowledge as a separate and distinct species of intellectual property”.⁹⁹

In other words: the manifestation of *sui generis*-approaches are called upon for the more appropriate protection of traditional knowledge. When looking at what was developed as *sui generis*-approaches, one notes attempts to provide protection to traditional knowledge by placing it into the wider framework that seeks the recognition of rights of indigenous communities in terms of relevant parts of international law that distinguishes indigenous communities from other traditional communities.¹⁰⁰ The Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples of 1993 illustrates this in a very significant manner.¹⁰¹ The preamble of the declaration refers to the much-debated right to self-determination of indigenous peoples¹⁰² and has as its first recommendation to indigenous

93 Cf. on this Matsushita *et al.* (2006:695f.) and also Oguanaman (2006).

94 The meaning of such a *sui generis* protection will be explained below.

95 See the WIPO Performances and Phonograms Treaty (WPPT) of 20 December 1996. (www.wipo.int/treaties; last accessed on 13 November 2010).

96 Cf. e.g. Normann *et al.* (1996).

97 Government Gazette of 5 May 2008.

98 Contralesa on RSA’s Traditional Knowledge Bill. In afro-ip of 2 September 2010. afro-ip.blogspot.com/2010/09/contralesa-on-rsas-traditional.html; accessed on 17 October 2010.

99 *Business Day* of 20 May 2010. Allafrica.com/stories/201005200070/html; accessed on 17 October 2010.

100 Cf. here UN (2009).

101 Reproduced in Hinz (2002:90ff.).

102 Cf. the debate about the Declaration on the Rights of Indigenous Peoples of 13 September 2007 (UNGA Res 61/295), which was eventually adopted by the majority of the members of the General Assembly of the United Nations after consensus could be reached on the Namibia-promoted reservation clause of Article 46.

communities that a definition of their own intellectual and cultural property be formulated.¹⁰³ Thomas Cottier relates demands of this nature to claims “for new human rights, especially protecting the habitat and lifestyles of traditional indigenous and local communities and their intellectual property rights”.¹⁰⁴ Accordingly, so Cottier, the “holistic concept of Traditional Resource Rights” emerged, grounded on very (“largely unclear”) principles and rights.

The Earth Summit of 1992 and its overarching policy instrument – Agenda 21 – is still the most prominent and internationally agreed upon document, laying the groundwork for the *sui generis* treatment of all matters related to traditional knowledge. It recognises that traditional rule and customary law are grounded in their specific local knowledge and wisdom. Local wisdom governs practice in many instances. Taking note of the potential of traditional governance and customary law and the need to acknowledge this in development strategies, the way forward demands specific attention to what Chapter 26 of Agenda 21 states in its first paragraph:

Indigenous people and their communities have an historical relationship with their lands ... In the context of this chapter the term lands is understood to include the environment of the areas which the people concerned traditionally occupy. ... They have developed over many generations a holistic traditional scientific knowledge of their lands, natural resources and environment.¹⁰⁵

The Convention on Biological Diversity of 1992, in force since 4 June 1993, translated important parts of the Agenda 21 into a binding international treaty. The Convention contains a variety of obligations for actions by its members to protect biological diversity found in the member countries. Particularly noteworthy is that the Convention refers repeatedly to traditional knowledge. Article 8(j) of the Convention is a kind of constitutional *Grundnorm* with respect to traditional knowledge. The Article expects that the members of the Convention

respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices;

Article 10(c) of the Convention demands from the members of the Convention to:

[p]rotect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements;

Article 17(2) of the Convention includes in the needed exchange of information “specialised knowledge and traditional knowledge”.

103 See Point 1.1 of the Declaration.

104 Cottier (1999:1828ff.).

105 Retrieved from www.un.org/esa/dsd/agenda21; last accessed on 20 November 2010.

Article 15 of the Convention contains in dealing with access to genetic resources two principles, which have been acknowledged also beyond the field of genetic resources: the need to prior informed consent between the members of the Convention (Article 15(5)) and the need to have measures in place which will allow for the sharing of “benefits arising from the commercial and other utilisation of genetic resources with the Contracting Parties providing such resources (Article 15(7)).

Both principles are closely related to the above-stated *Grundnorm* on traditional knowledge of the Convention although their translation into practice has remained controversial.¹⁰⁶

The preamble of the Swakopmund Protocol acknowledges the value of traditional knowledge systems and their contribution to local and traditional communities as well as “all humanity”. It further expresses the need

to recognise and reward the contributions made by such communities to the conservation of the environment, to food security and sustainable agriculture, to the improvement in the health of the populations, to the progress of science and technology, to the safeguarding of cultural heritage, to the development of artistic skills, and to enhancing a diversity of cultural contents and artistic expressions...

The Preamble also underscores the need to respect the continuing

customary use, development, exchange and transmission of traditional knowledge and expressions of folklore by traditional and local communities, as well as the customary custodianship of traditional knowledge and expressions of folklore...

Meeting the needs of the holders and custodians of traditional knowledge and expressions of folklore is an important aim of the Protocol. The empowerment of the holders of traditional knowledge and expressions of folklore is contained in this aim, to be able to exercise “due control over their knowledge and expressions”.

The Preamble further emphasises that the protection of traditional knowledge and expressions of folklore must be “tailored” to the specific characteristics of both.

According to Section 1 of the Protocol, it is its purpose to protect the holders of traditional knowledge against infringements of their rights and to protect expressions of folklore against misappropriation, misuse and “unlawful exploitation beyond their traditional context”. Section 3 of the Protocol provides for the establishment of a National Competent Authority, the task of which will be the implementation of the Protocol. Education, advice and the settlement of disputes are amongst the duties of National Competent Authorities and also the office of ARIPO.¹⁰⁷

106 Cf. here various contributions in Kamau/Winter (2009).

107 Cf. Section 14 in the part on traditional knowledge; Section 22 in the part on expressions of folklore; and Section 24 on Regional Protection in the final part of the Protocol.

The definition Section of the Protocol, Section 2, has definitions of expressions of folklore and traditional knowledge. Expressions of folklore are

any forms, whether tangible or intangible, in which traditional culture and knowledge are expressed, appear or are manifested, and comprise the following forms of expressions or combinations thereof:

- i. verbal expressions, such as but not limited to stories, epics, legends, poetry, riddles and other narratives; words, signs, names, and symbols;
- ii. musical expressions, such as but not limited to songs and instrumental music;
- iii. expressions by movement, such as but not limited to dances, plays, rituals and other performances; whether or not reduced to a material form; and
- iv. tangible expressions, such as productions of art, in particular, drawings, designs, paintings (including body-painting), carvings, sculptures, pottery, terracotta, mosaic, woodwork, metal ware, jewellery, basketry, needlework, textiles, glassware, carpets, costumes; handicrafts; musical instruments; and architectural forms.

Traditional knowledge

shall refer to any knowledge originating from a local or traditional community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, where the knowledge is embodied in the traditional lifestyle of a community, or contained in the codified knowledge systems passed on from one generation to another. The term shall not be limited to a specific technical field, and may include agricultural, environmental or medical knowledge, and knowledge associated with genetic resources.

Both parts of the Protocol specify traditional knowledge and expressions of folklore in the two opening Sections of Part II on traditional knowledge and Part III on expressions of folklore, which are both titled Protection criteria. Section 4 reads:

Protection shall be extended to traditional knowledge that is:

- (i) generated, preserved and transmitted in a traditional and intergenerational context;
- (ii) distinctively associated with a local or traditional community; and
- (iii) integral to the cultural identity of a local or traditional community that is recognised as holding the knowledge through a form of custodianship, guardianship or collective and cultural ownership or responsibility. Such a relationship may be established formally or informally by customary practices, laws or protocols.

Section 16 says:

Protection shall be extended to expressions of folklore, whatever the mode or form of their expression, which are:

- (a) the products of creative and cumulative intellectual activity, such as collective

creativity or individual creativity where the identity of the individual is unknown; and (b) characteristic of a community's cultural identity and traditional heritage and maintained, used or developed by such community in accordance with the customary laws and practices of that community.

The protection of traditional knowledge is not bound to any formality (Section 5(1)). The beneficiaries of traditional knowledge are the holders of that knowledge, i.e. the local and traditional communities, but also recognised individuals within the communities who are involved in the creation, preservation and transmission of traditional knowledge (Section 6). The right to authorise the exploitation of rights to traditional knowledge vests in the “owners” of the rights. Owners shall also have the right to prevent anyone from the exploitation of their rights (Section 7(1) and (2)). The owners of traditional knowledge have the right to assign the right to somebody else and also to conclude licensing agreements. However, traditional knowledge belonging to a local or traditional community may not be assigned (Section 8). Compulsory licences are possible in case that traditional knowledge is not sufficiently exploited by the rights holders and there is an interest of public security or public health (Section 12).

The fair and equitable sharing of benefits generated by the commercial or industrial use of the knowledge is to be part of the mutual agreement between the parties (Section 9). The use of traditional knowledge “beyond its traditional context” shall be acknowledged to the holders (Section 10).

A special rule protects genetic resources: Section 15 clarifies that authorised access to traditional knowledge associated with genetic resources does not imply the right to access genetic resources (Section 15).

Part III of the Protocol, devoted to expressions of folklore follows basically the structure of Part II. The protection of expressions of folklore is also not bound to formalities (Section 16). Beneficiaries of expressions of folklore are the

owners of the rights in expressions of folklore shall be the local and traditional communities:

(a) to whom the custody and protection of the expressions of folklore are entrusted in accordance with the customary laws and practices of those communities; and

(b) who maintain and use the expressions of folklore as a characteristic of their traditional cultural heritage.

Section 19 of the Protocol contains a detailed obligation for the members to the Protocol to develop the necessary legal instruments that will ensure that – as it is said in Section 19(2) of the Protocol “the relevant community can prevent ... acts from taking place without its free and fair consent”.

Section 20 regulates exceptions and limitations applicable to the protection of expressions of folklore. Section 20 reads:

Measures for the protection of expressions of folklore shall:

(a) be such as not to restrict or hinder the normal use, development, exchange, dissemination and transmission of expressions of folklore within the traditional or customary context by members of the community concerned, as determined by customary laws and practices;

(b) extend only to uses of expressions of folklore taking place outside their traditional or customary context, whether or not for commercial gain;

(c) be subject to exceptions in order to address the needs of non-commercial use, such as teaching and research, personal or private use, criticism or review, reporting of current events, use in the course of legal proceedings, the making of recordings and reproductions of expressions of folklore for inclusion in an archive or inventory exclusively for the purposes of safeguarding cultural heritage, and incidental uses,

provided that in each case, such uses are compatible with fair practice, the relevant community is acknowledged as the source of the expressions of folklore where practicable and possible, and such uses would not be offensive to the relevant community.

This part is concluded by some preliminary comments on the Protocol:

First: Looking back to the development of the debate on the protection of traditional knowledge, the Swakopmund Protocol is an important step forward to conceptualise the much demanded *sui generis* protection of traditional knowledge (and expression of folklore for that matter).

Secondly: The Protocol gives the Namibian constitutional recognition and confirmation of customary law¹⁰⁸ an additional international blessing. It relies in its orientation to acknowledge and protect traditional knowledge on the respective existing customary law. In other words, it binds existing customary law into its international framework and acknowledges by this that all efforts to protect traditional knowledge will only work when they provide space for the law that is closest to traditional knowledge: customary law.

Thirdly: The Protocol follows the established trend to link the use of traditional knowledge to the two principles that became prominent in the Convention of Biological Diversity, viz. the principle of prior informed consent and the principle of sharing benefits.

Fourthly: The Protocol offers an approach to the determination of holders of traditional knowledge and expressions of folklore, which will certainly influence the on-going debate about the need to concretise traditional knowledge rights, but also to balance the realm of legally protected interests and public interests in intercultural communication.

Fifthly: The tasks assigned to the National Competent Authority and the references therein

108 See Article 66(1) of the Constitution of Namibia.

to customary law are not only a clear indication that education and the creation of awareness will be paramount to the success of the Protocol, but also the active engagement of traditional authorities which, *inter alia*, have the task to ascertain and even develop their customary law – a task, which is a special challenge when it comes to traditional knowledge!

7 Concluding Remarks

The concluding remarks will take as their point of departure these remarks on traditional conservationism. They will do so by recalling the already quoted Section 3(2)(c) of the Traditional Authorities Act, according to which traditional leaders have the duty to ensure that the members of their communities use the natural resources in a manner that conserves the environment and maintains the ecosystem for the benefit of all persons in Namibia.

Is the duty expressed in the quoted provision from the Traditional Authorities Act a new duty that the legislators found necessary to add to the inherited list of tasks of traditional authorities? Was the wording done in reference to the list of government policy principles spelled out in Article 95 (1) of the Constitution of Namibia, or is the quoted task a mere confirmation of what was in any event traditionally part of the duties of a traditional leader?

Furthermore, why did the lawmakers find it necessary to translate the environmental requirement of the Constitution into the Traditional Authorities Act and not, for example, into the Local Authorities and Regional Councils Acts?¹⁰⁹ Would this not have been much more important – since traditional communities, by virtue of their direct social and economic dependence on their environments, have a genuine interest in the sustainable management of their natural resources and, therefore, would not need to be called upon to be environmentally sensitive? What is the explanation of the quoted sub-Section in the Traditional Authorities Act referring to the “benefit of all persons” in Namibia and not simply to all persons, irrespective of domicile? Is this limitation intended to mean that the use of water from the Kavango River, for example, which may have negative implications for the people in Angola, should be of no concern to the traditional authority that has the say on the Namibian side of the river?¹¹⁰

The problems reflected in these many and difficult questions have their reasons, at least to some extent, in the uncertainty of modern law and policymakers to give traditional governance its place in society in general and in the structure of government, or – in the sense of the remarks on traditional conservationism – in the uncertainty associated with assessing the dimensions of what was called alternative modernities. The legislative orientation of traditional environmental responsibility to persons in Namibia was most probably not meant as an attempt to prevent environmental responsibility from becoming supranational, i.e. beyond national borders, but rather to secure the extension of traditional responsibility beyond ‘tribal’ borders.

109 Local Authorities Act No. 23 of 1992, as amended, and Regional Councils Act No. 22 of 1992, as amended.

110 Questions of this nature will be addressed in a project that will follow the completed BIOTA project, titled: The future of the Kavango project and which will start in 2011.

With the chosen wording, however, the lawmakers unfortunately lost the chance to link local interests to global ones, although the Earth Summit of 1992 and Agenda 21 devoted considerable effort to do just that. Chapter 28 of Agenda 21 emphasises the beginning of successful movements worldwide to engage local authorities in the global process to achieve sustainability as the basic ingredient of societal policies and interventions. The already quoted Chapter 26 of Agenda 21 complements Chapter 28 and the role of local authorities, by referring to indigenous peoples as being as equally relevant as other societal entities and actors in the process towards sustainability.¹¹¹ Therefore, it would have set a strong political signal to refer leaders of traditional communities to the fact that problems that appear on the surface to be local are indeed relevant to humankind as a whole. The lost chance in linking the traditional with the international, i.e. transforming a globally supported international policy into an important legal domestic framework, is in all probability the reason for not including the call for sustainability in either the Local Authorities Act or the Regional Councils Act.

The reasons for the second omission are easier to trace. The reluctance to write Agenda 21 implications into either the Local Authorities Act or the Regional Councils Act can be understood in view of the fact that what we see today in the movements of local authorities to join the universal battle for sustainability and protection of the environment is the result of a development that did not fall from heaven with the Rio Conference.¹¹² This is true not only for Europe and the United States of America, where local authorities have achieved a consolidated position throughout the countries concerned, but more so in other parts of the world, including Africa, where many local authorities are still struggling for financial and political survival.

Reference was already made to the uncertainty of the lawmakers to locate traditional governance appropriately in the overall societal and state system. Are traditional leaders – and, for that matter, African customary laws – things that should be left to the past and replaced by modern law? Will traditional governance and customary law be able to respond appropriately to modern needs? Can traditional governance and customary law be brought in line with the requirements of the principles of democracy and human rights?

As shown elsewhere,¹¹³ Namibia and many other African countries have found answers to these questions. On the one hand, governments recognise the existence of traditional governance and customary law as being relevant to their societies; but on the other, both inherited structures have instilled a great quantum of scepticism into the debate about the scope of

111 The mention of “indigenous peoples” in Chapter 26 of Agenda 21 is primarily a reference to indigenous peoples in the sense defined in the ILO Conventions and the UN Declaration on the Rights of Indigenous Peoples quoted in the Introduction to this publication. The use of this definition is motivated by the fact that paragraph 26.2 of Agenda 21 takes explicit note of the said international instruments. However, the introductory words of paragraph 26.2 read as follows: “Some of the goals inherent in the objectives and activities of this programme” This could be understood to mean that the programme envisaged by Agenda 21 has a wider range, and that what is found in the quoted instruments are just examples of that with which the Agenda is concerned.

112 Cf. here Hilliges/Nitschke (2007:14ff.).

113 Cf. Hinz (2006a).

recognition. The scepticism is partly nourished by the above-quoted questions, influenced in particular by ignorance of the potential of traditional authorities and customary law – a potential that contributes effectively to peace and welfare in the communities to which they apply, and beyond. Indeed, the research assembled in the two BIOTA publications¹¹⁴ underlines the potential of traditional authority and customary law. The research has shown that traditional rule and customary law are grounded in local knowledge and wisdom. Local wisdom governs practice in many instances; in others where this is not the case, it could be made available if desired.

Taking note of what has been said about the potential of traditional governance and customary law needing to be acknowledged in development strategies, the way forward has to pay specific attention to an element that has been underestimated thus far in respect of the inherited land tenure systems one finds in most traditional communities. Describing the basis for action, Chapter 26 of Agenda 21 states the following in its first paragraph:

Indigenous people and their communities have an historical relationship with their lands ... In the context of this chapter the term lands is understood to include the environment of the areas which the people concerned traditionally occupy. ... They have developed over many generations a holistic traditional scientific knowledge of their lands, natural resources and environment.

Whatever the concept of indigenous peoples is for the Agenda,¹¹⁵ the quoted statement is also relevant for traditional communities in the broader sense. The anthropological fact that many traditional communities see land as an encompassing entity that includes what is underneath and above the soil; includes what moves on the soil and in water; and includes, in a wider sense the living and the dead, has not been fully explored yet in legal terms. Who owns trees? Who owns wildlife? Who owns water? Who owns mineral resources? Who owns knowledge? How can all these resources be managed and administered in a way that supports sustainability for the benefit not only of local owners, but also of those beyond the boundaries of the village, in a national and even global sense, now and in the future?¹¹⁶ Approaches to these questions can only be found in research that takes on very concrete fields in which problems related to the questions have emerged.

Consultations with stakeholders about the research within the BIOTA project have shown that there is substantial concern about the relationship between conservancies in terms of the Nature Conservation Amendment Act, on the one hand, and community forests in terms of the Forest Act, on the other. This was said in a meeting with traditional leaders of Oshiwambo-speaking communities about the Uukwaluudhi conservation projects, but also in a meeting with traditional leaders from the Caprivi Region. More research is needed to delve into this problematic relationship more deeply. However, common sense already reveals that

114 Cf. Hinz/Ruppel (2008a) and Hinz/Ruppel/Mapaure (2012).

115 See the remarks on this above.

116 Some of these questions will be taken up in the contributions for the publication that will follow Hinz/Ruppel (2008a).

conservancies and community forests deal, from a traditional point of view, with different aspects of the same holistically defined *land*, but falling under two different ministries, will obviously lead to administrative problems. Furthermore, as indicated above there is a need to consider what can be called alternative or comprehensive conservancies: conservation areas that give traditional communities responsibility and authority over all the natural resources in their area of jurisdiction, and not just over one that has been artificially separated from the rest, such as wildlife or forests.¹¹⁷

There are several challenges of which the work ahead needs to take note:

The first is to strengthen attempts to offer feedback to the researched communities on research results. It is only with feedback exercises that allow people to speak openly and freely about how to improve customary law that it will actually develop. Consultations on the basis of feedback to the communities are also able to stimulate and strengthen dormant or suppressed caches of traditional knowledge.

The second challenge is one that is inherent in the approach to traditional knowledge. The customary law case studies done in the BIOTA project have shown that, in many cases, members of local communities were not aware that traditional knowledge was a valuable asset: one that general law envisaged as an asset under the umbrella of intellectual property rights. The apparent international trend in transforming – or, rather, dissecting – culturally determined social and, in terms of the quote from Chapter 26 of Agenda 21, holistic entities into marketable commodities will have to be reviewed, as will the consequences of such marketing.¹¹⁸

117 Hinz (2003:97ff.).

118 There is already important literature that has to be explored further, amongst which are Bennett (1985); Kirk (1999:9ff.).

CHAPTER 15

WESTERN INTELLECTUAL PROPERTY RIGHTS REGIMES AND TRADITIONAL KNOWLEDGE PROTECTION SYSTEMS IN AFRICA

Eliamani Laltaika

1 Introduction

Indigenous and traditional communities in Africa and elsewhere depend on the natural environment for their livelihood. Traditional Knowledge (TK) related to medicine, agriculture, fisheries and food preservation, among others, is an important tool for their survival. Due to, among other reasons, advancement in biotechnology, the value of TK and associated genetic resources has increased tremendously in the past few years. Such increase in value calls for concerted legal efforts for protection. Mindful of this, the international community is working on possible modalities for protecting TK. Organisations involved in TK protection include the World Intellectual Property Organisation (WIPO), the Convention on Biological Diversity (CBD), the Council for the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) of the World Trade Organisation (WTO) and the World Bank. The African Regional Intellectual Property Organisation (ARIPO) has, likewise, recently adopted a protocol for the protection of TK and expressions of folklore, the Swakopmund Protocol, named after the Namibian town where it was adopted.

These organisations by and large use the conventional or western intellectual property system as their point of departure for devising methods of protecting TK. However, the inherent differences between western intellectual property systems and traditional communities' perceptions still pose challenges to an effective protection of TK with the aim of benefitting their communities of origin. This chapter underscores some of these challenges and offers perspectives for a holistic approach that puts environmental protection and community welfare at the centre of the equilibrium as opposed to proprietary rights, whether collective or individual.

2 Defining Traditional Knowledge and Associated Genetic Resources

The World Intellectual Property Organisation describes Traditional Knowledge (TK) as

tradition-based literary, artistic or scientific works, performances, inventions, scientific discoveries, designs, marks, names and symbols; undisclosed information, and all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields.¹

1 WIPO (2008:5).

TK is the totality of knowledge of local and indigenous communities that enable them to live in harmony with the environment while supporting their livelihood. It is traditional not because it is old but because it is “created, preserved, and disseminated in the cultural traditions of particular communities.”² TK is time-tested, as it has enabled local and indigenous communities to interact with nature for centuries.

Genetic resources (GR) or materials, on the other hand, are “any material of plant origin, including reproductive and vegetative propagating material, containing functional units of heredity”.³ The CBD puts genetic resources in a larger box of “biological resources” which includes “genetic resources, organisms or parts thereof, populations or any other biotic component of ecosystems with actual or potential use or value for humanity”.⁴ The phrase “with actual or potential value” signifies the fact that some genetic resources may not be of known economic value at the time of collection.

Joseph Straus observes that GR have a double legal nature due to the fact that:

asphenotypes i.e. individual plants and animals, they traditionally constitute private (tangible) goods; as genotypes, i.e. information embodied in the genetic constitution of micro-organism, plant or plant species, they a priori conform to the definition of public good.⁵

Although the practice has been to discuss TK and GR as one and the same, opinions differ on the matter. Some commentators are of the opinion that TK is not necessarily manifested in GRs and that not all GR embody TK of local and indigenous communities.⁶ Another school of thought holds that TK and GR are inseparable, and that any legal instrument for protection must appreciate their inseparable nature.⁷

Not only are the above differing views on the nexus between TK and GRs difficult to reconcile, but also widened by a lack of recognition of local and indigenous communities as true holders of TK and GR.⁸ Moreover, conventional intellectual property rights, particularly patents, have been used as a tool to misappropriate TK, much to the detriment of local and

2 Singhal (2008:732).

3 CBD 1992: Article 2.

4 CBD 1992: Article 1.

5 Straus (2000:144); emphasis original.

6 According to this view, the CBD’s use of the term “potential value” of GRs signifies that the importance of some GR is yet to be discovered by conventional scientists and is also unknown to local and indigenous communities.

7 This view is preferred by local and indigenous peoples whose philosophy of life evolves around a holistic world and interconnected life to them is a continuous journey of exploration.

8 As will be explained later, customary laws and protocols of local and indigenous communities can provide useful guidance on ownership of TK and GR.

indigenous communities.⁹ The Ayahuasca¹⁰, Neem¹¹ and Hoodia¹² speak loud and clear on biopiracy, as will be explained in the next section.

3 Biopiracy

There is no commonly agreed definition of biopiracy. According to Dutfield:

biopiracy has emerged as a term to describe the ways that corporations from the developed world claim ownership of, free ride on, or otherwise take unfair advantage of, the genetic resources and traditional knowledge and technologies of developing countries.¹³

Biopiracy can be described as illegal and unethical bioprospecting. In the context used here, bioprospecting is the “search for useful biological materials in micro-organisms, plants, fungi, animals and humans”.¹⁴ As with other tangible properties, unauthorised access to genetic resources for the purposes of prospecting passes the test of misappropriation or theft. This is the crux of concerns of developing countries.

An act that can be labelled biopiracy therefore involves any or a combination of the following:

- Unauthorised acquisition of biological resources;
- the unauthorised use of TK associated with genetic resources for profit;
- obtaining intellectual property rights, especially patents for an “invention” based on traditional knowledge.

The following cases, documented by the African Centre for Biosafety are illustrative:¹⁵

9 It is submitted that intellectual property law regime should rather do the opposite that is offer innovative ways of protection. It is with this legitimate expectation that local and indigenous communities look up to WIPO for intervention and assistance against, among other things, biopiracy.

10 The *Banisteriopsis caapi* is a medicinal plant that has been used by Ayahuasca in Latin America for centuries. In early 1980s an American researcher ‘discovered’ its usefulness and was issued with US Patent No 5751 issues in June 1986. As a result of collective efforts by civil societies and individuals, this patent was revoked in 1999 but later upheld.

11 The Neem tree *Azadirachta indica* is native to India and has been used by local and indigenous Indian communities for a long time. It has medicinal, spiritual and economic value. As with the Ayahuasca, the knowledge of the usefulness of the tree was used to ‘work on’ a discovery that led to an invention and subsequent grant of a patent by the European Patent Office EPO in 1994. This patent was however revoked in 2000 for lack of novelty.

12 For many years, the indigenous San of Southern Africa used Hoodia as a hunger suppressant. This traditional use was noted by a Dutch anthropologist in 1937. In 1995 the South African Council for Scientific and Industrial Research (CSIR) obtained a patent for Hoodia’s appetite suppressing element. Based on this knowledge, a team of researchers patented this knowledge in the United Kingdom and later licensed it to Pfizer, an American pharmaceutical company.

13 Dutfield (2004:1).

14 Polski (2005:543).

15 The African Centre for Biosafety (ACB) is a non-profit organisation, based in Johannesburg, South Africa. According to its website “It provides authoritative, credible, relevant and current information, research and policy analysis in issues pertaining to genetic engineering, biosafety and biopiracy in Africa.” See <http://www.biosafetyafrica.net/index.html/>; last accessed 21 November 2010.

Swiss researchers are staking claims to drugs from *Cussonia zimmermannii*, a tree found in Tanzania, Kenya, Uganda, Mozambique, and other countries in east and southern Africa. According to the European research group, the *Cussonia zimmermannii* extracts are active on the human central nervous system's GABA(A) receptor and therefore may be of use in treating a variety of diseases, including epilepsy and mental disorders such as anxiety. The claim that *Cussonia zimmermannii* can be used to treat nervous system disorders will come as no surprise to Africans familiar with the tree's medicinal uses. In fact, even the Swiss 'inventors' concede that Kenyan researchers noted in 1986 that the plant is traditionally used to treat mental illness and that in 1964 an article on ethnobotany noted its traditional use in treating epilepsy. In addition, parts of the tree are used to treat other conditions including fever and post-partum bleeding. On what basis then, do the Swiss institutions claim their candidate drug is novel and inventive? Judging by the patent application, they seem to believe that by isolating and describing a chemical found in *Cussonia zimmermannii*, they have made an invention.

Source: African Centre for Biosafety (ACB) Pirating African heritage: A Brief Note by the African Centre for Biosafety (2009).

Agriculture and healthcare giant multinational Bayer, based in Germany, has staked a claim to the use of any extract from any plant of the *Vernonia* genus in Madagascar for "improving the skin status". In addition to claiming all *Vernonia* from Madagascar, Bayer's patent application makes specific claim to eight *Vernonia* species. The patent claim further focuses on the shrub species *Vernonia appendiculata*, commonly known as 'ambiaty', a plant which is endemic to the island. There are ample citations that document important traditional uses of the 'ambiaty' plant in Madagascar. Directly related to the alleged novelty of Bayer's patent claims is 'ambiaty's' documented traditional use in wound healing and in herbal steam baths – in both cases traditional uses that obviously relate to skin care and health. It has also been used traditionally in products such as dyes. Yet Bayer's patent application makes no reference to these and other traditional uses of 'ambiaty'.

Source: African Centre for Biosafety (ACB) Pirating African heritage: A Brief Note by the African Centre for Biosafety (2009).

Biopiracy appears to be on the increase, fuelled by new developments in biotechnology and the desire by pharmaceutical companies to be at the cutting edge as far as research and development (R&D) is concerned. It appears also that many of the organisations involved in, or suspected of conducting biopiracy, are aware of their obligations under international law including abiding by ethical research standards and obtaining necessary permits from concerned government agencies. This knowledge notwithstanding, both big and small companies do not seem to care about these obligations while operating in developing countries. This calls for concerted efforts at the international level, not only in enacting laws, but also in cooperation and capacity-building programmes. At the moment only a few cases of 'foul

play' by pharmaceutical companies are discovered and subsequently made public. There are many cases which go undiscovered, and the concerned companies reap where they have not sown. Could it be that the problem lies in the current international legal regime for intellectual property rights (IPR) governance? The next section aims to explore this.

4 Western Intellectual Property Regime versus Community Rights

The main challenge hampering protection of TK, both at the national and international level, is the concept of *communal* as opposed to *individual* property rights, entrenched in Western IP law.¹⁶ This line of reasoning puts TK into the public domain and therefore as free for the taking. This approach has been strongly criticised as being against social justice. Davis illustrates this, using two hypothetical cases:

It happens that the chemical compound that constitutes Thermo's cold cure actually occurs naturally in the leaf of a tree which is indigenous to India. The leaf has been used in India for many centuries as a cold cure. Aware of this fact, Thermo has analysed the chemical make-up of the leaf and reconstituted it in its laboratories. Susan visits Chile and overhears a "folk song" which is widely sung in the villages, although no one is sure of its origins. Susan returns to England, translates and arranges the song, which becomes a best seller... an intellectual property regime which rewards Thermo and Susan, with patent and copyright respectively, but provides no mechanism for rewarding the villagers of India and Chile.¹⁷

The second difficulty lies in the way indigenous and traditional communities look at life as a connected whole. According to former UN Special Rapporteur for Indigenous Affairs, Irene Daes, subdividing the heritage of indigenous people into legal categories such as "cultural", "artistic" or "intellectual" would be inappropriate.¹⁸ As indicated earlier, the international community has been working hard – for over two decades now – to find better ways of protecting cultural resources of indigenous people.¹⁹ So far, the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) of the World Intellectual Property Organisation (WIPO) has generated a number of useful documents, state-of-the-art-research, and conference reports on various aspects of Traditional Knowledge (TK).²⁰ According to the new mandate passed by member states in 2009, the committee should come up with a legal instrument (or instruments) for protecting TK and Traditional Cultural Expressions (TCEs).²¹ In the meantime, the secretariat of the Convention

16 An exception to this general rule is Geographical Indications (GIs). See Blakeney (2001).

17 Davis (2003:8).

18 Daes (1993); Gupta(2005).

19 In 1981, for example, the *World Intellectual Property Organisation* (WIPO) and the *United Nations Educational, Scientific and Cultural Organisation* (UNESCO) adopted a model law on folklore. For a detailed historical account cf. O' Connor (2000:677).

20 Some documents are available at <http://www.wipo.int/meetings/en/doc/>; last accessed on 25 October 2010.

21 The mandate reads in part "(a) The committee will, during the next budgetary biennium (2010/2011), and without prejudice to the work pursued in other fora, continue its work and undertake text-based negotiations with the objective of reaching agreement on a text of an international legal instrument (or instruments) which will ensure the effective protection of GRs, TK and TCEs"; available at <http://www.ip-watch.org/weblog/wp-content/uploads/2009/10/wipo-ga-decision-on-tk-1-october-2009.pdf>; last accessed on 13 November 2010.

on Biological Diversity and the United Nations Food and Agriculture Organisation (FAO) continues to deliberate on improving ways of protecting TK and GR.²² The two have, at different times, come up with the concepts of access and benefit sharing (ABS) and farmers rights, respectively. Both of these attempt to recognise rights of communities to their TK and associated GR as will be explained in the next two sections.

5 The Convention on Biological Diversity: A New Era for GR Governance?

[M]ost of us in developing countries find it difficult to accept the notion that biodiversity should [flow freely to industrialised countries] while the flow of biological products from the industrial countries is patented, expensive and considered the private property of the firms that produce them. This asymmetry [...] is unjust.²³

The Convention on Biological Diversity (CBD)²⁴ was adopted under the auspices of the United Nations Environment Programme (UNEP) and opened for signatures in Rio de Janeiro, Brazil, in 1992.²⁵ The aim of this convention is:

... to promote the conservation of biodiversity, the sustainable use of its components and the fair and equitable sharing of benefits arising from the use of such resources, including appropriate resources and transfer of relevant technologies.²⁶

The most relevant articles for the purposes of this chapter are Article 8(j) on protection of TK and Article 15 on access and benefit sharing.²⁷ These articles sum up the main IPR related work of the CBD, namely protecting the traditional knowledge of indigenous communities and advocating for disclosure of origin (Disclosure of Origin of Genetic Resources and Traditional Knowledge/DOO) by applicants for intellectual property rights.²⁸ According to Article 8(j) each contracting party shall, as far as possible and appropriate and

... subject to its national legislation, respect, preserve, and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant to the conservation and sustainable use of biological diversity. They should also promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices.²⁹

It should be noted, however, that although the CBD contains general provisions, as opposed

22 Ibid.

23 Ally Hassan Mwinyi, Former President of the United Republic of Tanzania; UN Doc. A/CONF. 151/26/Rev.

24 CBD (1992).

25 As of November 2010, 188 states had ratified this agreement. See *Secretariat of the Convention on Biological Diversity, Parties to the Convention on Biological Diversity*; available at <http://www.biodiv.org/world/parties.asp>; last accessed on 13 November 2010.

26 See Article 2.

27 These and related articles point to the Conventions' third objective namely "The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources."

28 Helfer (2004:29).

29 See Article 8j.

to specific, normative terms, the above article has been criticised for lack of incentive for implementation. The article, it has been argued, “does not talk of protection of knowledge but merely calls upon parties to respect, preserve and maintain that knowledge”.³⁰ The phrase is especially problematic in countries still embracing “fortress conservation” where local communities’ presence in protected areas is seen as a nuisance rather than an opportunity to foster and protect TK.³¹

On GR, the Convention seeks to “facilitate deal making” between technologically-rich countries in the north and technologically-poor but biodiversity-rich countries in the south. Ideally, this deal would allow “industrialised countries to support the transfer of proprietary technologies to developing states as a *quid pro quo* for access”.³² Achieving this goal, however, has never been easy, due to among other reasons, the defensive nature of developing countries when it comes to intellectual property related issues.³³ The concept of *Access and Benefit Sharing* (ABS) was born out of these attempts.³⁴ ABS is a complex resource utilisation issue, requiring an interdisciplinary approach not only in the legislation, but also the implementation process. According to Young:

[...]ABS is in some ways ‘unique’, particularly in its merger of very new concepts of commercial law and science with the goals of conservation, sustainable use and equity. New legal concepts and tools are needed, as well as new uses of existing tools. Legal innovation, however, is not an easy process.³⁵

According to the CBD, ABS agreements must be based on prior informed consent (PIC) and equitable sharing of benefits. To facilitate this exercise, the Sixth Conference of Parties (COP) to the CBD³⁶ adopted the *Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising Out of their Utilisation* (Bonn Guidelines).³⁷ As mentioned before, the aim of bioprospecting is to obtain useful bio-chemicals in genetic resources in particular or biological materials in general. For inventions based on GR obtained in developing countries, the Bonn Guidelines invite states to encourage the disclosure of the country of origin of genetic resources in applications for intellectual property rights, in order to prevent issuance of “bad patents” on “pseudo-inventions” or biopiracy.³⁸ Due to the fact that the Bonn Guidelines are not binding legal rules, cases of biopiracy and unregulated

30 Mugabe (1998:9).

31 As will be seen later in this chapter delinking human-nature interaction is sometimes detrimental to the ecosystems aimed to be protected.

32 Helfer (2004:28).

33 The fact that GR were free for the taking for many years may help explain such resistance by industrialised countries as will be explained in part three below.

34 ABS is just one of several initiatives that seek to implement the third mandate of the CBD namely “equitable sharing of benefit arising out of the utilisation of genetic resources”.

35 Young (2004:2).

36 Meeting in The Hague 7-19 April 2002.

37 CBD (2002).

38 With regards to preventing patents based on TK, India has established a digital database of traditional knowledge searchable in several languages that has been approved by both the *European Patent Office* (EPO) and the *United States Patent and Trademark Office* (USPTO).

access to genetic resources have been on the increase. At the time of writing this paper, members to the 10th COP to the CBD had adopted the Nagoya Protocol on ABS whose provisions, unlike those of the Bonn Guidelines, will be binding on all members after they have been signed into force.³⁹ While it can be said that commendable efforts have been made internationally under the CBD regime concerning ABS, many issues remain unresolved on TK and genetic resources for food and agriculture.

6 Intellectual Property in Plant Genetic Resources for Food and Agriculture and TK

Plant genetic resources for food and agriculture (PGRFA) refers to “the genetic resources or material of actual or potential value for human and agriculture that are contained in plants”.⁴⁰ PGRFA have been described as “building blocks” for breeders and traditional farmers alike “in improving crops and introducing new traits into those crops such as drought or pest resistance”.⁴¹ The use of such building blocks to improve productivity and maintain useful characteristics of crops is not a new phenomenon. Since mankind moved from hunting and gathering to agriculture, the quest for better and improved crops has been a constant. Quoting from Genesis, Tritton argues that the practice is evident from biblical times, although “the methodology described therein reveals a more Lamarckian (i.e. teleological) than Darwinian, approach to the introduction of certain desired traits”.⁴² For many years, PGRFA were freely exchanged between and among farmers and communities in different regions. This exchange reached a climax during the 19th century’s Columbian Exchange. This term refers to the exchange of biological resources between Europe, Africa and the Americas since the so-called discovery of the ‘New World’ by Christopher Columbus.⁴³

There is no doubt that developed countries benefited immensely from this free-for-all, hence their desire for a continuation of this *status quo*. This “wish list”, however, is difficult if not impossible to achieve because Western countries want stronger IPRs for ‘elite parental lines’ and little or no IPR protection at all on cultivars or landraces. This approach fails to appreciate traditional knowledge of indigenous and local farmers throughout the world, whose hard work has produced and protected PGRFAs. Linking the historical plunder with the on-going expansive nature of IPRs, many commentators think that IPRs in living things are a new form of colonialism and way of looting natural resources from developing countries. The following newspaper extract from Kenya summarises this sentiment:

Slavery, colonialism, plunder, cheap labour, brain drain... and now bio-piracy. Nothing has changed much in Africa-Europe ties for centuries. Africa continues to oil the wheels

39 According to the wildlife trade monitoring network TRAFFIC: “For the first time, the new ABS regime will provide an internationally binding framework, applying for example to private sector enterprises actively bio-prospecting for pharmaceutical, medicinal, biochemical, aromatic and food resources;” available at <http://www.traffic.org/home/2010/10/29/a-ray-of-light-from-the-land-of-the-rising-sun.html>; last accessed on 13 November 2010.

40 Moore/Tymowski (2005:2).

41 Ibid.

42 Tritton (2002:420).

43 Tyler (1996).

of industry in the West. The latest example is the ongoing debate over the kikoi, a name (kikoy) that a British firm wants to patent in the UK. Other cases have involved the kiondo and an enzyme used to give jeans a faded look. In 1992, American company Genencor International discovered commercially useful organisms in several lakes in the Rift Valley. The organisms are now being used to manufacture enzymes, which, among other properties, give jeans cloth a faded look. The company has reportedly made huge profits yet the Kenyan Government says it has not benefited from the venture.⁴⁴

6.1 The International Undertaking on Plant Genetic Resources

The first attempt to regulate the exchange of PGRFA at the international level led to the adoption of the International Undertaking on Plant Genetic Resources (hereafter “undertaking”) by the FAO Conference in November 1983 under Resolution 8/83.⁴⁵ The undertaking was based on the then universally accepted principle that plant genetic resources were “a heritage of mankind and consequently should be available without restriction”.⁴⁶ Apparently, many developing countries were unhappy with the underlying idea that PGRFA should be available unreservedly. In 1989 the undertaking was revised to provide for ‘Farmers Rights’ defined as the rights arising from the past, present and future contributions of farmers in conserving, improving and making available plant genetic resources, particularly in their centres of origin/diversity. These rights are vested in the international community as trustee for present and future generations of farmers, for the purpose of “ensuring full benefits to farmers, and supporting the continuation, as well as attainment of the overall purpose of international undertaking”.⁴⁷ The interpretation of the revised undertaking required that farmers from developing countries be sufficiently rewarded for the use of PGRFA by developed countries, and that an International Gene Fund be established for this purpose.

Although the international undertaking was not meant to be a binding instrument of international law, the definition above has influenced subsequent international, regional and national laws with the bearing on farmers’ rights. In many cases, justification for the right is both historical and futuristic. Historical as it recognises past contribution and futuristic as it recognises even those contributions yet to be made.

6.2 The TRIPS Agreement and UPOV

The coming into force of the World Trade Organisation (WTO) Agreement on Trade Related Aspects of Intellectual Property (TRIPS) on 1 January 1995 took IPR in plants to a higher level. According to this agreement, member states to the WTO “shall provide protection of plant varieties either by patents or an effective *sui generis* system or a combination thereof”.⁴⁸ Although the agreement neither defines *sui generis* nor lays down criteria for an effective one, the International Union for the Protection of New Varieties of Plants (UPOV) is

44 Gatonye (2007:13).

45 FAO (1983).

46 FAO (1983), see Article 2.

47 FAO (1983).

48 TRIPS Article 27.3(b).

widely regarded as a *sui generis* system. UPOV was adopted in 1961 by a group of western European countries because of pressure from the private sector, which argued that the lack of intellectual property rights in this field threatened their development. It is noteworthy, however, that UPOV is taken to be a lesser-evil-approach by countries that are not comfortable with patenting life forms.⁴⁹

6.3 Historical Backdrop

Although IPR in plants now form part and parcel of not only international IP law but also international trade, the road to this acceptance was never an easy one. It is in the USA and in Europe, where these rights are more grounded and from whose inspiration (and influence) developing countries enact their laws on plant variety protection.⁵⁰ In the 19th century, it was widely accepted that natural powers and the forces of nature could not be patented. In 1852, the US Supreme Court in the case of *Le Roy v Tatham*⁵¹ held that:

... a principle in the abstract, is a fundamental truth; an original cause, a motive; these can not be patented; and no one could claim in either of them an exclusive right. Nor can an elusive right exist to a new power, should one be discovered to those already known.⁵²

As this judicial reasoning presupposes, the objection raised against intellectual property rights in plants was mainly that plants are a product of nature.⁵³ As a result of developments in plant genetic engineering and plant breeding, the US Congress in 1930 enacted the Plants Patents Act.⁵⁴ This Act provided patent protection only to asexually reproduced plants, i.e. those plants produced by propagating or grafting. In 1970, the Plant Variety Protection Act was enacted, widening the horizon of patentable plants to include asexually reproduced varieties. Another often-cited historical event leading to the consolidation of intellectual property rights in plants in general and patents in particular, is the US Supreme Court's ruling in the case of *Diamond v Chakrabaty* that "anything under the sun made by man is patentable".⁵⁵ The USA currently grants patents for plants and any other living thing, provided it involves human ingenuity.

In Europe, earliest (first generation) patent laws excluded all forms of life. However, this position was not always accepted. According to Greer:

49 See generally Laltaika (2007).

50 Ibid.

51 *Le Roy v Tatham* 55 US (14 How) 156 (1852).

52 Ibid: 175.

53 Note that this reasoning was challenged in 1939 in the famous case of *Dennis v Pitner* 106 F. 2d 142, 7th Circ 1939. In this case, a patent was sought for the discovery of an effective insecticide from the root of a plant found in South America. The court observed inter alia that "[i]t is true that an old substance with newly discovered qualities possessed those qualities before the discovery was made. But it is a refinement of distinction both illogical and unjustifiable, and destructive of a laudable object of the statute to award a patent to one who puts an ingredient A with old ingredients B and produces a cure for ailment C; and deny patent protection to one who discovers that a simple and unadulterated or unmodified root herb or a chemical has ingredients or health-giving qualities, hitherto unknown and unforeseen."

54 Plants Patents Act of 1930. The purpose of this Act was to "afford agriculture, so far as practicable, the same opportunity to participate in the benefits of the patents system as has been given industry".

55 *Diamond v Chakrabaty* 447 US 303, at 309, 100 S. Ct 2207 at 2207, 206 USPQ 193 (1980).

Although continental legislators clearly had in mind only inventions in the field of inanimate techniques (in German: *tote Technik*) when drafting first generation Acts, the majority of the Belgian, German and Dutch legal doctrines dismissed the objection that inventions relating to living materials are not patentable.⁵⁶

This indirect opposition to the general position of the law continued, albeit with little progress. A major development was achieved in 1961, when western European countries, notably France, Belgium and Germany established a union for the convention of new plant varieties through what came to be known as the Convention on the Protection of New Varieties of Plants, better known by its French acronym UPOV.

6.4 The Pinch of IPR to Farmers

The pinch of these ‘intruding rights’ is not only felt in developing countries but also in industrialised and other developed countries. The Canadian case of *Monsanto v Percy Schmeise* provides a good illustration.⁵⁷ In this case, the court issued an injunction restraining a traditional farmer from planting seed retained from the plaintiff’s canola crops. The prohibition extended to:

... any seed saved from plants which are known or ought to be known to be Roundup tolerant, and from selling or otherwise depriving the plaintiffs of their exclusive right to use plants which the defendants know or ought to know are Roundup tolerant, or using the seeds from such plants.⁵⁸

As if the legal barriers are not enough, increasing conflicts of interest have led to the development of the ‘terminator technology’. This technology prevents farmers from harvesting seeds from crops they have grown using genetically engineered seeds, thereby forcing them to buy more of the original seed each planting season. According to Kieff:

... [t]erminator technology can also be thought of as the agricultural equivalent of copy protection technology in the software industry. Such terminator and copy protection technologies are each a form of self-help that can be used as an alternative to legal protection in a way that is likely to be more costly than legal protection.⁵⁹

In a world where many people, especially in developing countries, are starving, it is imperative to rethink IPR regimes, which on the face of it do more harm than good to the poor farmers and the environment.⁶⁰

56 Overwalle (1999:143).

57 *Monsanto v Percy Schmeise* [2001] F.C. 256; available at <http://decisions.fct-Cf.gc.ca/fct/2001/2001fct256.html>; last accessed 15 November 2010.

58 *Ibid.*

59 Kieff (2002:317).

60 Surely, genetic resources should not be put on the same scale as computer software. Even though we may romanticise the magic of biotechnology, the truth still remains that mankind cannot make genes. Our ingenuity is limited to the level of using DNA methods to ‘improve’ characteristics.

7 African Approach

Although many African countries retain colonial elements in their laws, making them almost wholly Western, the concept of community rights is not alien to the African legal regime. In 1980, an African anthropologist and human rights activist, Asmaron Legesse, deliberated on how the Universal Declaration of Human Rights (UDHR) would have looked like if drafted by Africans.⁶¹ According to Legesse:

If Africans were the sole authors of the Universal Declaration of Human Rights, they might have ranked the rights of communities above those of individuals, and they might have used a cultural idiom fundamentally different from the language in which the ideas are now formulated.⁶²

Two years later, this contention is proved by the African Charter on Human and Peoples Rights (Banjul Charter), which fully recognises group rights.⁶³ Indeed not all human rights scholars are fully content with the approach adopted by the Banjul Charter, and its formal recognition of group or community rights. It is imperative to note that group rights are not a one-size-fits-all concept. To understand the parameters of group rights, McCamant advises that the concept:

... works best where there exist clearly defined ethnic communities who carry on life separate from the wider society. These groups exist most prominently in areas where large scale production and trade have not yet brought about economic integration.⁶⁴

We now turn to specific agreements that seek to protect TK of communities in Africa.

7.1 The OAU Model Legislation on the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources

The Organisation of African Unity (OAU) Model Legislation on the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources (OAU model law), was endorsed by Heads of State of the Organisation of African Unity (now African Union/AU) in July 1998.⁶⁵ The law underscores the value of traditional knowledge for biodiversity conservation and food security on the continent and the potential effects of IPRs in agriculture. Article 9 of this law provides explicitly that:

(1) Patents over life forms and biological processes are not recognised and cannot be applied for. (2) The collector (of GRs) shall, therefore, not apply for patents over life forms and biological processes under this legislation or under any other legislation relevant to the regulation of access and use of a biological resource, community innovation, practice,

61 As we know, the UDHR was negotiated and adopted while the entire African continent was under colonial domination.

62 Legesse (1980:52).

63 Howard (1986).

64 McCamant (1981:542).

65 OAU/AU (1998).

knowledge and technology, and the protection of rights therein.⁶⁶

While scholars continue to debate whether or not such prohibition is in conformity with the TRIPS Agreement, it is submitted that the issue here should be to try to relieve farmers of the burden created by IPR which by and large steal from their reserve without any compensation. The African Model law may seem too radical and against biotechnological inventions but still there should be ways to strike a balance. When it comes to PGRFA, the human right to food should override recouping R&D expenses, as it is often times contended. It is proposed that the concept of farmers' rights be taken seriously for the benefit of not only farmers but also as a stimulant for protection of landraces.

7.2 The Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore

It was a commendable initiative to protect TK in Africa by a diplomatic conference, convened at the coastal Namibian town of Swakopmund, with the Protocol on the Protection of Traditional Knowledge and Expressions of Folklore within the Framework of the African Regional Intellectual Property Organisation (ARIPO).⁶⁷

The Protocol recognises:

... the intrinsic value of traditional knowledge, traditional cultures and folklore, including their social, cultural, spiritual, economic, intellectual, scientific, ecological, agricultural, medical, technological, commercial and educational value.⁶⁸

It defines traditional knowledge as:

... any knowledge originating from a local or traditional community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, where the knowledge is embodied in the traditional lifestyle of a community, or contained in the codified knowledge systems passed on from one generation to another.⁶⁹

While the protocol recognises the holistic approach to life as perceived by indigenous and local communities as discussed above⁷⁰ and considers communities as holders of TK, it commits a greatly errs by entitling individuals within such communities with "ownership" of TK. Section 6 provides:

The owners of the rights shall be the holders of traditional knowledge, namely the local and traditional communities, and recognised individuals within such communities, who create, preserve and transmit knowledge in a traditional and intergenerational context in

66 Ibid: see Article 9.

67 ARIPO (2010).

68 Ibid: see preamble.

69 Ibid: see Article 2.1 (ix).

70 Article 1.2 provides "This Protocol shall not be interpreted as limiting or tending to define the very diverse holistic conceptions of: (a) traditional knowledge; or (b) cultural and artistic expressions, in the traditional context".

accordance with the provisions of Section 4.⁷¹

Debates are raging around the incompatibility of individual rights within local and indigenous communities. In Australia, an Aborigine artist is reported to have told a court of law:

As an artist, while I may own copyright under Western law, under Aboriginal law, I must not use an image or story in such a way as to undermine the rights of all the other Yolngu.⁷²

There are many instances, however, where Western-oriented laws introduce individual rights in indigenous communities in order to ‘modernise’ them and the aftermath has more often than not been catastrophic, demonstrated for instance by the results of the introduction of individual land rights in pastoralist lands in Kenya.⁷³ It is advised therefore that this particular aspect of TK protection be taken seriously to avoid importing problems, which were the reason for the slow-paced investigation for alternative methods of protection in the first place.

8 The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefit Arising from their Utilisation: Too Little, Too Late?

Shortly after the publication of the first edition of this book, the 10th Conference of the Parties (CoP) to the convention on biological diversity (CBD) meeting in the city of Nagoya, Japan, adopted the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefit Arising from their Utilisation. The Protocol, though yet to come into force, has awakened a sense of hope and enthusiasm among civil society activists and communities. As a brief update to the previous edition of this chapter, this section explores the main sections of the protocol and asks whether, coming 17 years after the coming into force of the Convention on Biological Diversity, the protocol is not too little, too late.

8.1 Overview of the Protocol

The objective of the Protocol is a verbatim repeat of the third objective of the CBD, namely “conservation of biological diversity and the sustainable use of its components.”⁷⁴ With regard to access, the Protocol requires provider states to provide for “legal certainty, clarity and transparency” as well as “fair and non-arbitrary rules and procedures” on access to genetic resources. On Benefit Sharing, the Protocol obliges member states to take legislative, administrative, or policy measures to ensure that benefits arising from the utilisation of genetic resources as well as subsequent application and commercialisation are shared fairly and equitably with the providing party⁷⁵.

71 Ibid.

72 *Milpururru and Others v Indofurn Pty Ltd and Others* [1996] AUIndigLawRpr 20. For a commentary on the case see Blakeney (1995).

73 Rutten (1992).

74 Nagoya Protocol 2010: Art. 1.

75 Ibid Art. 5.1 and 5.5.

8.2 Does the Protocol Make a Difference?

When it comes to local and indigenous communities who are custodians of traditional knowledge and associated genetic resources, the Protocol does not seem to make any difference. It retains the same powers of governments to designate „competent authorities“ and generally assert their „sovereignty to natural resources“ as provided by the CBD.

8.3 Too Little, Too Late?

As this paper has shown, many cases of biopiracy have already taken place in Africa. The Protocol, although it contains commendable provisions for ABS, does not address cases prior to its coming into force. It remains to be seen whether by addressing the future, the past is capable of taking care of itself.

9 The Need for a Paradigm Shift

For Africa to effectively protect TK, it must not only put local and indigenous communities at the centre, but also tap into their know-how to enhance conservation. However, most African legal dispensations for conservation of natural resources lack this essential component for modern conservation. The origin of these laws and policies, which exclude people from nature in the context of conservation, can be traced back to colonial times.⁷⁶ Due to this ‘colonial hangover effect’, many if not most policy makers in Africa and other developing countries take the conservation of biological resources to be synonymous with the eviction of local communities from such lands. Although it is undeniable that human activities contribute greatly to the destruction of the environment and ecosystems, not all human activities are incompatible with conservation. Sometimes, de-linking the human-nature interaction is detrimental to ecosystems and the environment at large.⁷⁷ Many are the times also that those entrusted with the task of conservation turn out to be the reason for inefficiency much to the dismay of local communities. A Maasai elder, evicted by the government of Tanzania from the Ngorongoro crater, summarises such dismay:

I was born in Engitati in Ngorongoro Crater where I spent my youth. I remember the rhino. They were so many. They outnumbered the buffalo. They were everywhere. We rarely killed the rhino and when we did it was because they threatened us in some way. We have lived in the Crater together with wild animals, listening to the lions roar. Then we were moved to where we are now. When I look at the Crater I feel a dead sadness. Once control of the Crater was given to someone else, the rhinos started to disappear. Now they have almost gone. Is this what they call conservation?⁷⁸

When it comes to farmers, eviction is less common but there are no deliberate efforts to support their inventiveness as already discussed above. Our intellectual property laws reward inventors, breeders and other entrepreneurs, while punishing the local peasant with frequent change of policies and skyrocketing prices of agricultural produce.

76 Kameri-Mbote (2004).

77 Sharma (2000:32).

78 Majamba (2006:8).

A paradigm shift is necessary among policy makers in Africa to understand the important attachment that local communities have to their lands as well as the value of traditional knowledge in agriculture and associated genetic resources, including landraces. The argument that was advanced here is that government authorities should avoid implementing policies which destroy communal structures.

10 Concluding Remarks

Law is more than just rules written on a piece of paper, and/or debated by legislative authorities, parliaments or international organisations. Using aspects of customary law to protect TK/TCEs will make such laws more meaningful to indigenous and local communities. Customary law is an aggregate of culture, history and spirituality of the local and indigenous communities. Without such recognition, it is doubtful if current initiatives to protect TK/TCEs will ever be successful. The old adage ‘the magic of ownership turns sand into gold’ is especially true if applied to communal ownership of traditional knowledge and associated genetic resources in Africa.

CHAPTER 16

HUMAN RIGHTS AND THE ENVIRONMENT

Oliver C. Ruppel

1 Introduction

Modern human rights law is commonly considered to have its roots in the 1945 Charter of the United Nations (UN), whereas environmental concerns started to move to the centre of international activities with the UN Conference on the Human Environment held in Stockholm in 1972.¹ More than 30 African countries² participated at this conference and committed themselves – at least to some extent – to the recognition and promotion of environmental concerns on the international level.³ At the conference, the then Indian Prime Minister Indira Gandhi stated this:

We do not want to impoverish the environment any further, but we cannot forget the grim of poverty of large numbers of people. When they themselves feel deprived how can we urge the preservation of animals? How can we speak to those who live [...] in slums about keeping our oceans, rivers and the air clean when their own lives are contaminated at the source? Environment cannot be improved in conditions of poverty.⁴

Colonialism, apartheid and the unequal distribution of resources have curbed human rights and challenged progress in Namibia for a long time. Today, over 20 years after Independence⁵ and the promulgation of the Constitution of the Republic of Namibia,⁶ the country still faces challenges that impede, *inter alia*, the explicit recognition of environmental (human) rights. The adoption of a human rights framework and culture in terms of the Namibian Constitution of 1990 has, without doubt, been a positive attribute of the country since it gained independence. The Constitution serves as the fundamental and supreme law, and the Namibian Government is subordinate to it.⁷ The Constitution also established a new regime relating to natural resources in the country.⁸ Regardless of the aforementioned, the legal milieu in support of environmental human rights is still far from perfect.

In its first part, this Chapter examines the categorisation and concept of human rights in

1 The following passages were largely taken from Ruppel (2010i).

2 Some 113 states were invited, in accordance with UN General Assembly Resolution 2850 (XXVI). The following African states took part in the Conference: Algeria, Botswana, Burundi, Cameroon, Central African Republic, Chad, Congo, Egypt, Ethiopia, Gabon, Ghana, Guinea, Ivory Coast, Kenya, Lesotho, Liberia, Libyan Arab Republic, Madagascar, Malawi, Mauritania, Mauritius, Morocco, Niger, Nigeria, Senegal, South Africa, Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Zaire, and Zambia.

3 It should be noted that the Stockholm Declaration is legally only a non-mandatory document.

4 Quoted in Anand (1980:10).

5 Namibia became independent on 21 March 1990.

6 No. 1 of 1990.

7 Naldi (1995:15–19).

8 Carpenter (1991:56–57).

general, and then views the Namibian constitutional dispensation in the light of environmental concerns. The Chapter intends to establish whether, and to what extent, environmental human rights are explicitly or implicitly recognised in Namibia. At the same time this Chapter aims to show how human rights and the environment are interrelated and actually indivisible.

2 Human Rights Categories

The categorisation of human rights into generations has not been without criticism;⁹ and it must be admitted that the attempt to relegate human rights into categories, be it into generations or other classifications, always bears the risk of not being capable of determining exactly which rights belong to which category. This is inherent in the very nature of human rights in general, as human rights are universal, inalienable, indivisible, interrelated and interdependent.¹⁰

The categorisation of human rights into three generations goes back to the first Secretary-General of the International Institute for Human Rights in Strasbourg, the Czech-French lawyer Karel Vasak. As early as 1977, he divided human rights into three generations. *First-generation* human rights refer to traditional civil and political liberties that are considered important in Western liberal democracies, such as freedom of speech, of religion, and of the press, as well as a right of the individual to bodily inviolability, i.e. an obligation of non-interference against individuals by the state.¹¹ These rights are the classical human rights, as contained in Chapter 3 of the Namibian Constitution. For many years, the dominant position was that only these were genuine human rights.¹²

Second-generation rights are economic, social and cultural rights. These have generally been considered as requiring affirmative government action for their realisation. Second-generation rights are often seen to be group rights or collective rights, as they pertain to the well-being of groups, social formations, even whole societies. They contrast with first-generation rights - perceived as individual entitlements or prerogatives of individuals - as they refer to rights held, ascribed to and exercised by people collectively or by specific subgroups. Examples of second-generation rights include the right to education, work, social security, food, self-determination, and an adequate standard of living. These rights are codified in the International Covenant on Economic, Social and Cultural Rights (ICESCR),¹³ and also in Articles 23–29 of the Universal Declaration of Human Rights.¹⁴ Writers reluctant to recognise second-generation rights as human rights have often based their argument on the assumption

9 Scheinin (2009:25).

10 These important characteristics of human rights were formulated and reaffirmed by the World Conference on Human Rights held in Vienna in 1993, and are laid down in Section I(5) of the Vienna Declaration and Programme of Action. See [http://www.unhchr.ch/huridocda/huridoca.nsf/\(symbol\)/A.CONF.157.23.En?OpenDocument](http://www.unhchr.ch/huridocda/huridoca.nsf/(symbol)/A.CONF.157.23.En?OpenDocument); last accessed 25 November 2009.

11 Vasak (1977).

12 Steiner *et al.* (2008).

13 1966 United Nations International Covenant on Economic, Social and Cultural Rights; see www.unhchr.ch/html/menu3/b/a_ceschr.htm; last accessed 29 December 2009.

14 1948 United Nations Universal Declaration of Human Rights; see <http://www.unhchr.ch/udhr/lang/eng.htm>; last accessed 29 December 2009.

that courts are unable to enforce affirmative duties on states and that, therefore, such rights are merely aspirational. Similarly, critics have opined that, regardless of the political system or level of economic development, all states are able to comply with civil and political rights, but not all states have the means to provide the financial and technical resources for the realisation of affirmative obligations such as education and an adequate standard of living.¹⁵

*Third-generation*¹⁶ or *solidarity rights* are the most recently recognised category of human rights.¹⁷ This group has been distinguished from the other two categories of human rights as their realisation is predicated not only upon both the affirmative and negative duties of the state, but also upon the behaviour of each individual. Rights in this category include self-determination as well as a host of normative expressions; their status as human rights is still controversial. Third-generation rights include the right to development, the right to peace, and so-called environmental human rights.¹⁸ Actually, and strictly speaking, environmental human rights do not really fit into any one particular category or generation of human rights. More generally, third generation rights can be viewed from different angles, somehow touching on all of the above-mentioned generations of rights. One could argue, for instance, that it should be possible to give individuals and groups access to environmental information, judicial remedies, and political participation through existing civil and political rights.¹⁹ In this context, environmental rights should be seen as empowerment rights that grant participation in environmental decision-making, compelling governments to meet minimum standards of protecting life and property from environmental hazards. This anthropocentric approach²⁰ focuses on harmful environmental effects on individuals rather than on the environment, thus leading to a ‘greening’ of human rights law. Another possibility for dealing with environmental human rights would be to treat an intact and healthy environment as an economic, social or cultural right, comparable to those codified in the ICESCR. This approach values the environment as a good in its own right, one that is vulnerable and at the same time linked to development. Like (other) economic, social and cultural rights, environmental rights are still largely of an aspirational nature and in many cases enforceable only through the relatively weak international supervisory mechanisms.

The fact that environmental human rights are usually not expressly recognised by the 1966 Conventions²¹ means that their status and content is often still seen to be contentious.²²

15 On the classification of human rights, see Parker (2002).

16 See Ruppel (2008a:101ff.).

17 Recent reference has been made to so-called fourth-generation human rights or *communication rights*, which are concerned with human rights in the information society.

18 Vasak (1977).

19 1966 United Nations International Covenant on Civil and Political Rights; see <http://untreaty.un.org/cod/avl/ha/iccpr/iccpr.html>; last accessed 29 December 2009.

20 Also a human-centred approach, as opposed to an ecocentric approach that is focused on the environment, or a theocultural approach that is focused on religion, philosophy and culture. See Theron (1997:23–44).

21 Both the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR) were adopted by the United Nations General Assembly on 16 December 1966.

22 Scheinin (2009:25).

Environmental human rights – for the purpose of this Chapter and, more importantly, for their improved recognition and application in Namibia – should not be seen in isolation from other human rights. They are Janus-faced, embracing simultaneously morality and the law. They are constructions rather than moral truths to be discovered and, as such, have an inherently juridical character, which entails an orientation towards a positive conceptualisation.²³

3 **Constitutionality of Environmental Human Rights?**

Many national constitutions cover environmental protection and establish it as a constitutional objective, an individual right, or both. These include Brazil, Ecuador, Kenya, Peru, the Philippines, South Africa, and South Korea. Among Council of Europe member countries, the constitutions of Belgium, Hungary, Norway, Poland, Portugal, Slovakia, Slovenia, Spain and Turkey acknowledge a fundamental individual right to environmental protection, while those of Austria, Finland, France, Germany, Greece, the Netherlands, Sweden and Switzerland enshrine environmental protection as a constitutional objective. In southern Africa, it can be observed that, during the past few decades, states have placed a strong emphasis on including environmental provisions in their respective legal frameworks. While some constitutions explicitly recognise the existence of such right within their respective Bills of Rights,²⁴ others include environmental concerns in the principles of state policy²⁵ rather than formulating a human right to environment as a fundamental human right.

When the Namibian Constitution came into force, it was lauded as a model for Africa because of its drafting process and content. The Constitution as adopted by the Constituent Assembly came into force on the date of Independence, namely 21 March 1990.²⁶ The Constitution can be considered to be among the most liberal and democratic in the world. It enjoys hierarchical primacy amongst the sources of law by virtue of its Article 1(6). It is thematically organised into 21 Chapters that contain 148 Articles relating to the Chapter title. Together, they organise the state and outline the rights and freedoms of the Namibian people.²⁷

The Namibian Constitution is special in several ways. Firstly, it was developed largely under the eyes and with the assistance of the international community. This is closely related to the fact that Namibia's decolonisation process was strongly supported by the implementation of UN Resolution 435. Secondly, the Namibian Constitution was certainly an experiment in southern Africa in putting an end to racial discrimination and apartheid.²⁸ Namibia has not totally relinquished its South African legal legacy and Article 140 provides for legal continuity, stating that all existing laws prior to Independence are to remain in force until repealed by Parliament. This does not only mean that Roman–Dutch law continues to be the ordinary law

23 Mushkat (2009:119ff.).

24 One example of a human right to environment codified on the national level is Article 24 of the 1996 Constitution of the Republic of South Africa.

25 Such as Article 95 of the Namibian Constitution on the promotion of the welfare of the people in the Chapter entitled "Principles of State Policy".

26 Article 130.

27 Bukurura (2002:57).

28 Watz (2004:21).

of the land, but also that Namibia has a considerable amount of pre-Independence legislation, of which some certainly needs renewal.

The constitutional rights relevant to environmental human rights will be analysed in several steps. Since the Namibian Constitution does not provide explicitly for entrenched and enforceable environmental human rights, it has to be determined whether (and to what extent) these rights are covered by the Constitution's fundamental rights and freedoms, or whether the respective rights form part of it in other Sections, e.g. as principles of state policy. Arguable, the fundamental rights and freedoms – to life, human dignity and equality – reinforce claims that people may have to an environment of a certain quality, even if positive obligations on the part of the state are not imposed *per se*. International aspects of environmental human rights applicable in Namibia, e.g. via Article 144 of the Constitution, will also be outlined below.

3.1 The Preamble

The preamble of a constitution is an important tool for the interpretation of such document, because it reflects the general spirit of the drafters.²⁹ The Namibian Constitution makes no clear reference to the environment in its Preamble. However, it explicitly recognises that “the inherent dignity” and “the equal and inalienable rights of all members of the human family is indispensable for freedom, justice and peace”. The reference to *inalienable rights* leads immediately to Chapter 3 and Article 5 therein. It states that

[t]he fundamental rights and freedoms enshrined in this Chapter shall be respected and upheld by the Executive, Legislature and Judiciary and all organs of the Government and its agencies and, where applicable to them, by all natural and legal persons in Namibia, and shall be enforceable by the Courts in the manner hereinafter prescribed.

The 1996 South African Constitution aims to “... establish a society based on democratic values, social justice and fundamental human rights...”³⁰.

Here, the reference to “fundamental human rights” also opens the way for Chapter 2 of the 1996 South African Constitution, namely the Bill of Rights, and therein to Section 24.³¹ The 1996 South African Constitution makes it very clear from the outset that not only the Bill of Rights but also the environmental rights in Section 24 thereof apply to all laws in the country, and is obligatory for all the organs of the state. However, Section 24 jurisprudence in South Africa has not always been applauded when it comes to understanding the nature of

29 Ibid. He further quotes Hartmut Ruppel, Namibia's first Attorney-General after Independence, and the Chairman of the Standing Committee on the issue, that the content of the Preamble was critically debated at the time. Some members raised the question whether the Preamble had been influenced predominantly by Western values.

30 Preamble of the 1996 South African Constitution.

31 Section 24 reads as follows: “Everyone has right (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”

such right and how it operates vis-à-vis other rights.³² In the case of *HTF Developers (Pty) Ltd v Minister of Environmental Affairs and Tourism and Others*,³³ for example, the court held that Section 24(b) was akin to a directive principle and was “aspirational in form”. The aforementioned view of the court is, however, incorrect.³⁴ Firstly, the rights in the Bill of Rights are justiciable rights, which can be distinguished from directive principles in two ways: While fundamental rights may either prohibit the state from doing something or may place a positive obligation on the state, directive principles are simply affirmative instructions to the state. While fundamental principles are legally binding, directive principles are not. Secondly, Section 24(b) is clearly not aspirational in nature. The mandate stemming from Section 24(b) “falls within the realm of real expectations”.³⁵

3.2 Fundamental Rights and Freedoms

Chapter 3 of the Namibian Constitution outlines 16 fundamental rights and freedoms, reflecting the values and spirit of the independent Namibian nation. The Constitution excels in being a document that guarantees human rights by comprehensive coverage and provisions set out in clear language. Human rights are justiciable as their protection can be secured through the courts.³⁶ This gives citizens the right to take executive agencies to court, and the judiciary reigns as the authority to adjudicate such matters. The set of enforceable fundamental human rights and freedoms are to be respected and upheld by the Executive, the Legislative and the Judiciary, all organs of government, its agencies, and, where applicable, by all natural and legal persons in Namibia.³⁷ Apart from the right to culture (Article 19) and the right to education (Article 20), Chapter 3 does not contain any typical socio-economic rights – such as rights to housing, water or access to health services.³⁸ Instead, such socio-economic considerations are addressed elsewhere in the Constitution, especially in the Principles of State Policy.³⁹

Chapter 11 contains Principles of State Policy that cannot be categorised as constitutional rights in the strictest sense.⁴⁰ Article 95(l) compels state organs to be directed by the environmental principle of state policy.⁴¹ Article 95 stipulates that

[t]he State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:...

(l) maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; ...

32 Ferris (2009:132).

33 2006 (5) SA 512 (T).

34 This is in accordance with Ferris (2009:132).

35 Ibid.

36 Bukurura (2002:21).

37 Article 5.

38 See Erasmus (1991:13).

39 Watz (2004:75).

40 Naldi (1995:99).

41 Hinz (2001:77).

Article 101 states that the Principles of State Policy are not legally enforceable, but merely serve as societal goals in making and applying laws to give effect to the fundamental objectives of the different principles. The principles must also be employed in the interpretation of Namibian law and guide the state in its decision-making processes.⁴² Constitutional Principles of State Policy serve as a stimulus for new initiatives or endeavours – especially where existing policy, law or programmes seem inadequate to attain the principles’ objectives.⁴³ The principles must similarly be employed as direction indicators in setting government priorities. Also, the judiciary should apply the Principles of State Policy in constitutional interpretation and use them to fill gaps in the legislative framework when and where necessary. These generic features of constitutional principles of state policy arguably also apply to the environmental principle of state policy in the Constitution of Namibia. The language used in Article 95 indicates that the fulfilment of the Principles of State Policy requires positive action on the part of government, i.e. “[t]he State *shall* ... promote and maintain” [emphasis added]. At first sight, this creates the impression that such state principles create enforceable obligations that must be fulfilled.⁴⁴ Although this is not the case in Namibia, the state is expected to promote and maintain the welfare of the people by adopting policies aimed at maintenance.⁴⁵ The following Section deals with those Articles in the Namibian Constitution that in one way or another are related to promoting the protection of environmental human rights and justice.

3.3 Article 6: The Right to Life

Article 6 regulates, amongst others, that “[t]he right to life shall be respected and protected.” It is clear that human life depends strongly on the state of the environment, including water, air, natural resources, plant and animal life. Environmental degradation threatens people’s lives and livelihoods. The right to life is the most basic human right: a person can exercise no other right unless this most primary of rights is adequately protected. As such, the right to life is one that should be interpreted narrowly and this arguably requires the state to adopt positive measures. Presenting compelling facts, however, is critical for an individual to successfully present a case. Obviously, the most compelling cases involve environmental harm that is likely to cause death in the short term.⁴⁶

3.4 Article 8: Respect for Human Dignity

Article 8 of the Namibian Constitution states that:

- (1) The dignity of all persons shall be inviolable.
- (2) (a) In any judicial proceedings or in other proceedings before any organ of the State, and during the enforcement of a penalty, respect for human dignity shall be guaranteed.

42 Watz (2004:186).

43 Du Plessis (2008:177–179).

44 Ibid.

45 Ibid.

46 Herz (2008:173–281).

(b) No persons shall be subject to torture or to cruel, inhuman or degrading treatment or punishment.

Dignity has to be read in conjunction with other fundamental rights set out in the Constitution, such as the right to equality and to non-discrimination (Article 10). The dignity of a person is inseparably linked to environmental human rights, as a person's health, well-being and respect-worthiness are subject to environmental human rights, as e.g. access to clean and sufficient water, sanitation services, and waste disposal are aspects relevant to human dignity.⁴⁷ In 2002, the UN Committee on Economic, Social and Cultural Rights concluded that there was a human right to water embedded in Article 11 of the ICESCR, which defined the right to livelihood as including adequate food, clothing and housing. The General Comment on the right to water was adopted by this Committee in 2002, so the 145 countries that ratified the Covenant agree that the human right to water entitles everyone to sufficient, affordable, physically accessible, safe water acceptable for personal and domestic use, and that they are required to develop mechanisms to ensure that this goal is realised.⁴⁸ The Committee recognised that –⁴⁹

... the right to water clearly falls within the category of guarantees essential for securing an adequate standard of living, particularly since it is one of the most fundamental conditions for survival.

The 1979 Convention on the Elimination of all Forms of Discrimination against Women⁵⁰ and the 1989 Convention on the Rights of the Child⁵¹ have already identified access to water as a human right. By becoming party to these agreements, the Republic of Namibia has committed itself to protect and realise the rights of women and children to water. Namibia thus agreed to hold itself accountable before the international community for the fulfilment of its obligations in the framework of the aforementioned conventions. A right to water as an individual prerogative for all (not only for women and children), was adopted in the Sixty-fourth UN General Assembly Plenary held on 28 July 2010.⁵² The UN adopted (by a vote of 122 in favour to none against, with 41 abstentions) a resolution calling on states and international organisations to provide financial resources, build capacity and transfer technology, particularly to developing countries, in scaling up efforts to provide safe, clean, accessible and affordable drinking water and sanitation for all. Through this text on the human right to water and sanitation, the Assembly expressed deep concern that some 884 million people were without access to safe drinking water and more than 2.6 billion lacked access to basic sanitation. Bearing in mind the commitment to fully achieve the Millennium Development Goals,⁵³ it expressed alarm that 1.5 million children under five years old died

47 WHO (2003:18ff.).

48 See http://www2.ohchr.org/english/issues/water/docs/CESCR_GC_15.pdf; last accessed 8 January 2010.

49 Ibid.

50 GA Res. 34/180, 18 December 1979, Article 14(2)h.

51 GA Res. 44/25, 20 November 1989, Article 24(2)c.

52 GA 10967.

53 In September 2000, building upon a decade of major United Nations conferences and summits, world leaders came together at United Nations Headquarters in New York to adopt the United Nations Millennium Declaration,

each year as a result of water- and sanitation-related diseases, acknowledging that safe, clean drinking water and sanitation were integral to the realisation of all human rights.⁵⁴

In the recent 2011 judgement of *Matsipane Mosetlhanyane and Others v the Attorney General of Botswana*⁵⁵ the Botswana Court of Appeal overturned a decision of the High Court that prohibited the Kalahari Bushman from sinking boreholes in the Central Kalahari Game Reserve necessary to sustain their livelihood. The ruling interestingly draws a balance between the interests of nature conservation with those of indigenous people's water rights. The court in its judgement *inter alia* made reference "to the United Nations Committee on Economic, Social and Cultural Rights, which on 20 January 2003 submitted a report on what it termed Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights. In its introduction it stated the following:-

1. Water is a limited natural resource and a public good fundamental for life and health. The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realisation of other human rights...

In paragraph 16 (d) of its report the Committee said the following:-

16. Whereas the right to water applies to everyone, States Parties should give special attention to those individuals and groups who have traditionally faced difficulties in exercising this right, including women, children, minority groups indigenous peoples, refugees, asylum seekers, internally displaced persons, migrant workers, prisoners and detainees. In particular, States Parties should take steps to ensure that:
 - (d) Indigenous people's access to water resources on their ancestral lands is protected from encroachment and unlawful pollution. States should provide resources for indigenous peoples to design, deliver and control their access to water.⁵⁶

In the 2009 South African case of *Lindiwe Mazibuko and Others v City of Johannesburg and Others*,⁵⁷ the Constitutional Court had to decide over an alleged violation of the right to have access to sufficient water under Section 27 of that country's Constitution. Section 27 stipulates that

- (1) Everyone has the right to have access to-
 - (a) health care services, including reproductive health care;
 - (b) sufficient food and water; and
 - (c) social security, including, if they are unable to support themselves and their dependents, appropriate social assistance.
- (2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.

committing their nations to a new global partnership to reduce extreme poverty and setting out a series of time-bound targets - with a deadline of 2015 - that have become known as the Millennium Development Goals; Cf. <http://www.un.org/millenniumgoals/bkgd.shtml>; last accessed 19 December 2010.

54 <http://www.un.org/News/Press/docs/2010/ga10967.doc.htm>; last accessed 12 November 2010.

55 Case No. CACLB-074-10, unreported judgment of the Appeal Court of Botswana dated 27 January 2011.

56 Ibid.

57 *Lindiwe Mazibuko and Others v City of Johannesburg and Others* Case CCT 39/09 [2009] ZACC 28.

Lindiwe Mazibuko and Others v City of Johannesburg and Others was the first case in which the Constitutional Court had considered the obligations imposed by the right to access sufficient water, as set out in Section 27(2) of the South African Constitution.

Under the Namibian Constitution, the right to water is not explicitly included in the fundamental rights,⁵⁸ but is an implicit component of existing fundamental human rights. Therefore, water must be available and accessible in sufficient quality and quantity for personal and domestic consumption.⁵⁹ The protection of the right to water is an essential prerequisite to the fulfilment of many other human rights.⁶⁰ Without guaranteeing access to a sufficient quantity of safe water, respect for human dignity and other human rights may be jeopardised.⁶¹ Formal recognition of the right to water means acknowledging the environmental dimension of existing human rights.⁶²

In 2002, Namibia adopted a National Water Policy that states that all Namibians have a right to access sufficient safe water for a healthy and productive life. Moreover, Sections 2 and 3 of the Water Resources Management Act⁶³ state that the state has an obligation to ensure that water resources are managed in ways consistent with fundamental principles to warrant equitable access to water by every citizen. Although Parliament approved the Water Resources Management Act, the rather out-dated Water Act⁶⁴ remains in force until the new Water Resources Management Act is promulgated.⁶⁵ The relationship between water quality regulation and human rights jurisprudence is very significant.⁶⁶

3.5 Article 10: Equality and Freedom from Discrimination

As part of the Bill of Rights under Chapter 3 of the Constitution, Article 10 provides for the following:

- (1) All persons shall be equal before the law.
- (2) No persons may be discriminated against on the grounds of sex, race, colour, ethnic origin, religion, creed or social or economic status.

The equality clause can be interpreted to strongly support the notion of environmental human rights, thus putting the state under the obligation to protect its people equally and to ensure

58 This is also reflected in the recent article by Mungunda (2011) which elaborates on “Access to water: A human right” in Namibia.

59 See Mapaire (2010a).

60 Ruppel (2008a:107).

61 Ruppel (2012c).

62 Mapaire (2010a). Through a rights-based approach, victims of water pollution and people deprived of essential water to meet their basic needs are provided with access to remedies.

63 No. 24 of 2004.

64 No. 54 of 1956.

65 The Water Act was still applied by the High Court in Windhoek in the recent case concerning the use of groundwater by the Valencia Uranium Mine; see Hinz/Ruppel (2008b:48) with further references.

66 Koonan/Khan (2010:294).

that benefits are distributed fairly that is to the greatest possible extent.⁶⁷ Human vulnerability also exacerbated by means of global warming and climate change is felt most acutely by those segments of the population who are already in vulnerable situations due to factors such as poverty, gender, age, minority status, and disability.⁶⁸ Vulnerability and impact assessments in the context of climate change largely focus on the economic sector, and tend to not take into account the former factors.⁶⁹

Since independence, the Government of Namibia has made various efforts in terms of strengthening women's and children's rights, first of all by according gender equality the status of a constitutionally guaranteed fundamental right and by subsequently passing progressive gender-based laws. Moreover, a Ministry of Gender Equality and Child Welfare was established in 2000 with the objective of ensuring the empowerment of women, men and children, and the equality between men and women as prerequisites for full participation in political, legal, social, cultural and economic development.⁷⁰

3.6 Article 15: Children's Rights

A recently conducted study on children's rights has shown that Namibia can be lauded for initiating law reform for the improvement of such rights.⁷¹ This reflects Namibia's remarkable commitment to protecting children's rights by, amongst other things, incorporating a broad variety of international legal instruments into the domestic system. Namibia is a State Party to the most relevant legal instruments on the protection of children's rights on global, regional and sub-regional level. Thus, the Convention on the Rights of the Child (CRC) explicitly states that the child has a right to "clean drinking water, taking into consideration the dangers and risks of environmental pollution".⁷² Of course, effective implementation and the entire reporting system, which are imperative for enhancing the situation of children, can only work if States Parties collaborate to improve the situation of children.⁷³ In this context there can be no doubt, that the recognition of environmental human rights is not only supportive to, but in all means in the best interest of the child. Although the Namibian Constitution does not seem to envisage the concept of the *best interest of the child* to be of paramount consideration,⁷⁴ international human rights standards must be applied accordingly.⁷⁵

67 Bilchitz (2003:1–26).

68 Ruppel (2010a,b,d).

69 Ruppel (2008g).

70 Ruppel (2008b,g; 2009a; 2010b,c,d).

71 Ruppel (2009e,f.).

72 Article 24(2)(c) CRC.

73 Ruppel (2009e:2–3).

74 Naldi (1995:79).

75 Ruppel (2009f.).

3.7 Articles 18 and 5: Administrative Justice

The Constitution deals with administrative justice in two of its Articles: 18 and 5. Article 18 requires that administrative bodies act fairly and reasonably, and that they comply with the requirements stipulated in common law and relevant legislation. This article obviously plays an eminent role in the proper implementation of administrative measures, being a means of achieving compliance with environmental laws and, thus promoting environmental human rights in Namibia. Article 5 contains the fundamental obligation enshrined in modern constitutionalism according to which the three organs of the state – including the executive – are obliged to uphold and respect the fundamental rights and freedoms set out in Chapter 3 of the Constitution. Thus, Article 5 reaches beyond Article 18: the yardsticks of Article 5 are the fundamental rights and freedoms. Article 5 requires substantial compliance by confronting administrative actions and the law authorising such actions with the comprehensive catalogue of human rights. The placement of Article 5, as an integral part of Chapter 3’s fundamental freedoms, expresses – in line with what follows later, namely in Article 21(1) and Article 22 – that the fundamental rights and freedoms are invested with real constitutional and legal weight.⁷⁶

3.8 Article 19: The Right to Culture

With Article 19 the right to culture is guaranteed under the Bill of Rights in the Constitution, as well as in Article 15(1)(a) of the International Covenant on Economic, Social and Cultural Rights (ICESCR). In terms of these two legal obligations, the government is required to take legislative and administrative action to ensure the fulfilment of these rights. Although Chapter 3 is not primarily aimed at protecting economic, cultural and social rights (such as those of Article 19), it is important to remember that Article 5 makes those listed within Chapter 3 legally enforceable. From this arose the right to profess, maintain and promote a language in the case of *Government of the Republic of Namibia v Cultura 2000*.⁷⁷ Cultural diversity is also closely linked to ecological biodiversity.⁷⁸ The collective knowledge of biodiversity, its use and its management rests in *cultural diversity*, and can, therefore, also be regarded as an (indigenous) environmental human right.⁷⁹

The right to tradition also falls under Article 19, which seeks to ensure that the traditions and way of life of the different indigenous groups⁸⁰ comprising Namibia’s society are protected. Article 19 is in line with Article 17(3) of the Banjul Charter, which proclaims that the state has the duty to protect traditional values.⁸¹ Traditional knowledge, without doubt, is such a value. So far, Namibian courts have been reluctant to consider the right to culture as a means of

76 Hinz (2009:81–89).

77 1994 (1) SA 407 (NmS).

78 See in detail Hinz/Ruppel (2008b).

79 Ibid:57.

80 Indigenous groups can be defined as “originating in and characteristic of a particular region or country; native; (...) e.g. the indigenous peoples of southern Africa.” See <http://dictionary.reference.com/browse/indigenous>; last accessed 19 December 2010.

81 Naldi (1995:97).

protecting traditional knowledge. In a case decided by a Magistrate's Court,⁸² the harvesting of almost 400 kg of hoodia was at issue. *Hoodia gordonii*, a cactus-like plant native to the Namib Desert, is widely believed to be an appetite suppressant, used by some traditional (indigenous) communities.⁸³ All hoodia species are protected under the Convention on the Illegal Trade of Endangered Species (CITES), to which Namibia is a signatory. Accordingly, it is listed as a protected plant under Schedule 9 of the Namibian Nature Conservation Ordinance,⁸⁴ as amended after Independence by the Nature Conservation Amendment Act.⁸⁵ Thus, according to Section 73(1) of the Ordinance, no person other than the lawful holder of a permit granted by the Executive Committee is permitted at any time to pick or transport any protected plant. The Magistrate's Court, however, discharged two suspects of the alleged theft of almost 400 kg of hoodia. In its ruling, the court held that it could not be proved that the confiscated plants were of the specific *Hoodia gordonii* species. Taking into consideration that Schedule 9 of the Ordinance lists all *Hoodia* species as protected plants, the reasoning for the ruling in this case is not clear.⁸⁶ The Ordinance deals with *in situ* and *ex situ* conservation by providing for the declaration of protected habitats as national parks and reserves, also for the protection of scheduled species. It regulates hunting and harvesting, possession of and trade in listed species for the propagation, protection, study and preservation of wild animal life, wild plant life, and objects of geological, ethnological, archaeological, historical and other scientific interest, and for the benefit and enjoyment of the inhabitants of Namibia and other persons.

Traditional knowledge is an important part of cultural identity. CITES has links to traditional knowledge (e.g. traditional medicine) and culture (folklore, artefacts), with the essential purpose and operation of the Convention noting that Appendix III provides a practical mechanism for States Parties to list specific species for specific purposes, e.g. the protection of intellectual property rights. Notwithstanding the question as to whether the protection of traditional knowledge actually lies within the logic of the intellectual property system or the human rights system, intellectual property law uses the language of economic incentive

82 The case was decided at the end of 2007 by the Mariental Magistrates' Court; cf. *Allgemeine Zeitung*, 8 January 2008.

83 Members of the San community used this plant for centuries when hunting. As hunting usually took several days, they used to eat the hoodia to still their hunger. The San name for the hoodia is *!khoba*. The events related to the hoodia plant are one of the cases dealing with bioprospecting (also described as *biopiracy*), describing the appropriation, generally by means of patents, of legal rights over indigenous biomedical knowledge without compensation to the indigenous groups who originally developed such knowledge. However, hoodia is registered in the name of the South African Council for Scientific and Industrial Research (CSIR). In 2003, after years of disputes with the CSIR, the latter concluded an agreement with the San, granting them 6% of the royalties paid to the CSIR by Phytopharm, in addition to 8% of the 'milestone income' paid by Phytopharm in case the development of the product made substantial progress. This agreement was the first of its kind, granting participation in profits to indigenous people resulting from traditional knowledge. Nonetheless, the CSIR, despite having signed the agreement with the San for good reasons, at a later stage alleged as part of proceedings before the European Patent Office that it was doubtful whether the San really did have knowledge about the effect of hoodia. See also Hoering (2004).

84 No. 4 of 1975.

85 No. 5 of 1996.

86 This corresponds with the view of Ben Beytell of the Ministry of Environment and Tourism; see article in the *Allgemeine Zeitung*, 8 January 2008.

to justify intellectual property protection. Apart from the economic value of protecting traditional knowledge, it must be protected for cultural reasons as well, as stated in Article 19 of the Constitution.

3.9 Article 25: Enforcement of Fundamental Rights and Freedoms

Article 25(2) of the Constitution provides that –

[a]ggrieved persons who claim that a fundamental right or freedom guaranteed by this Constitution has been infringed or threatened shall be entitled to approach a competent Court to enforce or protect such a right or freedom, and may approach the Ombudsman to provide them with such legal assistance or advice as they require, and the Ombudsman shall have the discretion in response thereto to provide such legal or other assistance as he or she may consider expedient.

Article 25(2) plays an important role in the constitutional framework, as it makes clear reference to the Ombudsman. Chapter 10 of the Constitution deals with the Ombudsman in more detail. In Namibia, ombudsmanship was already introduced in 1986 by the enactment of the Ombudsman of South West Africa Act.⁸⁷ After Independence in 1990, the Office of the Ombudsman was established as a constitutional Office. The legal foundations of this institution are to be found in Articles 89–94 of the Constitution. In addition to the constitutional provisions, the Ombudsman Act⁸⁸ defines and prescribes the powers, duties and functions of the Ombudsman, and provides for matters incidental thereto. The Office of the Ombudsman is intended to ensure that citizens have an avenue open to them, free of red tape, and free of political interference.⁸⁹ The Ombudsman has a relatively broad mandate and corresponding powers. According to Article 91 of the Namibian Constitution, the mandate of the Ombudsman mainly relates to four broad categories: human rights, administrative practices, corruption,⁹⁰ and the environment.⁹¹ The Ombudsman’s human rights and environmental mandates are crucial for an effective protection and realisation of environmental human rights in Namibia. For this purpose the Office, however, needs to become much more proactive, especially in view of its role as a national human rights institution.⁹²

Article 25(3) obliges the state *inter alia* to make all necessary and appropriate orders to respect and uphold fundamental rights and freedoms, including by interdict and injunction.

87 No. 26 of 1986, as amended by the Ombudsman of South West Africa Amendment Act, 1988 (No. 11 of 1988).

88 No. 7 of 1990.

89 Tjitendero (1996:10).

90 With the Namibian Constitution Second Amendment Bill, corruption is removed from the list of the functions of the Ombudsman; see http://www.parliament.gov.na/bills_documents/36_namibian_constitution_second_amendment_bill.pdf last accessed 10 January 2010. The intention behind this amendment is to avoid concurrent overlapping competences between the Office of the Ombudsman and the Anti-Corruption Commission, and to divert all corruption-related complaints to the Commission. The latter was established by the Anti-Corruption Act, 2003 (No. 8 of 2003), and inaugurated in early 2006.

91 Ruppel-Schlichting (2008).

92 Currently, the Ombudsman’s Office is heavily understaffed and underequipped in terms of financial resources, leading to a state where it is barely responsive to its aforementioned constitutional mandates. On the Ombudsman and the environment, see the chapter on the Ombudsman and the Environment in this volume.

Namibian courts have stated in the past that the Constitution requires a generous interpretation, avoiding the austerity of tabulated legalism, in order to give individuals the full measure of their rights. However, Namibian courts also adhere to the presumption of constitutionality, meaning that the onus is on the applicant to prove that a fundamental right or freedom has been infringed upon and that he/she has *locus standi* as an aggrieved person under Article 25(2). Generally speaking, the common law test for *locus standi* is that the person applying for standing either has a private right or is able to demonstrate that s/he has a special interest in the subject matter of the action before the relevant court.⁹³ The special interest does not need to involve a legal or pecuniary right, but can also be of an intellectual or emotional concern.⁹⁴

3.10 Article 95(1): The Environmental Principle of State Policy⁹⁵

Chapter 11 contains principles of state policy that cannot be categorised as constitutional rights in the strictest sense.⁹⁶ Such states Article 101 that the principles of state policy are not legally enforceable, but merely serve as societal goals in making and applying laws to give effect to the fundamental objectives of the different principles. The principles must also be employed in the interpretation of Namibian law and guide the state in its decision-making processes.⁹⁷ Article 95(1) compels state organs to be directed by the environmental principle of state policy.⁹⁸ Article 95 stipulates that –

[t]he State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:

...

(l) maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future;

Constitutional principles of state policy serve as a stimulus for new initiatives or endeavours – especially where existing policy, law or programmes seem inadequate to attain the principles' objectives.⁹⁹ The principles must similarly be employed as direction indicators in setting government priorities. Also, the judiciary should apply the principles of state policy in constitutional interpretation and use them to fill gaps in the legislative framework when and where necessary. These generic features of constitutional principles of state policy arguably also apply to the environmental principle of state policy in the Constitution of Namibia. The language used in Article 95 indicates that the fulfilment of the principles of state policy requires

93 Fisher/Kirk (1997:372).

94 In this respect, the Namibian legal set-up is quite different from many others. The 1996 South African Constitution, for example, contains a rather generous allocation of legal standing. People seeking protection for their environmental right need not prove a direct interest in proceedings in order to have *locus standi*; see Du Plessis (2008:261) with further references.

95 See Ruppel (2010i:346ff).

96 Naldi (1995:99).

97 Watz (2004:186).

98 Hinz (2001:77).

99 Du Plessis (2008:177–179).

positive action on the part of government, i.e. “[t]he State *shall* ... promote and maintain” [emphasis added]. At first sight, this creates the impression that such state principles create enforceable obligations that must be fulfilled.¹⁰⁰ Although this is not the case in Namibia,¹⁰¹ the state is expected to promote and maintain the welfare of the people by adopting policies aimed at maintenance.

3.11 Article 100: Sovereign Ownership of Natural Resources¹⁰²

The land, the water, and the natural resources below and above the land, in the continental shelf and within the territorial waters as well as within the exclusive economic zone of Namibia belong to the state in terms of the Constitution, if not otherwise lawfully owned. To this extent, the Namibian Constitution establishes sovereign state ownership of natural resources not under the control of others.¹⁰³

This seems to be in line with Principle 21 of the Stockholm Declaration:

“States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction.”¹⁰⁴

Principle 21 thus applies the principle of state sovereignty to the environmental realm providing the sovereign right of states to exploit and utilise natural resources according to their own national policies, and secondly, the obligation upon states not to cause environmental damage to other states or areas outside their national jurisdiction.

However, extensive natural exploitation of resources does not only bring benefits: it is also deemed to have destructive effects to ecosystems and habitats that support essential living resources. Mining activities therefore need to be monitored with regard to their impacts on human – and, thus, environmental – rights. In regard to the state ownership of natural resources, this entails that the state should accordingly take environmentally related responsibility with a special focus on the principle of sustainability and respect for the rights of present and future generations.¹⁰⁵ This is particularly true in the light of the global economy’s growing dependence on natural and exhaustible resources extracted in Africa.¹⁰⁶

100 Ibid.

101 Greeff – on the basis of the Caprivi Treason Trial Case (*Government of the Republic of Namibia & Others v Mwilima & All Other Accused in the Caprivi Treason Trial, 2002 NR 235 (SC)*) – attempted to assess whether the Constitution provides an enforceable and pursuable environmental right. The author of the aforementioned article rightfully admits that “the case, in its entirety, is not applicable to the subject matter at hand”. Cf. Greeff (2012:30).

102 See Ruppel (2010i:346ff).

103 Watz (2004:182–186).

104 Principle 21, Stockholm Declaration on the Human Environment 1972.

105 Ruppel (2008a:119).

106 Cf. Ruppel (2012c).

3.12 Article 144: International Law

Namibia is party to various international human rights¹⁰⁷ and environmental covenants, treaties, conventions and protocols and is, therefore, obliged to conform to their objectives and obligations. As to the application of international law, a new approach was formulated after Independence, as embodied in the Namibian Constitution. Article 144 therein provides that –

[u]nless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia.

Thus, the Constitution explicitly incorporates international law and makes it part of the law of the land. *Ab initio*, public international law is part of the law of Namibia.¹⁰⁸ No transformation or subsequent legislative act is needed.¹⁰⁹ A treaty will become binding upon Namibia in terms of Article 144 of the Constitution if the relevant international and constitutional requirements have been met.

The 1981 African (Banjul) Charter on Human and Peoples' Rights¹¹⁰ is a human rights treaty that proclaims environmental rights in broadly qualitative terms. It protects the right of peoples both to the "best attainable state of physical and mental health" (Article 16) and to a "general satisfactory environment favourable to their development" (Article 24). Article 24 of the African Charter establishes a binding human-rights-based approach to environmental protection, linking the right to environment to the right to development.¹¹¹

In the *Ogoni* case, for example, the African Commission on Human and Peoples' Rights held, *inter alia*, that Article 24 of the African Charter imposed an obligation on the state to take reasonable measures to "prevent pollution and ecological degradation, to promote conservation, and to secure ecologically sustainable development and use of natural resources".¹¹² The *Ogoni* case decided by the African Commission on Human and Peoples' Rights in 2001 and communicated to the parties in 2002 is considered to be a landmark decision with regard to the effective protection of economic, social and cultural rights in Africa, particularly the protection of the right of peoples to a satisfactory environment. The *Endorois* case¹¹³ is considered to be another landmark decision by the African Commission on Human

107 As far as can be established, Namibia has formally recognised the African Charter on Human and Peoples' Rights in accordance with Article 143 read with Article 63(2)(d) of the Constitution. Thus, the provisions of the Charter have become binding on Namibia and form part of Namibian law in accordance with Articles 143 and 144 of the Constitution. See also Viljoen (2007:549f.).

108 See Tshosa (2001:79ff.).

109 Erasmus (1991:94).

110 Hereafter African Charter.

111 Van der Linde/Louw (2003:169).

112 See Communication 155/96 available at <http://www.cesr.org/ESCR/africancommission.htm>; last accessed 13 April 2010. For further details see *The Social and Economic Rights Action Center and the Center for Economic and Social Rights v Nigeria* (27 October 2000); Coomans (2003:749–760); Ebeku (2003:149–166).

113 Communication 276/ 03 Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council/Kenya available online at <http://www.achpr.org/english/>

and Peoples' Rights. This decision delivered in November 2009, deals with the displacement of an indigenous community of approximately 60,000 people in Kenya, the Endorois, from their ancestral lands around the Lake Bogoria without proper prior consultations, adequate and effective compensation for the loss of their property, the disruption of the community's pastoral enterprise and violations of the right to practise their religion and culture, as well as the overall process of development of the Endorois people.

Article 24 of the African Charter should also be viewed together with the Bamako Convention and the first Organisation of African Unity (OAU) treaty on the environment, the Convention on the Conservation of Nature and Natural Resources, which predates the African Charter.¹¹⁴ It has to be noted that Namibia is not a signatory to the original Convention. However, Namibia has signed the Revised African Convention on the Conservation of Nature and Natural Resources. The latter was adopted by the Second Ordinary Session of the African Union (AU) Assembly of Heads of State and Government in Maputo, Mozambique, in July 2003. It has, however, not yet come into force. The Bamako Convention, which was adopted after the African Charter, was drafted in reaction to the human suffering caused by the dumping of petrochemical waste. It bans the import of waste to the continent.

The Southern African Development Community (SADC) was established in Windhoek in 1992 as the successor to the Southern African Development Coordination Conference (SADCC), which was founded in 1980. SADC's objectives include the achievement of development and economic growth; the alleviation of poverty; the enhancement of the standard and quality of life; support of the socially disadvantaged through regional integration; the evolution of common political values, systems and institutions; the promotion and defence of peace and security; and achieving the sustainable utilisation of natural resources and effective protection of the environment.¹¹⁵

It might appear that the promotion and protection of human rights is not SADC's top priority as an organisation – one that furthers socio-economic cooperation and integration as well as political and security cooperation among its 15 member states. However, the protection of human rights plays an essential role in economic development as it has an impact on the investment climate, which in turn contributes to growth, productivity and employment creation. Other SADC objectives such as the maintenance of democracy, peace, security and stability refer to human rights, as do the sustainable utilisation of natural resources and the effective protection of the environment. With the 2003 Declaration on Agriculture and Food Security, the SADC community has ascribed substantial importance to some specific objectives laid down in Article 5 of the SADC Treaty.¹¹⁶ The Declaration is of specific

Decison_Communication/Kenya/Comm.%20276-03.pdf.

114 Viljoen (2007:287ff.).

115 These are some of the SADC objectives laid down in Article 5 of the SADC Treaty.

116 Namely, the promotion of sustainable and equitable economic growth and socio-economic development to ensure poverty alleviation with the ultimate objective of its eradication; the achievement of sustainable utilisation of natural resources and effective protection of the environment; and mainstreaming of gender perspectives in the process of community- and nation-building.

importance for the human right to food, and covers a broad range of human-rights-relevant issues. The SADC Tribunal is the judicial institution within SADC.¹¹⁷

The African Charter, and AU and SADC law automatically form part of Namibian law in so far as the relevant legal instruments have been adopted by the country.¹¹⁸ Despite the absence of a justiciable environmental human right in the Namibian Constitution, government incurs environmental-rights-based duties in terms of Article 24 of the African Charter.¹¹⁹ Thus, Namibian courts are under the obligation to take judicial notice of the aforementioned international instruments as a source of national law.¹²⁰ In this context, Article 144 is an important constitutional mechanism.¹²¹

4 Concluding Remarks

Environmental human rights cannot be seen in isolation from other human rights. They are not only protected under various international conventions, but interlinked with many fundamental rights and freedoms in the Namibian Constitution. They are not only relevant under the constitutional principles of state policy but beyond. Human rights must be justiciable and their protection must be secured through the courts.¹²² This gives citizens the right to take executive agencies to court, and the judiciary reigns as the authority to adjudicate such matters. The judiciary is most essential in the protection and promotion of environmental human rights. It leads the way in interpreting relevant legislation and settles disputes arising between citizens and/or between citizens and the state. While the inclusion of environmental concerns into human rights jurisdiction is still in its infancy in African jurisprudence, relevant rulings from other courts in the world such as the European Court of Human Rights¹²³ and the Indian Supreme Court¹²⁴ may be taken as examples when it comes to the link between human rights and environmental concerns and the recognition and judicial enforcement of a human right to environment.

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- 117 For a more detailed review of the SADC Tribunal, see Ruppel (2009a,b,c; 2012a); Ruppel/Bangamwabo (2008).
 118 Ruppel (2008a:101ff.).
 119 Du Plessis (2008:193).
 120 Ibid with further references.
 121 Ruppel (2008a:108–111).
 122 Bukurura (2002:21).
 123 *TATAR v Romania* (Application No. 67021/01) Judgment 27.1.2009; *Okyay and Others* (Application No. 36220/97) Judgment 12.07.2005. *Fadeyeva v Russia* (Application No. 55723/00) Judgment 9.06.2005; *Oneryildiz v Turkey* (Application No. 48939/99) Judgment 30.11.2004; *Moreno Gómez v Spain* (Application No. 143/02) Judgment 16.11.2004; *Taskin and others v Turkey* (Application No. 46117/99) Judgment 10.11.2004; *Hatton and Others v United Kingdom* (Application No. 36022/97) Judgment 02.10.2001, see Heselhaus / Marauhn (2005:549); *Athanassoglou and Others v Switzerland* (Application No. 27644/95) Judgment 06.04.2000; *Guerra and Others v Italy* (Application No. 14967/89) Judgment 19.02.1998; *Balmer-Schafroth and Others v Switzerland* (Application No. 22110/93) Judgment 26.08.1997, Reports 1997–IV; *López Ostra v Spain* (Application No. 6798/90) Judgment 09.12.1994; *Powell and Rayner v United Kingdom* (Application No. 9310/81) Judgment 21.02.1990.
 124 One prominent example of Indian jurisdiction on environmental concerns and fundamental rights is the Delhi vehicular pollution case of *MC Mehta v Union of India* (No. 13029/1985) Judgment 28.07.1998. For further details see Rosencranz/Jackson (2003:228).

CHAPTER 17

TRADE, ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Oliver C. Ruppel

1 Introduction

Namibia is an upper-middle-income country with US\$ 4,820 per capita GDP. From 1990 to 2008 and thus prior to the global financial crisis, Namibia had experienced steady GDP growth, moderate inflation, limited public debt, and steady export earnings. Economic growth averaged 4.3% per year (in constant prices), accelerating to an average annual rate of 5.2% from 2000 to 2008. In 2009, GDP declined by 0.4%, however, output rebounded in 2010, growing at 6.6%, and has since moderated, with growth estimated at 4.4% in 2011 and projected at 4.4% in 2012.

Namibia's economy is closely linked to the economy of South Africa. The Namibia dollar is pegged to the South African rand and some common trade and investment policies make economic trends including inflation closely follow those in South Africa. After the onset of the global financial crisis, inflation fell, bottoming out at 3.1% in February 2011. Since then, the inflation rate has been rising, and during the first months of 2012 it has exceeded the 6% ceiling in the South Africa Reserve Bank's target range.¹

Several human development indicators show that Namibia has made considerable progress since independence in 1990. Within the United Nation's Development Index, for example, Namibia ranks 120 out of 185 states.² Furthermore, Namibia has made considerable progress towards the achievement of some of the Millennium Development Goals (MDGs). The goal of achieving gender parity in primary school was met in 2008, while that for secondary and tertiary education is likely to be met before 2015. Namibia also seems to be on track to achieve the MDG targets on the proportion of the population in extreme poverty. On the environment MDG, Namibia has made progress in managing biodiversity and protecting the environment. Nevertheless, Namibia is off track in meeting MDG goals on reducing infant, child and maternal mortality rates.³

1 The figures of the previous paragraphs have been taken from World Bank, Country Brief Namibia at <http://go.worldbank.org/1B6KN88H10>; last accessed 20 October 2012.

2 UNDP Human Development Report 2011; available at <http://hdrstats.undp.org/en/countries/profiles/NAM.html>; last accessed 12 October 2012.

3 http://www.mdgmonitor.org/country_progress.cfm?c=NAM&cd=516; last accessed 12 October 2012 and OECD African Economic Outlook 2012 Namibia; available at <http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/PDF/Namibia%20Full%20PDF%20Country%20Note.pdf>; last accessed 12 October 2012.

Despite the considerable progress made so far, poverty (34.9% of the population live on less than US\$1 a day⁴), the HIV/AIDS pandemic⁵, and household food insecurity are among the main problems facing Namibia⁶, just as unemployment. According to the Namibia Labour Force Survey of 2008 released in 2010 by the Ministry of Labour and Social Welfare, the unemployment rate was 51.2%.⁷ It should be noted, however that this number was based on the broad definition of unemployment. “The *broad* measure of unemployment regards all those without jobs, who are available for work and looked or did not look for work. The *strict* measure of unemployment considers those without jobs, who are available for work and are actively looking for work.” Based on the strict definition 37.8% were unemployed in 2008. According to the 2009/10 Namibia Household Income and Expenditure Survey, and as per the broad definition of unemployment, Namibia’s unemployment rate is 33.8%.⁸

2 The Trade Environment in Namibia⁹

Namibia has been a WTO member since Independence in 1990, hence the country’s trade policy is heavily influenced by membership to the WTO. Namibia is committed to a liberal trade regime.¹⁰ It is a member of the African Union (AU) African Economic Community, the Southern African Development Community (SADC)¹¹, and the Southern African Customs Union (SACU). Namibia was previously a member of the Common Market for Eastern and Southern Africa (COMESA), but withdrew on 31 May 2004.

Namibia has a stable economy, good infrastructure, mineral resources, and several well-developed economic sectors, but, for the majority of its people, Namibia remains largely an agrarian economy because nearly two-thirds of the population depend on farming. Namibia’s trade policy instruments are determined at the regional level within the context of the Southern African Customs Union (SACU). On the domestic front, in areas not covered by the SACU agreement, the Ministry of Trade and Industry has primary responsibility for formulating and implementing trade policies. Within the Ministry, foreign trade policies, including multilateral, regional, and bilateral trade relations, are the

4 See http://www.mdgmonitor.org/factsheets_00.cfm?c=NAM&cd=516#; last accessed 12 October 2012.

5 HIV prevalence in the adult population was reduced from 22% in 2003 to 19.9% in 2006 largely due to the National Awareness Campaign jointly run by the government, private sector and international agencies. The programme of public provision of antiretroviral (ART) drugs, launched in 2003, currently covers about 40,000 patients, i.e. 70% of those who could benefit from ART treatment. In addition, the tuberculosis and malaria prevalence in Namibia are (still) among the highest rates in the world.

6 According to the World Food Programme, Namibia is expected to lose about 26% of its agricultural labour force through AIDS during 1985-2020 (WFP online information. Available at http://one.wfp.org/food_aid/doc/HIV_Food_Security.pdf; last accessed 12 October 2012.).

7 GRN (2008b) The Namibia Labour Force Survey has been subject to critical debate. See <http://allafrica.com/stories/20111111305.html>; accessed 14 May 2012.

8 NSA (2012:44).

9 The following passages – including footnotes 2-39 are based on the WTO document WT/TPR/S/222/NAM, available at www.wto.org/english/tratop_e/tptr_e/s222-03_e.doc; accessed 14 November 2010.

10 WTO document G/AG/NG/W/143; accessed 23 March 2001.

11 Namibia adopted the SADC Protocol on Trade on 7 August 2000 (ratified on 22 December 1998) and ratified the SADC Amendment Protocol on 4 July 2001 (signed 4 April 2001).

responsibilities of the Directorate of International Trade.¹² Other institutions of importance are the ministries of Finance (budget, expenditure/revenue measures, including tariff and macroeconomic policies); Mines and Energy; Fisheries and Marine Resources; Agriculture, Water, and Forestry; Environment and Tourism; Works and Transport; Foreign Affairs; and Information and Communication Technology; as well as the National Planning Commission in the Office of the President (development planning); Namibia Financial Institutions Supervisory Authority (NAMFISA); and the Bank of Namibia.

There is significant consultation and interaction between the public and private sectors on trade policy formulation and implementation. Private sector representatives are also usually members of committees for coordinating government activities. In this regard, the main bodies representing the private sector's views to government are the Namibia Trade Forum and its committees, the Non-Agricultural Market Access Committee (NAMA), the Agriculture Committee, the Trade in Services Committee, the Aid-For-Trade Committee, and the Fisheries and Aquaculture Committee. The NAMA group memberships include the Namibia Chamber Commerce and Industry (NCCI), the Namibia Manufacturing Association (NMA), and the Indigenous People Business Forum (IPBF); the Agriculture Trade Committee is anchored on the Agriculture Trade Forum (AFT); and the Fisheries and Aquaculture Committee covers various fishery companies and associations (...).

2.1 Trade-related Legislation (also relevant to the Environment)

Overall, the Namibian Government aims to create an appropriate and enabling business environment to facilitate meaningful development of the private sector. To this end, Namibia has been gradually removing entry barriers, and regulatory and administrative requirements (e.g. licences, permits, and registration procedures) have gradually been simplified. Several programmes administered by the Ministry of Trade and Industry provide financial and institutional support. Furthermore, various trade-related laws were enacted, revised or amended since 2000¹³:

Subject	Legislation
Agriculture	Agronomic Industry Act, 1992; Meat Industry Amendment Act, 1992; Karakul Pelts and Wool Act, 1982; Agricultural (Commercial) Land Reform Amendment Act, 2003; Stock Brands Act, 1995; Meat Corporation Act, 2001
Competition	Trade Practices Act, 1976; Merchandise Act, 1941; Competition Act (No 2), 2003; Companies Act (No 61), 1973
Economic zones	Export Processing Zones Act, 1995

¹² See WTO (2003), Annex 3, p. 162, for details on the Directorate.

¹³ Source: The WTO Secretariat; information provided by the Namibian authorities.

Subject	Legislation
Exports and imports	Customs and Excise Act, 1998; Value-Added Tax Amendment Act, 2002; Imports and Exports Control Act, 1994
Fisheries	Marine Resources Act, 2000; Regulations Relating to the Exploitation of Marine Resources, 2001
Foreign Investment	Foreign Investment Act, 1990 and 1993 amendments
Government Procurement	Tender Board of Namibia Act, 1996
Intellectual Property Rights	Copyright and Neighbouring Rights Protection Act, 1994; Patents and Design Act, 1952; Patents Act, 1978; Proclamation No. 17, 1923; Trade Marks in South West Africa Act, 1973
Mining	Minerals (Process and Mining) Act, 1990; Diamond Act, 1999; Petroleum Products and Energy Act, 1990; Petroleum Exploration and Production Act, 1991
Price control Services	Petroleum Products and Energy Act, 1999
General	Electricity Act (No. 2), 2000; Electricity Regulations: Administrative Electricity Act, 2000; Air Services Act, 1949 and 1998 amendments; Aviation Act, 1962 and 1998 amendments; Telecommunications Policy and Regulatory Framework for Namibia, 1999; Namibian Communications Commission Act (No. 4), 1992, as amended; Post and telecommunications Act (No. 19) 1992, as amended; Namibia Broadcasting Act, 1991; Road Traffic and Transport Act, 1999; Road Traffic and Transport Regulations, 2001; Road Fund Administration Act, 1999; Namibia Ports Authority Act, 1994, as amended; Airports Company Act, 1998; National Transport Services Holding Company Act, 1998; Supervisory Authority Act (No. 3), 2001; Building Societies Act, 1986 (No. 2), 1986; Accommodation Establishments and Tourism Ordinance Act (No. 20), 1973; Casinos and Gambling Houses Act, 1994; Liquor Act (No.6), 1998 (as far as it apply to accommodation establishments); National Housing Enterprise Act (No. 5), 1993; Pension Funds Act (No. 24), 1956; Electricity Act (No. 2), 2000

Subject	Legislation
Financial	Currency and Exchanges Act, 1933; Prevention of Counterfeiting and Currency Act, 1965; Bank of Namibia Act, 1997; Agriculture Bank of Namibia Act (No.13), 1994; Banking Institutions Act, 1998; Payment Systems Management Act, 2003; Financial Intelligence Act, 2007; Long-Term Insurance Act (No. 5), 1998; Public Accountants and Auditors Act (No. 51), 1951; Stock Exchanges Control Amendment Act (No. 26), 1992
Standardisation	Standards Act (No. 18), 2005

2.2 Import Practices

All imports, including agricultural commodities, must be licensed by the Ministry of Trade and Industry. In general, the licences are for statistical purposes (automatic licences). However, non-automatic licensing applies to imports of medicines, chemicals, frozen or chilled fish and meat, live animals and genetic material, controlled petroleum products, firearms and explosives, diamonds, gold, and other minerals, and all second-hand goods, such as clothing and motor vehicles. The issuance of a non-automatic licence is generally subject to a permit from the relevant ministry, for example, the Health Ministry for medicine, the Ministry of Mines and Energy for minerals, the Ministry of Agriculture, Water and Forestry for agriculture and related products, the Ministry of Fisheries for live marine organisms, the Ministry of Environment and Tourism for endangered species covered by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), etc.

The Namibian Agronomic Board controls the trade (import and export) of controlled products (Agronomic Industry Act (No. 20 of 1992), and its regulations through permits.¹⁴ Whole-grain (white) maize, wheat, pearl millet (mahangu) and their milled products are controlled crops in Namibia and subject to seasonal import restrictions under which no import licences are issued until all domestic production has been sold. For example, in 2006 no imports of white maize were permitted between 1 May and 16 October.¹⁵ Normally, the import of wheat flour into Namibia is prohibited although imports may be permitted depending on market conditions. The restriction is aimed at promoting the domestic processing industry. Yellow maize meal for animal feed may be imported into Namibia without restrictions. The export from the BLNS (Botswana, Lesotho, Namibia and Swaziland) into the SACU market of wheat flour and products processed from rebated grain is prohibited.

14 Namibian Agronomic Board online information, "Grain: Controlled Crops". Available at http://www.nab.com.na/controlled_crops.htm; accessed February 2009.

15 Namibian Agronomic Board (2007).

Prices for controlled commodities are determined by the industry, via negotiations between producers and processors, based on the South African Futures Exchange (SAFEX) and adjusted to import parity prices, mainly from South Africa. The Agronomic Board monitors pricing for statistical purposes but is not involved in the process of setting them or enforcing price structures.

To meet European Union (EU) requirements for beef exports, including the tracing of animals, re-exports of meat are prohibited. Imports of animals and animal products from outside Namibia must have veterinary import permits as required by the Animal Diseases and Parasites Act (No. 13 of 1956). Veterinary permits, usually for one importation only, are available from the Directorate of Veterinary Services in Windhoek on delivery of the completed application form and payment of an N\$50 fee. The veterinary permit includes a health certificate, which must be completed and signed by an authorised veterinary official in the exporting country. Meat Board Permits are also required for the import of livestock and meat products. The permits are free of charge but an import levy is payable. Imports from South Africa and Botswana of pets (dogs and cats only) and animal products for personal use are subject to a special arrangement that allows the pets and limited quantities of some animal products to be imported without a Namibian veterinary import permit. In many cases, however, such an import would still require an authorised veterinary certificate from the country of origin.¹⁶

The Ministry of Agriculture, Water, and Forestry is also responsible for issuing import authorisations for fresh fruit and vegetable. An Import Authorisation is usually valid for one year and lists the products that may be imported. It also lists the pests the imports must be certified as being free from. An import permit from the Namibian Agronomic Board is also required; this is valid for three months and is reissued for an import quantity based on the performance of the previous three months. Imports must be accompanied by a phytosanitary certificate from the public authorities of the country of origin, and a phytosanitary import permit from the Namibian authorities for N\$200. Importers are also required to pay a levy of 1.2% in addition to the standard-rate VAT of 15% on the landed cost of the consignment.¹⁷ In addition, under the Horticulture Development Initiative, importers are obliged to make monthly returns to the Agronomic Board showing that they satisfy the Market Share Promotion scheme, which requires them to purchase a specific percentage of their supply from the domestic market.¹⁸ The domestic purchase requirement under the Market Share Promotion scheme was recently increased from 25% to 30%. There is some flexibility in implementing the scheme and lower proportions of domestically sourced products may be accepted if it can be demonstrated that not enough domestically sourced products are available.¹⁹

16 Ministry of Agriculture, Water, and Forestry (2004); and WTO document G/LIC/N/3/NAM/3, 6 April 2000.

17 Namibian Agronomic Board (2007).

18 Horticulture online information, "FAQ". Available at: <http://www.horticulture.nab.com.na/faq.php#3>; accessed February 2009.

19 Namibian Agronomic Board online information, "Horticulture Import Permit". Available at <http://www>.

Non-automatic licences apply to imported second-hand goods, such as clothing, leather products, and motor vehicles. In practice, only registered welfare agencies can import used clothing and leather products. Import permits are required for commercial imports of used cars. Permits are limited to right-hand drive cars of five years or less, that meet road worthiness standards.

SACU tariff quotas apply to imports into the BLNS of wheat, cheese, butter, and skimmed and whole milk powder. Namibia's quotas are 50,000 tonnes for wheat, 300 tonnes for cheese, 400 tonnes for butter, 700 tonnes for skimmed milk powder, and 400 tonnes for whole milk powder. The in-quota tariff is 0% for all these products. The tariff quota administration method is first-come, first-served. In August of every year, the Ministry of Agriculture, Water, and Forestry invites applications from interested companies; applications, in writing, indicate the quantities the applicants wish to import. Tariff rebate permits for each consignment are issued by the MAWF to the companies for submission to the customs authorities at the port of entry.²⁰ Re-export to other SACU Members of goods imported under these tariff quotas is prohibited.

Import prohibitions also apply to obscene materials and environmentally hazardous products, including toxic or radioactive waste, to protect health, safety, and morality. Namibia is a signatory to the Montreal Convention on the Emission of Ozone Depleting Substances, and the Vienna Convention and the London Amendment; the International Atomic Energy Agency; the Basel Convention on Trade in Toxic or Hazardous Waste; the Convention on International Trade in Endangered Species of Wild Fauna and Flora; and the Cartagena Protocol on Bio-Safety.

2.3 Export Practices

Exports, except to SACU Members, of nearly all products are subject to automatic licensing. The exceptions, which require a non-automatic permit, include: medicines; live animals and genetic materials; all ostrich-breeding materials; meat and game products; protected species under CITES; plants and plant products; firearms and explosives; minerals, including diamonds and gold; coins and bank notes; certain works of art and archaeological findings; and oysters.

Export permits from the Meat Board of Namibia are required for exports of livestock (slaughter cattle, non-slaughter cattle, breeding cattle, weaner cattle, sheep, and goats). Export permits for maize, wheat, and mahangu are required from the Namibian Agronomic Board at a cost of N\$50. At the request of the exporter, and to meet the requirements of the importing country, the Directorate of Veterinary Services in the Ministry for Agriculture, Water, and Forestry can provide certification to show exports of meat, livestock or game

horticulture.nab.com.na/forms_documents.php; accessed June 2009; and information provided by the Namibian authorities.

20 Ministry of Agriculture, Water, and Forestry (undated).

are free of pests and diseases. Restrictions on the export of sheep require that six sheep must be slaughtered locally for each sheep exported live.

The Namibia Diamond Trading Company, a 50:50 joint venture between De Beers and the Namibian Government and operated by De Beers, markets all Namibia's diamonds. Through the Namdeb Diamond Corporation (also a 50-50 joint venture between Namibia and De Beers) some diamond production is made available for sorting and sale in Namibia and 15% of production of uncut diamonds are sold for local processing. Namibia also applies the Kimberley Process Certification Scheme through the Diamond Board of the Ministry of Mines and Energy, to certify that Namibia's rough diamonds are from areas free of conflict.²¹ Trade measures necessary to implement the Kimberley Process are covered by a WTO waiver.²²

2.4 Agriculture

The Namibian Government continues to emphasise agricultural policies but also encouraging diversification through the manufacturing and services (particularly tourism) sectors (...). Land reform is high on the government's list of priorities.²³ While land reform is a major objective it is not a simple matter as many related issues need to be addressed. While pursuing the objective of land reform, government policy is based on the principle of "willing buyer, willing seller".

There are approximately 8,600 commercial farms, which contribute almost 70% of agricultural GDP and take up 34 million ha of freehold title deed land, i.e. 41% of Namibia's total land area.²⁴ The number of commercial farms can be misleading, because it does not take account of the numbers of people working on the farms or those in the transport, processing and agriculture inputs sectors who depend on commercial farms. However, even allowing for these factors, many more people depend on subsistence farming than on the commercial sector. About 65% of Namibia's population live in subsistence farming areas, which is responsible for about 30% of agriculture's total GDP. Most households practice subsistence agripastoralism on communal land, which is state-owned and constitutes approximately 41% of the total land area.²⁵ In general, scarce productive land and fragile soils coupled with limited water resources and an erratic rainfall are the

21 The Kimberley Process Certification Scheme was established in 2003 on the basis of United Nations Resolution 55/56 to certify that consignments of rough diamonds came from areas free of conflict. The 2009 chair of the KPCS is Namibia. For more information, see Kimberley Process online information. Available at <http://www.kimberleyprocess.com>.

22 WTO document WT/L/676, 19 December 2006.

23 Since independence, the Government has purchased around 4 million ha of land in the freehold subsector for nearly 1,000 communal farmers.

24 During 2001-06, the annual average growth rate of commercial agriculture was 2.6% (4.4% over 1995-00) (Ministry of Agriculture, Water, and Forestry, 2007).

25 During 2001-06, the annual average growth rate of subsistence agriculture was 0.7% (7.7% over 1995-00) (Namibia Chamber of Commerce and Industry, 2008). The Communal Land Reform Act, passed in August 2002 (Act No. 5), provides for the allocation of communal land rights by Chiefs and Traditional Authorities, under the control of Communal Land Boards.

principal challenge for Namibia's agricultural sector.²⁶

Namibia is a net exporter of red meat but it imports about half of its cereal requirements, especially maize and wheat. Cereals provide about 50% of the total calorie intake of Namibians. Pearl millet (mahangu), the staple food, is the major cereal grown in the communal areas. Small quantities of sorghum are also grown by subsistence farmers in these areas. Only some 10% to 15% of millet production is traded in the formal sector; also, a certain quantity is informally traded between Namibia and Angola for household consumption of communities living along the border. South Africa is an important trading partner in terms of the import and export of food.

Crop production has increased in importance over the past decade. In 1995 it accounted for 8% of total agricultural output; by 2006 it had increased to 17% of total output. Communal farming produces 30% of grain consumption requirements, and consists of rain-fed crops, notably millet, sorghum, and maize. Commercial crop farming focuses mainly on maize and wheat. Horticulture crops are mainly grapes, followed by tomatoes, cabbages, onions, and potatoes.

Livestock production accounted for 59% of total agriculture output in 2006 (down from 70% in 1995). Communal farming produces some 60% of Namibia's cattle. More than 50% of Namibia's cattle are found in the northern communal areas. In addition, about 40% of small livestock are kept in communal areas. Commercial livestock farming focuses on meat and meat products for international markets.

Namibia had a forested area of around 7.7 million ha in 2005 (down from 8 million ha in 2000), i.e. 9.3% of its total land area; it has about 8.5 million ha of other wooded land (8.7 million ha in 2000). Namibia is home to at least 3,174 species of vascular plants, of which 21.6% are endemic.²⁷ The two main problems in the subsector are forest fires and uncontrolled cutting of trees (a common source of energy).²⁸ In addition, lower and more erratic rainfall, conversion of forest land to other uses, and overgrazing by livestock, particularly in the communal farming areas, have contributed to the decline in forests and wooded land. Namibia imports almost all sawn wood and other industrial forest products and there are no significant exports of forest products.

Moreover, the Namibian Government has approved the Green Scheme programme for the enhancement of agricultural production under irrigation, and the Horticulture Infrastructure Development programme to ensure marketability of agricultural products. Implementation of the Green Scheme Programme is to be in the form of joint public-

26 Namibia's arable land accounts for only 1% of total land.

27 Mongabay online information, "Namibia"; available at: <http://rainforests.mongabay.com/deforestation/2000/Namibia.htm#8-protected>.

28 Some 4 million ha of forests are burned each year, mostly due to fires started deliberately to improve grazing and to clean hunting grounds; Namibia Nature Foundation (2004).

private partnerships to encourage private-sector investment in remote and underdeveloped areas. The Programme is designed to attract commercial irrigation-farming enterprises to establish entities in communal farming areas suited for intensive agricultural development. The Green Scheme Programme provides for various public-private partnership models, with different obligations to the investor, including a model that imposes two social development obligations on the participating commercial farms: (i) to facilitate capacity-building and skills transfer to small-scale irrigation farmers occupying an adjacent area of land equal in size to the arable land of the commercial enterprise; and (ii) to provide certain agricultural support services to those farmers on a cost-recovery basis. The Green Scheme is expected to increase the contribution of agriculture to GDP to nearly 15%, and to meet 33% of domestic consumption of horticultural products by 2022. To improve efficiency of water use new legislation is still required to replace the Water Act (No. 54 of 1956). The new legislation will provide for the formation and periodic review of a National Water Master Plan. The Namibia Water Corporation Act (No. 12 of 1997) created the parastatal company NamWater to handle bulk water supplies. NamWater has legislative authority to set tariffs on a full cost-recovery basis. As a result, usage tariffs are being raised to phase out water subsidies. Water shortages have limited irrigation to about 8,600 ha of land. Considering water accessibility and soil suitability, it is estimated that a maximum of 43,500 ha hold potential for future irrigation.

2.5 Fisheries

Fisheries remain an important though declining contributor to Namibia's economy. Exports of fish and fish products are worth about US\$410 million, making revenue from fisheries the second most important earner of foreign exchange in Namibia, after mining. Namibia's main export markets for fish are the EU and South Africa for hake, monk fish, and tuna, and D.R. Congo, Mozambique, Zambia, and Zimbabwe for horse mackerel. Fisheries legislation includes: Territorial Sea and Exclusive Economic Zone of Namibia Act (No. 3 of 1990); Marine Resources Act (No. 27) of 2000 and the Regulations Relating to the Exploitation of Marine Resources (No. 241) of 2001; Inland Fisheries Resources Act (No. 1) of 2003; Aquaculture Act (No. 18) of 2002; and the Aquaculture Licensing Regulations. The Ministry is in the process of reviewing and updating the Marine Resources Act and its Regulations. Namibia is a member of various regional fisheries management organisations (RFMOs) such as the South East Atlantic Fisheries Organisation (SEAFO), the International Commission for the Conservation and Atlantic Tunas (ICCAT), and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) as well as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

2.6 Mining

Namibia is endowed with abundant mineral resources, and the full potential of the sector is largely untapped in a landmass that requires more extensive exploration. Mining accounts for around 45% of foreign-exchange earnings, between 30% and 50% of government

revenue, and about one third of fixed capital formation. Historically, diamonds have been Namibia's main export earner, contributing more than half of the total value of mineral exports. However, base and precious metals and uranium have made important contributions recently. Namibia produces significant quantities of uranium, gold, silver, copper, lead, and zinc. The Ministry of Mines and Energy (MME), as the custodian of Namibia's mineral and energy resources, is responsible for the overall running of the sector. Namibia's minerals policy, launched in 2003, aims, *inter alia*, to attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation, and marketing, while ensuring the responsible development and sustainable utilisation of mineral resources.²⁹ All mineral rights are vested in the state and are regulated under the Minerals (Prospecting and Mining) Act (No. 33 of 1992), which provides for the reconnaissance, prospecting, mining, disposal, and exercise of control over minerals in Namibia. Licences and permits are authorised by the Minister. Namibia's mining industry is also regulated by the Minerals Development Fund of Namibia Act (No. 19 of 1996); and the Diamond Act (No. 13 of 1999). In addition, Mine Health and Safety Regulations are in draft form to be finalised soon.³⁰

Under the Constitution and the Minerals Act, 1992, mineral rights are vested in the state, and the Minister of Mines and Energy has the mandate to allocate the different rights to companies or individuals. All applicants must be Namibian citizens or companies registered in Namibia.

The Mineral Rights and Resources Development Division in the Directorate of Mines of the MME handles applications for, and allocation of mineral rights in Namibia. Several types of mining and prospecting licences are required depending on the activity being undertaken: (i) Non-Exclusive Prospecting License (NEPL), valid for 12 months, permits non-exclusive prospecting in open ground not restricted by other mineral rights. Prospectors must furnish details to the Mining Commissioner on all samples removed from the NEPL area; (ii) Reconnaissance Licence (RL) allows regional remote sensing techniques, is valid for six months (renewable under special circumstances), and may be made exclusive in some instances. A geological evaluation and work plan must be submitted to the Mining Commissioner; (iii) Exclusive Prospecting Licence (EPL) can cover an area not exceeding 1,000 km², and is valid for three years, with two renewals of two years each. Two or more EPLs can be issued for more than one mineral in the same area. A geological evaluation and work plan (including estimated expenditure commitments) are required prior to issuing of the licence; (iv) Mineral Deposit Retention Licence (MDRL) allows prospectors to retain rights to mineral deposits that are uneconomical to exploit immediately. An MDRL is valid for up to five years and can be renewed subject to limited work and expenditure obligations; and (v) Mining Licence (ML) may be granted to a Namibian citizen or a company registered in Namibia. An ML is valid for the life of mine or an initial 25 years,

29 Ministry of Mines and Energy (undated).

30 The 10th Draft of the Mines and Safety Regulations are available at http://www.mme.gov.na/mines/acts/act_safety.html; last accessed 12 October 2012.

renewable for up to 15 years at a time. Applicants must have the financial and technical resources to mine effectively and safely.³¹

Exploration of uranium in Namibia has increased significantly over the last few years, and accounts for a major share of FDI flow into the mining sector. Currently, uranium output comes mainly from the Rössing mine, 69% owned by Rio Tinto and 3% by the state.³² The Langer Heinrich uranium mine opened in 2007, and others are expected to be in operation within the next few years. An expansion programme to increase annual production at the Langer Heinrich mine to 2.6 million pounds of uranium oxide (U_3O_8) was completed in 2008. Uranium mining licences for Trekkopje (Uramin Namibia),³³ and Valencia Uranium (Forsys Metals) were approved for the development of the two deposits. At full capacity, these two deposits make Namibia the third-largest uranium producer in the world after Australia and Canada.

2.7 Energy

Namibia has reserves of natural gas; oil has not yet been discovered. About three quarters of Namibia's total energy consumption in 2005 was from imported energy (electricity and oil).³⁴ In rural areas, the main energy source is fire wood used for cooking. The 1998 White Paper on Energy Policy by the Ministry of Mines and Energy, tabled in Parliament in 2002, remains the main statement outlining energy policy. The Ministry of Mines and Energy's Directorate of Energy has a broad range of responsibilities, including issuing licences for exploration, safety in the energy sector, setting maximum fuel prices, rural electrification, etc. Electricity, coal, and oil imports are duty free. All oil and gas exploration is done by the private sector, with licences from the Ministry of Mines and Energy. Exploration licences may be applied for at any time. Namcor, the state-owned oil and gas firm, normally restricts its activities to promotion, gathering data, and providing technical management. Tullow Oil, with its minority partner Namcor, continues to explore possibilities for developing the offshore Kudu gas field. The Kudu Power Project includes piping natural gas to a power plant to be constructed at Oranjemund.

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- 31 Before licences are issued (except the NEPL and RL), all applicants must complete an environmental contract with the Ministry of Environment and Tourism. Environmental impact assessments must be made with respect to air pollution, dust generation, water supply, drainage/waste water disposal, land disturbance, and protection of fauna and flora. See also MBendi Information Services, "Mining in Namibia: Overview"; available at <http://www.mbendi.com/indy/ming/af/na/p0005.htm>; accessed June 2009.
- 32 Rio Tinto owns the majority of shares (69%) in Rössing Uranium Limited. The Namibian Government has a 3% shareholding, but it has the majority (51%) of voting rights. The Iranian Foreign Investment Company owns 15%, acquired during the set-up of the company in the early 1970s. The Industrial Development Corporation (IDC) of South Africa owns 10%, and local individual shareholders own a combined 3%. The shareholders have no uranium product off-take rights. Rössing Uranium Ltd. online information, "Rössing's business at a glance 2008"; available at <http://www.rossing.com/rossingmine.htm>; accessed July 2009.
- 33 The Trekkopje project, was 100% owned by UraMin, now owned by Areva, is on track to become Namibia's third uranium mine by the end of 2008. It is expected to become one of the world's ten largest uranium mines when it achieves full production. Namibia Chamber of Commerce and Industry (2008).
- 34 U.S. Energy Information Administration, "Namibia Energy Profile"; available at http://tonto.eia.doe.gov/country/country_energy_data.Cf.m?fips=WA.

2.8 Electricity

NamPower, the state-owned utility company, has a monopoly on generation, transmission, and import and export of electricity. Namibia relies on imports for much of its electricity needs as peak demand is about 350 MW while total domestic production capacity is only slightly more. Domestic production is highly seasonal because most of it is supplied by the Ruacana hydroelectric station on the Kunene river. Eskom of South Africa supplies most of the electricity imported into Namibia via two lines of a total capacity of 700 MW. In addition, in January 2008, the first 40 MW from the Hwange thermal plant in Zimbabwe were delivered as part of a US\$40 million power-purchase arrangement in April 2007 between Nampower and the Zimbabwe Electricity Supply Authority.³⁵

Demand for electricity among consumers is heavily weighted to a few large users. Households make up 91% of consumers and 45% of consumption while mines and industry make up 1% of consumers and 26% of consumption (the balance going to other commercial users). This pattern of consumption is likely to become further skewed in the future as electricity consumption is projected to triple to 1,400 MW by 2030 due to new mines and related developments.³⁶ At the same time, the Rural Electricity Distribution Master Plan of 2000 is seeking to increase the provision of electricity to rural areas so that 25% of rural households have access to electricity by 2012 (from 10% in 2000 and 17% in 2008).³⁷ In addition to the Ruacana hydroelectric station³⁸, domestic production of electricity is, *inter alia*, provided through the Van Eck coal-powered thermal station in Windhoek (120 MW), and Paratus, a diesel thermal station near Walvis Bay. NamPower is also the only electricity producer in Namibia. The Electricity Control Board, established in July 2000, is responsible for regulations covering distribution, licences, tariff structures, etc., although its recommendations are subject to approval by the Minister of Mines and Energy.³⁹

2.9 Manufacturing

The contribution of the manufacturing sector to GDP decreased from 14.0% in 2003 to 12.5% in 2008, reflecting the strong growth in mining and construction during the period. Meat and fish processing both continued to decline in relative terms. In constant 2004 prices, meat processing increased slightly from N\$146 million to N\$155 million while fish processing fell from N\$852 to N\$525 million. The manufacture of other food products and beverages changed little over the same period. The “other” manufacturing category covers a large range of goods, including wood and wood products, metal fabrication, chemicals, paints, plastics, leather and textiles.⁴⁰ Strong growth in manufacturing in 2007 resulted

35 EIU (2008).

36 Ibid.

37 Ministry of Mines and Energy (2008).

38 Although power output varies depending upon water supply, the Kunene River may offer substantial hydropower potential. Feasibility studies are looking at additional projects, in cooperation with the Angolan Government.

39 Clark *et al.* (2005).

40 Bank of Namibia (2009).

primarily from high prices for, and increased processing of, zinc and copper.

Namibian manufacturing faces a number of challenges due to the relatively small size of the local market, high transport costs, high energy prices, and limited access to skilled labour. On the other hand, Namibia has much to offer to manufacturing enterprises, such as access to the SACU market, good communications (air and road), good infrastructure, and modern and efficient financial services. Government policy for manufacturing is focused on exports. The Export Processing Zones Act (No. 9 of 1995) was designed for EPZs to “serve as a tax haven for export-oriented manufacturing enterprises”.⁴¹ Manufacturing, assembly, re-packaging or break-bulk enterprises that export all, or nearly all, their production are eligible for EPZ status, which entitles them to several tax incentives such as non-payment of corporation tax, import tax, and stamp duties. EPZ status is not confined to any specific area or region and can be conferred on any enterprise that meets the criteria, regardless of location.

2.10 Services

Despite the strong growth in mining and manufacturing and their increased contribution to GDP, services remained almost constant in its relative importance as it increased marginally from 57.9% of GDP in 2003 to 58.1% in 2008. Wholesale and retail trade are the main services sub-sectors at 11.9% of GDP in 2008 (more or less unchanged from 2003), followed by real estate and business services (9.7%), administration and defence (8.7%), education (7.0%), and transport and communications (6.6%) (Table IV.7). Namibia made minimal commitments on services under the WTO General Agreement on Trade in Services (GATS). The commitments cover tourism, more specifically hotels and restaurants, as well as travel agencies and tour operators, and scientific and consulting services relating to offshore oil and gas exploration. Namibia committed to having no limitations on market access and national treatment for these services for all four modes of supply. It did not participate in the extended GATS negotiations on basic telecommunications (Fourth Protocol) or financial services (Fifth Protocol).

2.11 Transport

The transport subsector is dominated by the state-owned TransNamib Ltd. It has a monopoly in rail transport services through its subsidiary, TransNamib Rail; it also operated the national airline, Air Namibia, until 1 April 1999. TransNamib is a major supplier of road transport freight and passenger services through TransNamib Carriers. Another state-owned enterprise, NamPort, operates the two main ports: Walvis Bay and Lüderitz. The Department of Transport of the Ministry of Works, Transport and Communication is responsible for formulating and implementing transport policies.

Namibia has an extensive and well-maintained road network. Unpaved roads predominate while paved roads link all major towns. In 2009, out of a total of 44,425 km of road, 6,199

41 Ministry of Trade and Industry online information, “Industrial Development: Incentives”; available at <http://www.mti.gov.na/subpage.php?linkNo=22>; accessed March 2009.

km are paved, 24,994 km are gravel road, and 10,637 are earth road; the remainder are proclaimed road, and salt road along the coast.⁴²

Namibia is an important outlet to the sea for the landlocked countries of the interior and, to some extent, this is reflected in the development of roads. The Trans-Caprivi Highway, which opened in 1999, runs from Rundu in north eastern Namibia, through the Caprivi Strip to the Zambezi River at Katima Mulilo. There, a major road bridge, completed in 2004, links the Trans-Caprivi Highway to Zambia's road network. The highway is a section of the Walvis Bay-Ndola-Lubumbashi Corridor, linking Zambia and eastern Democratic Republic of the Congo to the deep-water port of Walvis Bay. The Trans-Kalahari Highway from Walvis Bay, via Windhoek, to Francistown in Botswana provides an important route between Walvis Bay and Botswana. To accelerate customs formalities at the Botswana border, authorities have agreed to implement fast-track customs procedures for registered haulage operators on a trial basis. Following a successful pilot scheme in the Trans-Kalahari route, harmonised customs procedures and a Single Administrative Document (SAD 500) have been implemented between all SACU Members and are being adopted by other countries in the region.⁴³

Road transport consists of bus, taxi, and road haulage operators. About 200 road haulage operators use some 1,700 trucks and a freight capacity of around 31,000 tonnes. The state-owned TransNamib Carriers, the largest operator, operates without direct state support. All other operators are private; four are relatively large. Operators must be registered with the Namibian Traffic Information System and have an operator's card. Commercial road carriers no longer require permits to carry certain goods, although permits are needed for cross-border transport. Freight rates are set privately.

Bus operators service inter-urban and long-distance routes, including South Africa. There are currently about 15 operators using approximately 100 buses. Four operators, including TransNamib Carriers, run scheduled bus services between Windhoek, Keetmanshoop, and Swakopmund. Fares are market determined, and there are no restrictions on new operators, apart from technical requirements. Private operators are not subsidised. Some bus operators provide tour services, including the state-owned TransNamib Tours. There are about 5,000 taxis in Namibia, mainly owner-driven; about half operate in Windhoek. There is no restriction on the number of taxis, provided they meet safety and other technical requirements. The Namibia Traffic Information System (NaTIS) is responsible for licensing vehicles for road worthiness as well as driver testing, while the Road Transport Board considers applications for licences for goods haulage and passenger transport.

The bulky nature of much of Namibia's exports and the long distances between centres of population mean that rail remains the major mode of transport for bulk goods. There

42 Roads Authority online information, "Road Length Statistics". Available at <http://www.ra.org.na/RoadNetwork.html>; accessed 12 February 2009 and updated by the national authorities.

43 USAID Southern Africa Global Competitiveness Hub online information, "Speeding up Customs Clearances"; available at <http://www.satradehub.org/index.php?id=1448>; accessed 12 February 2009.

are 2,628 km of narrow-gauge lines in Namibia. The state-owned holding company TransNamib is responsible for the rail network as well as for rail and road passenger and freight services. It is the only rail service provider in Namibia and owns the locomotives and carriages while the State owns the rail network. The Namibian railway network is linked only with South Africa, although there are plans to link with Angola, which has the same railway gauge.

Namibia has two major ports: the main one is at Walvis Bay and the other at Lüderitz. Both are administered by the parastatal Namibian Ports Authority (NamPort). Cargo levels have continued to increase substantially, with Lüderitz handling about 200,000 tonnes annually and Walvis Bay some 4.7 million tonnes. There are plans to upgrade Walvis Bay by deepening the harbour to increase its capacity to handle Panamax ships. Lüderitz was traditionally a fishing port but now also caters for the offshore diamond mining industry.

Walvis Bay handles imports and exports into Namibia and the land-locked countries of the interior. Imports of mining equipment and consumer goods and exports of minerals are the main activities. The Walvis Bay Corridor Group, a public-private partnership, was established to promote the use of the different transport corridors linking Walvis Bay with inland centres and other ports in the region.

A number of private companies provide liner services. There are about five private freight forwarders. There are no control mechanisms imposed on entry into shipping or cabotage restrictions. Foreign vessels may operate domestic services between Walvis Bay and Lüderitz without a permit, provided they meet sea worthiness requirements; inspections are the responsibility of the Directorate of Maritime Affairs. According to the authorities, Namibia does not subsidise shipping services.

Air Namibia provides scheduled domestic and regional services and international flights to Germany, and South Africa. A number of international airlines provide regular services to Windhoek under various agreements. Most foreign carriers have third and fourth freedom rights. Namibia is a signatory of the Yamoussoukro Decision relating to the liberalisation of access to air transport markets in Africa. In line with the Decision, it has signed reciprocal agreements with South Africa, Zambia, Democratic Republic of Congo, Zimbabwe, and the United Kingdom. Namibia acceded to the Convention on International Civil Aviation with effect from 30 May 1991. The primary aviation legislation in Namibia is the Aviation Act (No. 74 of 1962), which has been amended several times. The Airports Company Act (No. 25 of 1998) amended the 1962 Act by providing for the commercialisation of the eight major airports. These airports are owned and operated by the state-owned Namibia Airports Company. There are two international airports: Hosea Kutako near Windhoek; and Walvis Bay.

2.12 Tourism

Tourism makes a considerable contribution to Namibia's GDP and employment. In 2008, tourism and travel are thought to have directly contributed 3.1% to GDP and employed 18,995 people (4.5% of total employment). Including the indirect effects of travel and tourism brings the total contribution to 13.6% to GDP and 74,461 people (17.6% of total employment).⁴⁴ Tourist arrivals have increased over the years and reached 928,912 in 2007, up from 780,000 in 2004. Most visitors are from neighbouring African countries, particularly Angola (36%) and South Africa (30%). The rest are mainly from Europe, especially Germany (8%).

2.13 Foreign Investment

Trade and investment promotion remain key elements of Namibia's trade policy and development strategy.⁴⁵ The Government's main objectives are further trade liberalisation and export expansion, including diversification of products, export markets, and import sources. Export promotion, through such measures as tax-based incentives and export-processing zones, remains a high priority for the Government in order to attract investment (...). This also encompasses a broadening of Namibia's industrial base and promoting growth in small and medium-sized enterprises (SMEs).

3 International Trade, the Environment and the Development Debate

Issues related to international trade and the environment undoubtedly are of significance to developing countries because they argue that developed countries have depleted resources and indulged in environmentally harmful practices during the past century, in order to achieve unprecedented high standards of living.⁴⁶ The developing countries therefore demand a general but differentiated responsibility, seeking open trade and compensation for adopting environmentally restraining policies.⁴⁷ Upon further reflection on the link between economic growth activities, environmental protection and social development, the triangular debate on these topics will be highlighted briefly, by introducing the various perspectives.⁴⁸

3.1 The Trade Perspective

Trade creates the wealth, which increases human well-being. Trade can be good for the environment because it creates wealth that can be used for environmental improvement, and the efficiency gains from trade can mean fewer resources used and less waste produced.

44 World Travel and Tourism Council online information, "Tourism Research: Tourism Impact Data Forecasting Tool: Database"; available at http://www.wttc.org/eng/Tourism_Research/Tourism_Impact_Data_and_Forecast_Tool/index.php; accessed July 2009.

45 WTO (2003), Annex 3, p. 163. A research report by NEPRU found that trade liberalisation would contribute to economic growth and poverty alleviation Hansohm et al. (1999).

46 Ruppel (2009c, 2010g,1).

47 Goyal (2006:11).

48 For further reading see: Goyal (2006) and UNEP (2005d).

Increased economic growth leads to more environmental protection and a higher standard of living. The exchange of goods introduces new technologies, which reduce emissions and save raw materials and natural resources.

3.2 The Environmental Perspective

The environment actually represents a higher order than trade and the *status quo* seriously threatens the earth's eco-systems. Developing countries try to protect themselves against "costly" environmental demands. In contrast, the wealth created by trade will not necessarily result in environmental improvements. Trade liberalisation is deemed to cause greater harm, leading to exports of natural resource allocation to other countries and thereby causing increased environmental degradation.⁴⁹

3.3 The Development Perspective

Developing countries' top priority should be to reduce poverty. Openness to trade (market liberalisation) and investment may be a key to doing so by increasing exports, even though the link between market liberalisation and economic growth does not happen automatically. Developed countries protect their industries with subsidies, special trade rules and tariff systems which place at a disadvantage exporters in developing countries. Demands that developing countries comply with the environmental standards of developed countries are unfair, particularly if they are not accompanied by technical or financial assistance. Priorities differ; in Africa, for example, clean water is paramount and, historically, developed countries caused most of the environmental damage in the first place.

3.4 Sustainable Development: The Answer to the Dilemma?

Principle 11 of the 1972 Stockholm Declaration states that-

[t]he environmental policies of all States should enhance and not adversely affect the present or future development potential of developing countries, nor should they hamper the attainment of better living conditions for all, and appropriate steps should be taken by States and international organisations with view to reaching agreement on meeting the possible national and international economic consequences resulting from the application of environmental measures.

In its 1987 report *Our Common Future*, the Brundtland Commission defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs"⁵⁰. Since the 1992 UN Conference on Environment and Development in Rio de Janeiro, the Principle of Sustainable Development has influenced a broad number of international instruments, both of legal and non-legal in nature. It aims at embracing and balancing ecology, economy, conservation and utilisation and has become a worldwide governing political *Leitmotiv* for environment and development.

49 For a detailed discussion see UNEP (2005d:3ff).

50 The World Commission on Environment and Development.

It can be broadly understood as a concept that is characterised by (i) the link between the policy goals of economic and social development and environmental protection; (ii) the qualification of environmental protection as an integral part of any developmental measure, and vice versa; and (iii) the long term perspective of both policy goals, that is the states' inter-generational responsibility.⁵¹

Apart from the question, whether the Principle of Sustainable Development actually enfolds normative quality,⁵² the concept reflects the idea of distributive justice and can play an important role in the process of bridging the North-South divide in international and developmental relations.⁵³ Sands formulated an "integration approach", where economic and social development must be an integral part of environmental protection, and vice versa.⁵⁴ Although many African countries are classified as least-developed countries, the southern African region is endowed with numerous natural resources, fisheries, and minerals.⁵⁵ In turn, environmental challenges include among other things, land degradation, poor land use and land management, exploitation of natural resources, water scarcity, bio-diversity loss and climate change. In this regard poverty and challenges of governance often collide with different interests in society and political pressures.⁵⁶

The former executive Director of the United Nations Environmental Programme (UNEP), Klaus Töpfer, stated that "sustainable development cannot be achieved unless laws governing society, the economy, and our relationship with the Earth connect with our deepest values and are put into practice internationally and domestically." The problem continues to lie, however, in that such laws "must be enforced and complied with by all of society, and all of society must share this obligation".⁵⁷ But how can the law work for everyone equitably (developing and developed countries), reduce poverty, retain wealth and at the same time protect the environment?

The Commission on Legal Empowerment of the Poor came up with an analysis and a few reasonable suggestions in its 2008 report:

Though many have shared in this prosperity, far too many of the world's people have been left behind, still living in deprivation, taking talent unused to the grave. Sub-Saharan Africa is not on track to achieve any of the Millennium Development Goals and extreme poverty on every continent. (...) The Commission argues that four billion people around the world are robbed of the chance to better their lives and climb out of poverty, because they are excluded (...). The Commission believes poverty is manmade, by action and inaction, and a failure of public policies and of markets. The Commission sees that in rich

51 Beyerlin (1996).

52 Cf. Sands (2003:254).

53 Beyerlin (1996) with further references.

54 Sands (2003:263).

55 For Namibia, cf. supra.

56 Kameri-Mbote/Odote (2009:37).

57 Klaus Töpfer in the Preface to Making Law Work; available at http://www.inece.org/mlw/makinglawwork_toc.html; accessed 17 November 2010.

countries people are more likely to enjoy access to justice and other rights – as workers, businesspeople, and owners of property. The recent, and vast, creation of wealth rests upon various legal protections, norms, and instruments governing such things as business organisations, corporations, tradable assets, labour contracts, workers associations, venture capital, insurance, and intellectual property. While the same protections and instruments exist in many developing countries, the overwhelming majority has no way to access them. (...) Because the poor lack recognised rights, they are vulnerable to abuse by authorities that discriminate, seek bribes, or take the side of powerful interests who may wish to prevent the poor from competing economically or seek to evict them from their land. (...) The majority of humanity is on the outside looking in, unable to count on the law’s protection and unable to enter national, let alone global markets. (...) Transforming a society to include the poor requires comprehensive legal, political, social, and economic reforms. In the short term, reform is unlikely to seem an easy option. (...) Legal empowerment is not a substitute for other important development initiatives, such as investing more in education, public services, and infrastructure, enhancing participation in trade, and mitigating and adapting to climate change: instead, it complements such initiatives, multiplying their impact by creating the conditions for success. (...) While the government is the key responsible actor, the ‘duty bearer’ in human rights terms (...) the United Nations and the broader multilateral system can help by lending their full support. The international non-governmental community can do the same. More specifically global multilateral agencies such as the World Bank, UNDP, ILO, FAO and UN-HABITAT; regional political organisations, regional banks, and regional UN institutions; civil society and community-based organisations; the business community; religious communities and indigenous spiritual traditions; and various professional associations (...). The world as a whole will benefit as more and more states undertake the reforms needed to empower the poor. Such initiatives will help to reduce the pressures created by refugee migrations, under-development, famines, environmental neglect, health emergencies, and strife. In an interdependent world, we will all do better if our neighbours are both able to count on the protections of law and expected to live up to their responsibilities under it. After all, our era is one of seismic shifts, not only in the economic order but also in the creation of a global public domain. Myriad ungoverned interactions flow between states, from the obvious to the near invisible, from the malign to the beneficent. Some must be curbed, some controlled, some eased and encouraged. Yet, as at the national level, our global institutions remain blind to much of reality, equipped rather for yesterday than today, hampering our attempts to grapple with each new problem we face. Who can deny that we all share a responsibility to protect: one which we are far from meeting? Whether for climate change, trade, migration, or security, the world will expect fair rules for the 21 century, rules offering protection and opportunity for all in accordance with shared human rights obligations.⁵⁸

It is also important to acknowledge that not only rests the responsibility on national governments and international organisations but also on corporate businesses to enter into a new era of sustainable development. At the unveiling of the world’s first Integrated Reporting Guidance document in Johannesburg, South Africa on 25 January 2011, the Chairman of the South African Integrated Reporting Committee, Judge and Professor Mervyn King, rightfully stated as follows: “Companies don’t operate in a vacuum, they operate in the society we find

58 The full report is available at <http://www.undp.org/legalempowerment/reports/concept2action.html>; accessed on 19 November 2010.

ourselves in, and the situation we find ourselves in. And the one situation is the planet which is in crisis. We have used the natural assets of the planet faster than nature can regenerate them, so the great companies in the world (...) by means of integrated reporting need to tell their stakeholders in future more transparently how they had worked out a long-term strategy on sustainability issues.”⁵⁹

3.5 The Role of Trade for Sustainable Development and the Reduction of Poverty in Africa⁶⁰

Human rights and good governance have an impact on the domestic investment climate, which contributes to growth, productivity and the creation of jobs, all factors essential for economic growth and sustainable reductions in poverty. The furtherance of economic development, reduction of poverty and the promotion of human rights in fact go hand in hand. The aforementioned relationship has grown closer over the past few years due to increasing discussions in the world community on related matters and issues. The connection can be seen as a two-way relationship insofar as economic development is obliged to respect human rights in a democratic society. Conversely, human rights can be given more effect through economic growth, as a possible outcome of economic growth is the increasing availability of resources, resulting in the reduction of poverty and a higher standard of living.⁶¹

States have committed themselves to respecting human rights by acceding to specific human rights treaties, conventions or declarations on the international, regional and sub-regional level; including the International Covenants on Civil and Political Rights and on Economic, Social and Cultural Rights and the African Charter on Human and Peoples’ Rights.⁶² On 10 December 2008, on the 60th Anniversary of the Universal Declaration of Human Rights, the United Nations adopted the Optional Protocol to the International Covenant on Economic, Social and Cultural Rights (ICESCR) bringing the possibility of international justice one step closer for millions of excluded people, groups, communities and peoples worldwide. The Optional Protocol is important because it promises to provide victims of economic, social and cultural rights violations that are not able to get an effective remedy in their respective domestic legal systems with an avenue for redress. Both human rights and good governance have an impact on the investment climate, which again contributes to productivity and the creation of jobs, all essential for economic growth, sustainable development and the reduction of poverty.⁶³

The Committee on Economic, Social and Cultural Rights (CESCR) has stated that poverty has always been one of the central concerns of the Committee.⁶⁴ Given the magnitude of

59 Interview available at <http://www.moneyweb.co.za/mw/view/mw/en/page295799?oid=526093&sn=2009+Detail&pid=295799>; accessed 30 January 2011.

60 The following passages are largely based on Ruppel (2010f,g).

61 Cf. Ruppel (2009a, 2010b); Ruppel / Bangamwabo (2008).

62 Cf. Pillay (2009).

63 Ruppel (2009c).

64 Cf. <http://www.acpp.org/>; accessed 20 August 2010.

the problem, it is often unrealistic for governments to tackle this daunting task without assistance. To achieve sustainable development a holistic approach must be adopted to deal with the concerns of the poor.⁶⁵ A need exists for African governments to accelerate the process of creating enabling environments for the private sector to play an effective role in reducing poverty. To create such environments, countries and regions must ensure the efficient functioning of their markets, facilitate sufficient access of the poor to such markets and create the best possible conditions for competitiveness of their firms.⁶⁶ In particular, enterprises in the informal sector are to be considered as part of the enterprise entity, which contributes to the development process.⁶⁷

The evidence of African poverty and growth rates leaves little room for doubt about the need for financial assistance and an improved trade climate. China, for example, is providing substantial funds for investment and development in many African countries. China follows a 'purely capitalist' approach, not attempting to assist in the facilitation of social or political change through the pursuit of wealth and although this approach seems appealing to many African leaders,⁶⁸ it is questionable because it does not attempt to improve social welfare in the targeted countries.⁶⁹

Far more than any unconditional investment and development aid, trade can prove to be the catalyst, given favourable conditions, to uplift millions of people from poverty. African countries could gain disproportionately from further global trade reform but it is widely acknowledged that a level playing field does not yet exist in the current world trade system, at least not to the required extent. Developing countries still face numerous hurdles, including high tariffs against their exports and subsidised competition. Nevertheless, the participation of developing countries in the global trading system is the most effective way of encouraging development and helping to alleviate poverty. A key objective of the on-going round of WTO negotiations, the Doha Development Round, is to assist developing countries more fully to reap the benefits of international trade. The liberalisation of agriculture in particular is hoped to provide significant benefits to developing countries in Africa.⁷⁰ Countries in Southern Africa are more or less in a permanent food security crisis, and policy formulation and response must be geared toward this reality on a continuing basis.⁷¹ When addressing the World Economic Forum in Cape Town on 10 June 2009 South African President Jacob Zuma had the following to say:

African agriculture has suffered for decades from the huge subsidies provided to developed country agriculture. The continent is rich in natural resources, including agricultural land. The continent has the opportunity to diversify markets and products, including building

65 Yahie (2000).

66 Cf. Asche/Engel (2008:11ff.).

67 Ruppel/De Klerk (2009).

68 Politicians often receive so-called 'signature bonuses' for approving resource or other investment deals.

69 Keenan (2009:125f.).

70 Khor/Hormeku (2006); Ruppel (2010k).

71 Zunkel (2010:v).

the requisite infrastructure and systems for intra-Africa trade.

In the aforementioned spirit, free trade agreements (FTAs) can also bring about economic benefits by reducing barriers to trade and investment between participating parties. They can open markets faster than would otherwise be possible through the WTO and build on the commitments already agreed in the WTO.⁷² Over two-thirds of WTO members are developing and least-developed countries. Members could gain access to a range of special provisions and assistance contained in the rules of the WTO. The WTO's Committee on Trade and Development and its Sub-Committee on Least-Developed Countries monitor the implementation of provisions designed to assist developing and least-developed countries. The committees also monitor the substantial amount of training and technical assistance provided to developing countries by the WTO.⁷³ Yet, the design of the multilateral trade regime needs to shift from one which overemphasises a market access perspective to one which prioritises enabling (or at least not disabling) the domestic policy space available to developing countries to make a range of diverse, including unorthodox, policy choices and pursue the concomitant strategies. It should also not be evaluated on the basis of whether it maximises the flow of goods and services, but on whether trade arrangements, current and future, maximise possibilities for human development, especially in developing countries. An implication is that multilateral trade rules will need to adjust 'one-size-fits-all' solutions that really only suit a few powerful members. The global trade governance framework requires additional asymmetric rules in favour of the weakest members. In the long run, such rules will be beneficial for both developed and developing countries.⁷⁴ Trade rules therefore have to allow for diversity in national institutions and standards. Countries should have the right to protect their own institutions and development priorities where necessary, and no country has the right to impose its institutional preferences on others. In order to create a trade regime friendly to poverty reduction and human development, governments must have the space to design appropriate policies.⁷⁵

Article 11 of the International Covenant on Economic, Social and Cultural Rights, is concerned with the right to food and advocates "taking into account the problems of both food importing and food exporting countries, to ensure an equitable distribution of world food supplies in relation to need."⁷⁶ Between the weak and the strong, poor and the rich, liberty is the oppressor and the law is freedom". Negotiating and implementing such rules is the WTO's basic mission, and its primary vocation in so doing is to regulate, and not to deregulate, as is often thought. It also presupposes the existence of social policies, whether to secure redistribution or provide safeguards for the men and women whose living conditions are disrupted by changes in the international division of labour. It does not suffice unless it is accompanied by policies designed to correct the imbalances between winners and losers;

72 AusAID (2007). Trade, Development and Poverty Reduction, available at http://www.ausaid.gov.au/publications/pdf/trade_devel_poverty.pdf; accessed 21 November 2010.

73 Ibid.

74 Cf. Malhotra (2004).

75 Cf. Ruppel OC (2012d).

76 Lamy (2009).

and the greater the vulnerability of economies, societies or individuals, the more dangerous the imbalances. It does not suffice unless it goes hand in hand with a sustained international effort to assist developing countries to build the capacity required to take advantage of open markets.⁷⁷ Lamy further pinpoints the importance of coherence, which he sees as:

... the political commitment of citizens, of civil society, of trade unions, between the local and the global. Today the world needs more coherence in the organisation of governments between national and global, more coherence between the different islands making up the archipelago of international governance.⁷⁸

In his remarks to the Trade Negotiations Committee on 19 October 2010 Lamy said that:

... the foremost challenge facing us all (...) is to take the Doha negotiations to a higher gear by going deeper and wider in the discussions, as a prelude for the give and takes that will be required to build a final package.⁷⁹

This final package will hopefully reflect the beneficial role world trade could potentially play in sustainable development and the reduction of poverty in Africa. Trade can be a powerful source of economic growth. Trade liberalisation is not automatically or always associated with economic growth, let alone poverty reduction or sustainable development. Signing up to unbalanced agreements has the potential to lead to violations of economic and social rights of people.⁸⁰ Recent Economic Partnership Agreements (EPA) negotiations between various states in Africa and the EU have proven that trade and investment liberalisation is not always linked with development strategies,⁸¹ let alone with mechanisms which guarantee labour and other human rights. Moreover, regional integration:

... can only be meaningful if it facilitates the integration of existing economic blocs in Africa by promoting intra-regional trade and encouraging diversification and the establishment of linkages between production units across the continent, thus effectively creating a larger regional market. The resulting increased productivity and product competitiveness will place Africa on a better footing to participate gainfully in reciprocal inter-regional trade. To the extent that the current EPA process undermines Africa's regional integration initiatives, it will not further the integration of African countries into world trade.⁸²

4 Regional Integration and Natural Resources in Southern Africa

The wealth of natural resources in southern Africa can only promote sustainable economic growth and contribute to poverty alleviation if there is an effective legal framework for environmental protection in place.⁸³ The spirit of the Chapter is eloquently captured in the following message of United Nations Secretary-General, Ban Ki-moon (May 2011):

77 Ibid.
78 Such stated by Lamy (2010a).
79 Lamy (2010b).
80 Cf. Dessande (2010); Ruppel (2010g).
81 Ruppel (2012d:156).
82 Ukpe (2010:231).
83 Ruppel/Ruppel-Schlichting (2012).

For most of the last century, economic growth was fuelled by what seemed a certain truth: the abundance of natural resources. The world mined its way to growth and burned its way to prosperity. Those days are gone. In the twenty-first century, supplies are running short and the global thermostat is running high. Climate change is showing us that the old model is more than obsolete. It is in fact extremely dangerous. How do we lay the foundation for future growth? How do we lift people out of poverty while protecting the planet and ecosystems that support economic growth? How do we regain the balance? All of this requires rethinking. We have to be prepared to make major changes – in our lifestyles, our economic models, our social organisation, and our political life. We have to connect the dots between climate change and issues such as water, energy and food. The challenge is great – but, so too, is the opportunity. The sustainable development agenda is the growth agenda for the twenty-first century.⁸⁴

The United Nations General Assembly specifically proclaimed ‘poverty eradication as an overriding theme of sustainable development for the coming years.’⁸⁵ Poverty is a major factor to consider when formulating workable legal frameworks. Thus far, Africa remains poor regardless of its high concentration of natural resources. Susswein identifies ‘ineffective and inefficient, as well as narrowly focused, economic and environmental policies’ as the culprits in increasing poverty and environmental degradation.⁸⁶

Endowment of SADC countries with natural resources	
Angola	petroleum, diamonds, iron ore, phosphates, copper, feldspar, gold, bauxite, uranium
Botswana	diamonds, copper, nickel, salt, soda ash, potash, coal, iron ore, silver
Congo, DR	cobalt, copper, niobium, tantalum, petroleum, industrial and gem diamonds, gold, silver, zinc, manganese, tin, uranium, coal, hydropower, timber
Lesotho	water, agricultural and grazing land, diamonds, sand, clay, building stone
Madagascar	graphite, chromite, coal, bauxite, salt, quartz, tar sands, semiprecious stones, mica, fish, hydropower
Malawi	limestone, arable land, hydropower, unexploited deposits of uranium, coal, and bauxite
Mauritius	arable land, fish
Mozambique	coal, titanium, natural gas, hydropower, tantalum, graphite
Namibia	diamonds, copper, uranium, gold, silver, lead, tin, lithium, cadmium, tungsten, zinc, salt, hydropower, fish; note: suspected deposits of oil, coal, and iron ore
Seychelles	fish, copra, cinnamon trees
South Africa	gold, chromium, antimony, coal, iron ore, manganese, nickel, phosphates, tin, uranium, gem diamonds, platinum, copper, vanadium, salt, natural gas

84 Ban Ki-moon speech (delivered by Jean Christophe Bouvier) at the Fourth Nevsky International Ecological Congress, Saint Petersburg, Russian Federation (May 2011) <http://www.un.org/News/Press/docs/2011/sgsm13576.doc.htm>; accessed 12 June 2011.

85 Resolution on Programme for the Further Implementation of Agenda 21 GA Res 19/2, UN Doc S-19/2 (1997) para 27.

86 Susswein (2003:303).

Swaziland	asbestos, coal, clay, cassiterite, hydropower, forests, small gold and diamond deposits, quarry stone, and talc
Tanzania	hydropower, tin, phosphates, iron ore, coal, diamonds, gemstones, gold, natural gas, nickel
Zambia	copper, cobalt, zinc, lead, coal, emeralds, gold, silver, uranium, hydropower
Zimbabwe	coal, chromium ore, asbestos, gold, nickel, copper, iron ore, vanadium, lithium, tin, platinum group metals
<p><i>Source: Compiled by author based on CIA World Fact Book at https://www.cia.gov/library/publications/the-world-factbook/fields/2111.html</i></p>	

A sound legal framework can play a vital role in regulating sustainable poverty alleviation strategies across the region, but utmost success seems unattainable without national governments’ dedication to achieving the same goal. Regional integration is an essential precondition for more effective regional environmental policy because the environment knows no national boundaries. Regional integration is a path towards gradually liberalising the trade of developing countries and integrating them into the world economy.⁸⁷ At first glance it appears that the promotion and protection of the environment is not within the focal range of a regional economic community (REC). However, this Chapter intends to reflect that environment related matters play a vital role. The relationship between environmental protection and economic development has become closer over the past few years due to increasing discussions in the world community on the issue.⁸⁸ This connection can be seen as a two-way relationship insofar as economic development is obliged to respect the environment in a democratic society. Conversely, environmental protection can be given more effect through economic growth, as one outcome of economic growth is the increasing availability of resources, resulting in the reduction of poverty and a higher standard of living. Here the Principle of Sustainable Development comes into play, which aims at embracing and balancing ecology, economy, conservation and utilisation. It is the governing political *Leitmotiv* for environment and development and can be broadly understood as a concept that is characterised by ‘(i) the links between the policy goals of economic and social development and environmental protection; (ii) the qualification of environmental protection as an integral part of any developmental measure, and vice versa; and (iii) the long term perspective of both policy goals, that is the States’ inter-generational responsibility.’⁸⁹

On the one hand, Africa is endowed with natural resources, fisheries, and minerals.⁹⁰ On the other, its environmental challenges include inter alia, climate change, land degradation, poor land use and land management, and over-exploitation of natural resources, water scarcity and loss of bio-diversity. In this regard poverty and challenges of governance often collide with different interests in society and political pressures.⁹¹ With the words of the former executive

87 Andresen *et al.* (2001:3).
 88 Ruppel (2008a:116).
 89 Beyerlin (1996:95ff.).
 90 Sands (2003:263).
 91 Kameri-Mbote/Odote (2009:37).

Director of the United Nations Environmental Programme (UNEP), Klaus Töpfer it can be stated in context, that ‘sustainable development cannot be achieved unless laws governing society, the economy, and our relationship with the Earth connect with our deepest values and are put into practice internationally and domestically.’⁹²

The role regional integration can play with regards to the impact of climate change is as multifaceted as the concept itself. With reference to the Cotonou Partnership Agreement it was proposed to define regional integration as ‘the process of overcoming, by common accord, political, physical, economic and social barriers that divide countries from their neighbours, and of collaborating in the management of shared resources and regional commons’.⁹³ The process of regional integration is thus characterised by arrangements for enhancing cooperation through regional rules and institutions entered into by states of the same region.

The stimulation of growth and income levels, for example, potentially enable nations to have opportunities to generate additional resources to address environmental issues more effectively.⁹⁴ Increasing awareness about the negative effects of climate change and ongoing communication among international institutions, as well as public dialogue, necessarily leads to revision of and amendment to traditional frameworks. These also lead to fruitful discussions, for example, on new trade and climate change related measures such as carbon labelling or similar standards or regulations or on the imposition of border carbon adjustments, a measure to impose border taxes on the embodied carbon of imported goods, set at the level of equivalent domestic taxes.

Regional integration furthermore provides an opportunity to enhance political stability by establishing regional organisations which play an increasing role in defusing conflicts within and between countries and in promoting human rights. In terms of climate change related matters, such organisations are of the utmost relevance, especially when it comes to climate change related disaster management and environmentally induced migration. In this context, regional integration may serve as a tool to maintain political stability by building trust, enhancing understanding between groups and deepening interdependence.

Regional cooperation in environmental related matters including knowledge and technology transfer is another important link between regional integration and environmental protection. Such cooperation can address further interrelated challenges of a trans-national dimension such as food security, biodiversity, natural resources, and disease and pest control. One example in this regard is the considerable hydroelectric, solar and wind energy potential that exists in Southern Africa. Since many African countries share relevant resources, such as cross-border river basins, a regional approach is best suited to attract respective investment. In the light of the fact that the global village with international trade as one foundation has

92 Töpfer (2005).

93 CEC (2008:3).

94 This and the following two paragraphs are largely based on Ruppel / Ruppel-Schlichting (2012).

become a reality, it is commendable, that the ‘trade versus environment’ debate has shifted to one of mutual support between trade and environment, even though it might, at a first glance, appear to be a forced marriage.

5 The WTO and the Environment

The world trade order is closely related to international environmental policy and its institutions. Environmental degradation and pollution is largely induced by economic activities and international trade flows. But what is the World Trade Organisation’s (WTO) relationship to the environment? In other words, what is the primary objective of the WTO?

5.1 The Primary Objective of the WTO

The WTO provides a forum for negotiating agreements aimed at reducing obstacles to international trade and ensuring a level playing field for all, thereby contributing to economic growth and development. The WTO also provides a legal and institutional framework for the implementation and monitoring of these agreements, as well as for settling disputes arising from their interpretation and application. The current body of trade agreements comprising the WTO consists of 16 different multilateral agreements (to which all WTO members are parties) and two different plurilateral agreements (to which only some WTO members are parties). Over the past 60 years, the WTO, which was established in 1995, and its predecessor organisation the GATT have helped to create an international trading system. More specifically, the WTO main activities are:

- (a) Negotiating the reduction or elimination of obstacles to trade (import tariffs, other barriers to trade) and agreeing on rules governing the conduct of international trade (e.g. anti-dumping, subsidies, product standards, etc.);
- (b) administering and monitoring the application of the WTO’s agreed rules for trade in goods, trade in services, and trade-related intellectual property rights;
- (c) monitoring and reviewing the trade policies of members, as well as ensuring transparency of regional and bilateral trade agreements;
- (d) settling disputes among members regarding the interpretation and application of the agreements;
- (e) building capacity of developing country government officials in international trade matters;
- (f) assisting the process of accession of some 30 countries who are not yet members of the organisation;
- (g) conducting economic research and collecting and disseminating trade data in support of the WTO’s other main activities;
- (h) educating the public about the WTO, its mission and its activities.⁹⁵

The WTO’s founding and guiding principles remain the pursuit of open borders, the guarantee

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Text largely taken from <http://www.wto.org/english>; accessed 22 November 2010.

of most-favoured-nation principle and non-discriminatory treatment by and among members, and a commitment to transparency in the conduct of its activities. The opening of national markets to international trade, with justifiable exceptions or with adequate flexibilities, will encourage and contribute to sustainable development, raise people's welfare, reduce poverty, and foster peace and stability. At the same time, the liberalisation of markets must be accompanied by sound domestic and international policies which contribute to economic growth and development according to each member's needs and aspirations.⁹⁶

The WTO is not an environmental protection agency. Its competence lies in the field of trade; the issue of the environment is limited to trade policies and to the trade-related aspects of environmental policies which have a significant effect on trade. However, in addressing the link between trade and environment, the two fields can complement each other. Overall the GATT/WTO rules already provide significant scope for members to adopt national environmental protection policies. Trade liberalisation for developing country exports, along with financial and technology transfers, are necessary in helping developing countries generate the necessary resources to protect the environment and work towards sustainable development; coordinating trade and environment issues should be emphasised. An improved coordination at the national level between trade and environmental officials, as well as increased coordination at the international level could contribute to enhancing mutual supportiveness between the trade and environment regimes. The WTO's primary mandate is not to protect the environment but to promote trade. Although the first paragraph of the WTO agreement explicitly refers to the objective of sustainable development, aspiring:

... both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.⁹⁷

However, WTO members should not operate on the assumption that the WTO itself has the answers to environmental problems. Trade regulations are not, and cannot be, a substitute for environmental regulations.

5.2 The 2001 Doha Declaration and the Environment

The 2001 Doha Declaration envisages trade, the environment and sustainable development to be mutually supportive. The declaration was adopted at the Doha Ministerial Conference in 2001 emphasising the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs). The negotiations shall be limited in scope to the applicability of such existing WTO rules as among parties to the MEA in question. The negotiations shall not prejudice the WTO rights of any member that is not a party to the MEA in question; procedures for regular information exchange between MEA Secretariats and the relevant WTO committees, and the criteria for the granting of

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Ibid.

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Cf. legal text on the Agreement Establishing the World Trade Organisation; available at http://www.wto.org/english/docs_e/legal_e/04-wto.pdf; accessed 22 November 2010.

observer status; the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services. The Committee on Trade and Environment was instructed, in pursuing work on all items on its agenda within its current terms of reference, to give particular attention to the effect of environmental measures on market access, especially in relation to developing countries, in particular the least-developed among them, and those situations in which the elimination or reduction of trade restrictions and distortions would benefit trade, the environment and development; the relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights; and labelling requirements for environmental purposes. The importance of technical assistance and capacity building in the field of trade and environment to developing countries, in particular the least-developed among them was stressed.⁹⁸

Agenda 21 promulgated that international trade and environmental laws should be mutually supportive. In this context, the relationship of the WTO rules and MEAs, of which more than 250 exist to date, is not always clear.⁹⁹ Of the MEAs currently in existence, over 20 incorporate trade measures to achieve their goals. Such trade-restricting measures may conflict with WTO rules (this problem is reflected in the Chile-Swordfish case).¹⁰⁰

The relationship is monitored by the Committee on Trade and Environment (CTE), which was established in April 1994. The CTE has the mandate to identify the relationship between trade measures and environmental measures in order to promote sustainable development, and making appropriate recommendations on whether any modifications of the provisions of the multilateral trading system are required. The CTE is composed of all WTO members and a number of observers from inter-governmental organisations. It reports to the WTO's General Council. In November 2001, at the Doha Ministerial Conference, it was agreed to launch negotiations on certain issues related to trade and environment. These negotiations are conducted in a Committee established for this purpose, the Committee on Trade and Environment Special Session (CTESS).¹⁰¹

The relationship between MEAs and WTO regulation is mostly not so problematic in cases, where all WTO members concerned are at the same time parties to the specific MEA in question. Then the case can be dealt with under the general obligations of public international law. WTO regulations will in general terms not hinder Members, which are parties to an MEA to apply it accordingly. More problematic are cases in which one of the parties concerned is

98 The Doha Ministerial Declaration is electronically available at http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm; accessed on 22 November 2010.

99 E.g. the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; the 2001 Stockholm Convention on Persistent Organic Pollutants (POPs); the 1989 Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal; the 1985 Vienna Convention for the Protection of the Ozone Layer; the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer; the 1992 Bonn United Nations Framework Convention on Climate Change and its 1997 Kyoto Protocol; and the 1992 Rio Convention on Biological Diversity, to name but a few of the most prominent MEAs.

100 See *infra*.

101 Cf. http://www.wto.org/english/tratop_e/envir_e/envir_wto2004_e.pdf; accessed 22 November 2010.

not a WTO member, respectively not a party to the MEA in question.¹⁰²

5.3 The Committee on Trade and Environment

The WTO's Committee on Trade and Environment (CTE) was established in 1994 by the Marrakesh Ministerial Decision on Trade and Environment.¹⁰³ As subsidiary body of the General Council of the WTO, the CTE is responsible for implementing the mandate the council was given by the Decision on Trade and Environment. The CTE meets several times a year and membership is open to all WTO Members. Observer governments and observers from inter-governmental organizations are invited to participate in CTE meetings. Originally, the CTE was endowed with broad mandates "to identify the relationship between trade measures and environmental measures in order to promote sustainable development", to "to make appropriate recommendations on whether any modifications of the provisions of the multilateral trading system are required, compatible with the open, equitable and non-discriminatory nature of the system..."¹⁰⁴

The CTE was *inter alia* mandated to discuss:

- the links between the multilateral trading system and MEAs; relations between the WTO and taxes applied for environmental protection;
- relations between the WTO system and prescriptions established for environmental purposes with regard to products, norms, technical regulations and prescriptions on packaging, labelling and recycling;
- provisions of the WTO relating to the transparency of trade measures applied to the environment and environmental measures that have an impact on trade;
- the interrelationship between dispute settlement mechanisms established by MEAs and those provided by the multilateral trading system;
- the effects of environmental measures on market access;
- services;
- intellectual property; and,
- the export of prohibited products.

Some of the items contained in the original ten items programme are being negotiated in the course of the Doha negotiations.¹⁰⁵ Considering its mandates and the items of its work programme, the CTE is an important institution to find a balance between trade and environment in general, and more particularly between legal implications of the trading system and multilateral environmental agreements.

102 Stoll / Schorkopf (2006:258f.).

103 See http://www.wto.org/english/docs_e/legal_e/56-dtenv_e.htm; accessed 08 April 2012.

104 See 1994 Marrakesh Ministerial Decision on Trade and Environment at http://www.wto.org/english/docs_e/legal_e/56-dtenv_e.htm; accessed 08 April 2012.

105 See http://www.wto.org/english/tratop_e/envir_e/cte00_e.htm for further information; accessed 23 March 2011.

5.4 WTO Agreements and their Environmentally Relevant Provisions

5.4.1 The General Agreement on Tariffs and Trade (GATT)

The General Agreement on Tariffs and Trade (GATT) covers international trade in goods. The workings of the GATT agreement are the responsibility of the Council for Trade in Goods (Goods Council) which is made up of representatives from all WTO member countries. GATT 1994, Articles I and III deal with non-discrimination. One component of the principles of non-discrimination is the Most-Favoured Nation (MFN) clause (Article I). It regulates that WTO members are bound to treat the products of other members not less favourable than accorded to the products of any other country. No country may give special trading advantages to another or to discriminate against it. This means that all members are on an equal footing, and all share the benefits of any move towards lower trade barriers. The MFN principle ensures that developing countries and others with little economic leverage are able to benefit freely from the best trading conditions, whenever and wherever they are negotiated. Another principle of non-discrimination is the National Treatment Principle (Article III); it regulates that once goods have entered a market they must be treated no less favourably than equivalent domestically-produced goods. Non-discrimination in terms of environmental concerns ensures to prevent the abuse of environmental policies and of their usage as disguised restrictions on international trade.

Moreover GATT Article XI provides for an elimination of quantitative restrictions. Article XI has been violated in the context of a number of environmental disputes in which countries have imposed bans on the importation of certain products; it therefore has relevance for trade and environment discussions. Most importantly, Article XX grants general exceptions from the aforementioned GATT rules. Article XX (b) lists measures necessary to protect human, animal or plant life and health; Article XX (g) lists measures relating to the conservation of exhaustible natural resources. WTO members may be exempted from GATT rules in specific instances. However, measures must be necessary (necessity-test). If the conditions set by Article XX are fulfilled, they must still pass the test of the introductory clause (Chapeau) of Article XX. According to the Chapeau measures may not be pronounced as arbitrary and unjustifiable discrimination between countries where the same conditions prevail and they may not constitute a disguised restriction on international trade. GATT rules provide significant scope for members to adopt national environmental protection policies. GATT rules impose only one requirement in this respect, that of non-discrimination. WTO members are free to adopt national environmental protection policies provided that they do not discriminate between imported and domestically produced like products (national treatment principle), or between like products imported from different trading partners ('most-favoured-nation' clause). Non-discrimination is one of the main principles on which the multilateral trading system is founded. It shall secure predictable access to markets, protect the economically weak from the more powerful, and guarantee consumer choice.¹⁰⁶

106 On the trade and environment debate see <http://www.wto.org/english/>; accessed 22 November 2010.

5.4.2 The General Agreement on Trade in Services (GATS)

The General Agreement on Trade in Services (GATS) is among the World Trade Organisation's most important agreements. The agreement, which came into force in January 1995, is the first and only set of multilateral rules covering international trade in services. It has been negotiated by the member governments, and sets the framework within which firms and individuals can operate. The GATS has two parts: the framework agreement containing the general rules and disciplines; and the national schedules which list individual countries' specific commitments on access to their domestic markets by foreign suppliers.¹⁰⁷ GATS contains a general exceptions clause in Article XIV, similar to that of GATT Article XX. In addressing environmental concerns, GATS Article XIV (b) allows WTO members to maintain policy measures inconsistent with GATS if this is necessary to protect human, animal or plant life or health. This must not result in arbitrary or unjustifiable discrimination and may not constitute disguised restriction on international trade. GATS Article XIV Chapeau is identical to that of GATT Article XX.

5.4.3 The Agreement on Technical Barriers to Trade (TBT)

The Agreement on Technical Barriers to Trade (TBT) attempts to ensure that regulations, standards, testing and certification procedures do not create unnecessary obstacles. Technical regulations and product standards may vary from country to country. Many differing regulations and standards make life difficult for producers and exporters. If regulations are set arbitrarily, they could be used as an excuse for protectionism.¹⁰⁸ The TBT aims to avoid unnecessary obstacles to trade. Product specifications, whether mandatory or voluntary (known as technical regulations and standards), as well as procedures to assess compliance with those specifications (known as conformity assessment procedures), should not create unnecessary obstacles to trade. Article 2.2 provides for legitimate objectives for countries to pursue protection of human health or safety; protection of animal or plant life; and protection of the environment.

5.4.4 The Agreement on Sanitary and Phyto-sanitary Measures (SPS)

The Agreement on Sanitary and Phyto-sanitary Measures (SPS) deals with the following problem: How do we ensure that our country's consumers are supplied with food that is safe to eat and safe by the standards considered appropriate? And at the same time, how can we ensure that strict health and safety regulations are not being used as an excuse for protecting domestic producers?¹⁰⁹ The SPS Agreement is very similar to the TBT Agreement, but covers a narrower range of measures. It covers measures taken by countries to ensure the safety of foods, beverages and feedstuffs from additives, toxins or contaminants, or for the protection of countries from the spread of pests or diseases. It recognises the right of members to adopt SPS measures but stipulates that they must be based on a risk assessment, should be applied only to the extent necessary to protect human, animal or plant life or health, and should not

107 See http://www.wto.org/english/tratop_e/serv_e/gats_factfiction1_e.htm; accessed 22 November 2010.

108 See http://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm; accessed 22 November 2010.

109 See http://www.wto.org/english/tratop_e/sps_e/sps_e.htm; accessed 22 November 2010.

arbitrarily or unjustifiably discriminate between countries where similar conditions prevail. The SPS objectives aim to protect human or animal life from risks arising from additives, contaminants, toxins or disease-causing organisms in their food, beverages and foodstuffs.

5.4.5 The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) introduced intellectual property rules into the multilateral trading system for the first time. Ideas and knowledge are an increasingly important part of trade. Most of the value of new medicines and other high-technology products are contained in the amount of invention, innovation, research, design and testing involved. Films, music recordings, books, computer software and on-line services are bought and sold because of the information and creativity they contain, not because of the plastic, metal or paper used to make them. In the past, products were traded as low-technology commodities now contain a higher proportion of invention and design in their value; for example, branded clothing or new varieties of plants. Creators can be given the right to prevent others from using their inventions, designs or other creations and to use that right to negotiate payment in return for others using them. These are intellectual property rights. They take a number of forms. For example books, paintings and films are protected under copyright; inventions can be patented; brand names and product logos can be registered as trademarks; and so on. Governments and parliaments have given creators these rights as incentive to produce ideas that will benefit society as a whole. The extent of protection and enforcement of these rights varies around the world; as intellectual property became more important in trade, these differences became a source of tension in international economic relations. New internationally agreed upon trade rules for intellectual property rights were seen as a way to introduce more order and predictability, and for disputes to be settled more systematically.¹¹⁰ TRIPS stipulates patents are available for inventions in all fields of technology. It however also regulates the permissible exceptions thereto in Section 5, Article 27.¹¹¹

5.4.6 The Agreement on Subsidies and Countervailing Measures (SCM)

The Agreement on Subsidies and Countervailing Measures (SCM) disciplines the use of subsidies, and it regulates the actions countries can take to counter the effects of subsidies. Under the agreement, a country can use the WTO's dispute-settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects. Alternatively, a country can launch its own investigation and ultimately charge extra duty ("countervailing duty") on subsidised imports found to be detrimental to domestic producers.¹¹² The Agreement on Subsidies and Countervailing Measures applies to non-agricultural products and is designed to regulate the use of subsidies. Certain subsidies referred to as 'non-actionable' are generally allowed. Under Article 8 of the Agreement on non-actionable subsidies, direct reference had

110 From http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm; accessed 22 November 2010.

111 See also the Chapter by Laltaika in this volume.

112 See http://www.wto.org/english/tratop_e/scm_e/scm_e.htm; accessed 22 November 2010.

been made to the environment. Amongst the non-actionable subsidies that had been provided for under that Article were subsidies used to promote the adaptation of existing facilities to new environmental requirements (Article 8.2(c)). However, this provision expired in its entirety at the end of 1999. It was intended to allow members to capture positive environmental external factors when they arise.

5.4.7 The Agreement on Agriculture

The Agreement on Agriculture was negotiated in the Uruguay Round (1986 – 1994) and is a significant first step towards fairer competition and a less distorted sector. WTO Member governments agreed to improve market access and reduce trade-distorting subsidies in agriculture. It seeks to reform trade in agricultural products and provides the basis for market-oriented policies. In its Preamble, the Agreement reiterates the commitment of Members to reform agriculture in a manner which protects the environment. Under the Agreement, domestic support measures with minimal impact on trade (known as green box policies) are excluded from reduction commitments (contained in Annex 2 of the Agreement). These include expenditures under environmental programmes, provided they meet certain conditions. The exemption also enables members to capture positive environmental external factors.

5.5 The WTO's Dispute Settlement Body

The Dispute Settlement Body (DSB) is the WTO's judicial body. The dispute settlement mechanism of the WTO, one of the pillars of the multilateral trading system, is governed by Articles XXII and XXIII of GATT, and the Dispute Settlement Understanding (DSU). In simplified terms, the full dispute settlement process can be subdivided in four phases:¹¹³ The process begins with consultations between the countries in dispute. If consultations fail, the process enters the second stage, the panel. Panels consist of three or five experts from different countries who examine the evidence and issue a report. The report becomes the Dispute Settlement Body's (DSB) ruling or recommendation unless a consensus rejects it. The third stage of the dispute settlement process is an appeal to the Appellate Body, if so requested by one or both parties to the dispute. The respective appeals report has to be accepted or rejected by the DSB. The final stage is that of adoption and implementation of the DSB's rulings and recommendations. The number of cases number of formal complaints that went to the panel stage amounted to 418 as of 31 October 2010.¹¹⁴ The majority of cases relate to the European Union and the United States.

Historically, Africa's involvement in the dispute settlement process of the WTO is rather small. Although the involvement of developing countries in WTO related cases has increased significantly and account for over 40% of the cases, it is mostly the large Asian and Latin

113 For more details see Delich (2002: 71ff.).

114 See WTO DSB Annual Report (2010), *Overview of the State of Play of WTO Disputes*, WT/DSB/51/Add.1, 3 December 2010.

American countries which are making use of the dispute settlement process. While African countries have been respondents in seven cases (Egypt in four cases and South Africa in three cases), no African country has so far initiated proceedings under the DSU.¹¹⁵ The participation as third party is slightly higher, as 16 African countries have participated in proceedings as third parties.¹¹⁶

The reasons for Africa's minor role in the proceedings under the DSU are manifold¹¹⁷ and include the following: Although Africa's share in world trade has increased from 2% to 2.3%,¹¹⁸ this share is rather minor compared to other regions; and as the range of export products is comparatively small, it is understandable just why the participation of African countries in the dispute settlement system is currently limited. Further reasons for Africa's limited participation through litigation under the DSU are the agreements granting preferential access to key trade markets, such as the Lomé Conventions and the Cotonou Agreement, European Partnership Agreements (EPAs) or the United States' African Growth and Opportunity Act (AGOA). Moreover, African priorities at this stage are focused on market access negotiations rather than on taking disputes to the WTO's judicial body. However, it is predictable that the African share of world trade will increase, and as such, there may be need to resolve disputes that arise. With increasing economic development and regional integration strengthening the position of African economies, combined with a growing base of legal expertise in trade related issues, the participation of African countries in the dispute settlement system will undoubtedly improve.

5.6 Some Environmental Case References

A few of the environment-related cases that have been brought before the GATT/WTO dispute settlement mechanism are listed below in brief.

5.6.1 United States - Canadian Tuna (1982)¹¹⁹

An import prohibition was introduced by the United States after Canada seized nineteen fishing vessels and arrested US-fishermen for harvesting Albacore tuna, without authorisation from the Canadian government, in waters considered by Canada to be under its jurisdiction. The United States did not recognise this jurisdiction and introduced an import prohibition to retaliate against Canada under the Fishery Conservation and Management Act.

The Panel found that the import prohibition was contrary to GATT Article XI:1, and was not justifiable under Articles XI:2 and Article XX (g).¹²⁰

115 See http://www.wto.org/english/tratop_e/dispu_e/dispu_maps_e.htm; accessed 26 March 2010.

116 African countries which have participated as third parties are Benin, Cameroon, Chad, Ivory Coast, Egypt, Ghana, Kenya, Madagascar, Malawi, Mauritius, Nigeria, Senegal, Swaziland, Tanzania, and Zimbabwe. Numbers taken from WTO's table at http://www.wto.org/english/tratop_e/dispu_e/dispu_by_country_e.htm#respondent; accessed on 21 March 2011.

117 Alavi (2007:25-42).

118 OECD at <http://www.oecd.org/dataoecd/53/48/39759627.pdf>.

119 See http://www.wto.org/english/tratop_e/envir_e/edis01_e.htm; accessed 22 November 2010.

120 United States - Prohibition of Imports of Tuna and Tuna Products from Canada, adopted on 22 February 1982.

5.6.2 Canada - Salmon and Herring (1988)¹²¹

Under the 1970 Canadian Fisheries Act, Canada maintained regulations prohibiting the exportation or sale for export of certain unprocessed herring and salmon. The United States complained that these measures were inconsistent with GATT Article XI. Canada argued that these export restrictions were part of a system of fishery resource management aimed at preserving fish stocks, and therefore were justified under Article XX (g).

The panel found that the measures maintained by Canada were contrary to GATT Article XI:1 and were justified neither by Article XI:2 (b), nor by Article XX (g).¹²²

5.6.3 United States - Tuna (Mexico) (1991, not adopted)¹²³

The US Marine Mammal Protection Act (MMPA) required a general prohibition of the “taking” and importation into the United States of marine mammals, except when explicitly authorised. The Act governed, in particular, the taking of marine mammals incidental to harvesting, yellow fin tuna in the Eastern Tropical Pacific Ocean (ETP), an area where dolphins are known to swim above schools of tuna. Under the MMPA, the importation of commercial fish or products from fish which were caught using commercial fishing technology which results in the incidental killing or injury of ocean mammals in excess of US standards, were prohibited. In particular, the importation of yellow fin tuna harvested with purse-seine nets in the ETP was prohibited (*primary nation embargo*), unless the competent US-authorities established that the government of the harvesting country had a programme regulating the taking of marine mammals, comparable to that of the United States, and the average rate of incidental taking of marine mammals by vessels of the harvesting nation was comparable to the average rate of such taking by US vessels. The average incidental taking rate (in terms of dolphins killed each time in the purse-seine nets) for that country’s tuna fleet were not to exceed 1.25 times the average taking rate of US vessels in the same period.

Imports of tuna from countries purchasing tuna from a country subject to the primary nation embargo were also prohibited (*intermediary nation embargo*). Mexico claimed that the import prohibition on yellow fin tuna and tuna products was inconsistent with Articles XI, XIII and III. The United States requested the panel to find *direct embargo* was consistent with Article III and, the alternative, was covered by Article XX(b) and (g). The United States also argued that the *intermediary nation embargo* was consistent with Article III and, the alternative, was justified by Article XX, paragraphs (b), (d) and (g) because the tuna was caught in a manner harmful to dolphins.

The panel found that the import prohibition under the *direct* and the *intermediary* embargoes did not constitute internal regulations within the meaning of Article III, were inconsistent with Article XI:1 and were not justified by Article XX paragraphs (b) and (g). Moreover, the

121 See http://www.wto.org/english/tratop_e/envir_e/edis02_e.htm; accessed 22 November 2010.

122 Canada - Measures Affecting Exports of Unprocessed Herring and Salmon, adopted on 22 March 1988.

123 See http://www.wto.org/english/tratop_e/envir_e/edis04_e.htm; accessed 22 November 2010.

intermediary embargo was not justified under Article XX (d). Allowing the American import measures, the import prohibition, would undermine the multilateral trading system.¹²⁴

5.6.4 United States – Gasoline (1996)¹²⁵

Following the 1990 amendment to the Clean Air Act, the US Environmental Protection Agency (EPA) promulgated the Gasoline Rule on the composition and emissions effects of gasoline, in order to reduce air pollution in the United States. The Gasoline Rule permitted only gasoline of a specified cleanliness (“reformulated gasoline”) to be sold to consumers in the most polluted areas of the country. In the rest of the country, only gasoline no dirtier than that sold in the base year of 1990 (“conventional gasoline”) could be sold. The Gasoline Rule applied to all US refiners, blenders and importers of gasoline. It required any domestic refiner which was in operation for at least six months in 1990 to establish an individual refinery baseline, which represented the quality of gasoline produced by that refiner in 1990. EPA also established a statutory baseline, intended to reflect average US 1990 gasoline quality. The statutory baseline was assigned to those refiners who were not in operation for at least six months in 1990, and to importers and blenders of gasoline. Compliance with the baselines was measured on an average annual basis.

Venezuela and Brazil claimed that the Gasoline Rule was inconsistent, *inter alia*, with GATT Article III, and was not covered by Article XX. The United States argued that the Gasoline Rule was consistent with Article III, and, in any event, was justified under the exceptions contained in Article XX, paragraphs (b), (g) and (d).

The panel found that the Gasoline Rule was inconsistent with Article III, and could not be justified under paragraphs (b), (d) or (g). The appeal on the panel’s findings on Article XX(g), the Appellate Body found that the baseline establishment rules contained in the Gasoline Rule fell within the terms of Article XX (g), but failed to meet the requirements of the Chapeau of Article XX.¹²⁶

5.6.5 Chile - Swordfish (WTO/ITLOS/2000)¹²⁷

Swordfish migrate through the waters of the Pacific Ocean. During their extensive journeys, swordfish cross jurisdictional boundaries. For ten years, the European Community and Chile were engaged in controversy over swordfish fisheries in the South Pacific Ocean, resorting to different international law regimes to support their positions. However, the European Community decided in April 2000 to bring the case before the WTO, and Chile before the ITLOS¹²⁸ in December 2000.

124 United States - Restrictions on Imports of Tuna, circulated on 3 September 1991, not adopted.

125 See http://www.wto.org/english/tratop_e/envir_e/edis07_e.htm; accessed 22 November 2010.

126 United States - Standards for Reformulated and Conventional Gasoline, Appellate Body Report and Panel Report, adopted on 20 May 1996.

127 See http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds193_e.htm and http://www.wto.org/english/tratop_e/envir_e/envir_wto2004_e.pdf; accessed 22 November 2010.

128 International Tribunal for the Law of the Sea.

With regard to the proceedings at the WTO on 19 April 2000, the European Community requested consultations with Chile regarding the prohibition on the unloading of swordfish in Chilean ports established on the basis of the Chilean Fishery Law. The European Community asserted that its fishing vessels operating in the South East Pacific were not allowed, under Chilean legislation, to unload their swordfish in Chilean ports. The European Community considered that, as a result, Chile made transit through its ports impossible for swordfish. The European Community claimed that the above-mentioned measures were inconsistent with GATT 1994, and in particular Articles V and XI. On 12 December 2000, the Dispute Settlement Body (DSB) established a panel further to the request of the European Community. In March 2001, the European Community and Chile agreed to suspend the process for the constitution of the panel (this agreement was confirmed in November 2003).

Proceedings started on 19 December 2000 at the ITLOS by Chile and the European Community. Chile requested, *inter alia*, the ITLOS to declare whether the European Community had fulfilled its obligations under UNCLOS:

- Article 64 - calling for cooperation in ensuring conservation of highly migratory species;
- Articles 116-119 - relating to conservation of the living resources of the high seas;
- Article 297 - concerning dispute settlement; and
- Article 300 - calling for good faith and no abuse of right.

The European Community requested, *inter alia*, the Tribunal to declare whether Chile had violated:

- Articles 64, 116-119 and 300 of UNCLOS, as well as
- Article 87 - freedom of the high seas including freedom of fishing, subject to conservation obligations; and
- Article 89 - prohibiting any State from subjecting any part of the high seas to its sovereignty.

On 9 March 2001, the parties informed the ITLOS that they had reached a provisional arrangement concerning the dispute and requested that the proceedings before the ITLOS be suspended. This suspension was recently confirmed. The case therefore remains on the docket of the Tribunal.

5.6.6 United States - Shrimp: Initial Phase (1998)

To date, seven species of sea turtles have been identified worldwide. They spend their lives at sea, where they migrate between their foraging and their nesting grounds. Sea turtles have been adversely affected by human activity, either directly (exploitation of their meat, shells and eggs), or indirectly (incidental capture in fisheries, destruction of their habitats, pollution of the oceans). In early 1997, India, Malaysia, Pakistan and Thailand brought a joint complaint against a ban imposed by the United States on the importation of certain shrimp and shrimp products. The US Endangered Species Act of 1973 (“ESA”) listed as

endangered or threatened the five species of sea turtles that occur in US waters and prohibited their take within the United States, in its territorial sea and the high seas. Pursuant to ESA, the United States required that US shrimp trawlers use “turtle excluder devices” (TEDs) in their nets when fishing in areas where there is a significant likelihood of encountering sea turtles. Section 609 of Public law 101-102, enacted in 1989 by the United States, provided, *inter alia*, that shrimp harvested with technology that may adversely affect certain sea turtles may not be imported into the United States, unless the harvesting nation was certified to have a regulatory programme and an incidental take-rate comparable to that of the United States, or that the particular fishing environment of the harvesting nation did not pose a threat to sea turtles. In practice, countries having any of the five species of sea turtles within their jurisdiction and harvesting shrimp with mechanical means had to impose on their fishermen requirements comparable to those borne by US shrimpers, essentially the use of TEDs at all times, if they wanted to be certified and to export shrimp products to the United States.

The Panel considered that the ban imposed by the United States was inconsistent with Article XI and could not be justified under Article XX. The Appellate Body found that the measure at stake qualified for provisional justification under Article XX (g), but failed to meet the requirements of the Chapeau of Article XX, and, therefore, was not justified under Article XX of GATT 1994.¹²⁹

5.6.7 United States - Shrimp: Implementation Phase (2001)

Malaysia introduced an action pursuant to Article 21.5 of the Dispute Settlement Understanding (DSU), arguing that the United States had not properly implemented the findings of the Appellate Body in the Shrimp/Turtle dispute. The implementation dispute revolved around a difference of interpretation between Malaysia and the United States on the findings of the Appellate Body. In Malaysia’s view, a proper implementation of the findings would be a complete lifting of the US ban on shrimps. The United States disagreed, arguing that it had not been requested to do so, but simply had to revisit its application of the ban. In order to implement the recommendations and rulings of the Appellate Body, the United States had issued Revised Guidelines for the Implementation of Section 609 of Public Law 101-162 Relating to the Protection of Sea Turtles in Shrimp Trawl Fishing Operations (the “Revised Guidelines”). These Guidelines replaced the ones issued in April 1996 that were part of the original measure in dispute. The Revised Guidelines set forth new criteria for certification of shrimp exporters. Malaysia claimed that Section 609, as applied, continued to violate Article XI:1 and that the United States was not entitled to impose any prohibition in the absence of an international agreement allowing it to do so. The United States did not contest that the implementing measure was incompatible with Article XI:1, but argued that it was justified under Article XX(g). It argued that the Revised Guidelines remedied all the inconsistencies that had been identified by the Appellate Body under the Chapeau of Article XX.

129

United States - Import Prohibition of Certain Shrimp and Shrimp Products, Appellate Body Report and Panel Report adopted on 6 November 1998.

The implementation panel concluded that the protection of migratory species was best achieved through international cooperation. However, it found that the Appellate Body had instructed the United States to negotiate (not necessarily to conclude) an international agreement for the protection of sea turtles with the parties to the dispute. The panel found that the United States had indeed made serious *bona fide* efforts to negotiate such an agreement and ruled in favour of the United States. Malaysia subsequently appealed against the findings of the implementation Panel. It argued that the panel erred in concluding that the measure no longer constituted a means of “arbitrary or unjustifiable discrimination” under Article XX. Malaysia asserted that the United States should have “negotiated and concluded” an international agreement on the protection and conservation of sea turtles before imposing the import prohibition. The Appellate Body upheld the implementation panel’s finding and rejected Malaysia’s contention that avoiding “arbitrary and unjustifiable discrimination” under the Chapeau of Article XX.¹³⁰

5.6.8 Brazil – Measures Affecting Imports of Retreaded Tyres (2007)¹³¹

On 20 June 2005, the European Community (EC) requested consultations with Brazil on the imposition of measures that adversely affect exports of retreaded tyres from the EC to the Brazilian market. The EC would like to address the following measures:

- Brazil’s imposition of an import ban on retreaded tyres;
- Brazil’s adoption of a set of measures banning the importation of used tyres, which are sometimes applied against imports of retreaded tyres, despite the fact that these are not used tyres;
- Brazil’s imposition of a fine of 400 BRL per unit on the importation, as well as the marketing, transportation, storage, keeping or keeping in deposit or warehouses of imported, but not for domestically retreaded tyres; and
- Brazil’s exemption of retreaded tyres imported from other MERCOSUR¹³² countries from the import ban and from the above-mentioned financial penalties, in response to the ruling of a MERCOSUR panel established at the request of Uruguay.

The EC considers that the foregoing measures are inconsistent with Brazil’s obligations under Articles I:1, III:4, XI:1 and XIII:1 GATT 1994.

- Brazil justifies its foregoing by Articles XX(b) and (d), XXIV GATT 1994.
- Upon Brazil’s acceptance Argentina joined the consultations on 20 July 2005.
- Brazil justifies its foregoing by Articles XX(b) and (d), XXIV GATT 1994.
- On 6 March 2006, the European Communities requested the Director-General to compile the panel.

Did Brazil impose an import prohibition on retreaded tyres inconsistent with Article XI:1

130 United States - Import Prohibition of Certain Shrimp and Shrimp Products, Recourse to Article 21.5 by Malaysia, Appellate Body Report and Panel Report, adopted on 21 November 2001.

131 See http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds332_e.htm; accessed 22 November 2010.

132 MERCOSUR (Spanish: Mercado Común del Sur; Portuguese: Mercado Comum do Sul; English: Southern Common Market) is an economic and political agreement between Argentina, Brazil, Paraguay and Uruguay.

GATT 1994? The Panel found that the prohibition on granting of import licences is an import prohibition inconsistent with the requirements under Article XI:1 GATT 1994.

Was Brazil's import prohibition justified under Article XX (b) GATT 1994 to protect human, animal or plant life or health? Risks are posed to human life or health by the accumulation of waste tyres. The accumulation of waste tyres cause mosquito-borne diseases and tyre fires cause toxic emissions. The Panel finds that risks posed by mosquito-borne diseases such as dengue, yellow fever and malaria to human health and life exist in Brazil in relation to the accumulation as well as transportation of waste tyres. The existence of risks to human life and health fall within the meaning of Article XX (b) GATT. The Panel found that Brazil's policy of reducing exposure to the risks to human, animal or plant life or health arising from the accumulation of waste tyres – the import ban – falls within the range of policies covered by Article XX (b).

Was the measure “necessary” within the meaning of Article XX paragraph (b)? The necessity of a measure should be determined through “a process of weighing and balancing a series of factors”:

- the relative importance of the interests or values furthered by the challenged measure;
- the contribution of the measure to the realisation of the ends pursued by it;
- restrictions on international commerce.

Comparison is to be undertaken between the challenged measure and possible alternatives. The Panel's decisions on necessity are affirmative. The prohibition on the importation of retreaded tyres contributes to the objective pursued by Brazil, as it can lead to a reduction in the overall number of waste tyres generated in Brazil because retreaded tyres have a shorter lifespan than new tyres. This can in turn reduce the potential for exposure to the specific risks to human, animal, plant life and health. The Panel is of the view that alternative measures to the import ban (measures to reduce the number of waste tyres; measures to improve the management of waste tyres; other disposal methods e.g. land filling; stockpiling) are not reasonably available to Brazil in light of the level of protection Brazil pursues in relation to the health risks concerned. Stockpiled waste tyres pose similar types of risks such as mosquito-borne diseases and tyre fires to those posed by the accumulation of waste tyres in general and thus cannot constitute an alternative to the import ban.

When considering the Chapeau of Article XX, was the import ban on retreaded tyres applied in a manner that resulted in discrimination? The Panel has determined that discrimination arises in the application of the measure at issue from two sources:

The MERCOSUR exemption can be considered to form part of the manner in which the import ban imposed by Brazil on retreaded tyres, the measure provisionally justified under Article XX(b), is applied and that it gives rise to discrimination within the meaning of the Chapeau of Article XX, between MERCOSUR and non-MERCOSUR countries.

The importation of used tyres under court injunctions: in the case at hand, retreaded tyres may be *produced* in Brazil from imported *casings* (while retreaded tyres using the same casings cannot be imported). Court injunctions permitted imports of *used* tyres. This results in discrimination in favour of tyres retreaded in Brazil using imported casings, to the detriment of imported retreaded tyres. Discrimination also arises from the importation of used tyres under court injunctions.

Was the discrimination in the application of the measure arbitrary / unjustifiable under the Chapeau of Article XX? Arbitrary means dependent on will or pleasure, based on mere opinion or preference as opposed to the real nature of things, capricious, unpredictable, inconsistent, unrestrained in the exercise of will or authority; despotic, tyrannical. Unjustifiable means, not justifiable, indefensible. The Panel's decision on arbitrary or unjustifiable discrimination was as follows:

1. The MERCOSUR exemption did not constitute arbitrary or unjustifiable discrimination. The Panel found, that, as of the time of the its ruling, the operation of the MERCOSUR exemption has not resulted in the measure being applied in a manner that would constitute arbitrary or unjustifiable discrimination

2. The importation of used tyres through court injunctions was, however, considered to be unjustifiable. The Panel found that since used tyre imports have been taking place under the court injunctions in such amounts that the achievement of Brazil's declared objective is being significantly undermined, the measure at issue is being applied in a manner that constitutes a means of unjustifiable discrimination.

Did the discrimination in light of the Chapeau of Article XX occur between countries where the same conditions prevail? The Panel concluded that since used tyre imports have been taking place under court injunctions at such frequencies that the achievement of Brazil's declared objective is being significantly undermined, the measure at issue is applied in a manner that constitutes a means of unjustifiable discrimination where the same conditions prevail.

Was the measure applied in a manner that constituted a disguised restriction on international trade under the Chapeau of Article XX? The imports of used tyres through court injunctions constituted such disguised discrimination. Since imports of used tyres take place in significant amounts under court injunctions to the benefit of the domestic retreading industry, the import ban on retreaded tyres is applied in a manner that constitutes a disguised restriction on international trade.

The MERCOSUR exemption did not constitute disguised discrimination. The MERCOSUR exemption, although it also has the potential to similarly undermine the achievement of the stated objective of the measure, has not been shown to date to result in the measure at issue being applied in a manner that would constitute such a disguised restriction on international

trade. In conclusion, the Panel found that the importation of used tyres through court injunctions results in the import ban being applied in a manner that constitutes a means of unjustifiable discrimination and a disguised restriction to trade within the meaning of the Chapeau of Article XX. In light of this conclusion, the Panel found that the measure at issue was not justified under Article XX GATT 1994.

5.6.9 China - Measures Related to the Exportation of Various Raw Materials

The case was initiated by a request for consultations by the United States on 23 June 2009¹³³, deals with China's restraints on the export from China of various forms of raw materials. The consultations have been joined by Canada¹³⁴, the European Communities¹³⁵, Mexico¹³⁶ and Turkey¹³⁷. The dispute deals with certain measures imposed by China affecting the exportation of certain forms of bauxite, coke, fluor spar, magnesium, manganese, silicon carbide, silicon metal, yellow phosphorous, and zinc. China is a leading producer of each of the raw materials which are used to produce everyday items as well as technology products. Four types of export restraints imposed on the different raw materials at issue have been challenged, namely export duties, export quotas, minimum export price requirements, and export licensing requirements.

The DSB established a panel and Argentina, Brazil, Canada, Chile, Colombia, Ecuador, the European Union, India, Japan, Korea, Mexico, Norway, Chinese Taipei, Turkey and Saudi Arabia reserved their third-party rights. The United States considered that China was in violation of Articles VIII, X, and XI of the GATT 1994; and several provisions of the Protocol on the Accession of the People's Republic of China ("Accession Protocol") by imposing temporary duties on exports of bauxite, coke, fluor spar, magnesium, manganese, silicon metal, and zinc; and by furthermore subjecting exports of yellow phosphorus to a duty in excess of the *ad valorem* rate listed for item No. 11 in Annex 6 to the *Accession Protocol*. The European Union claimed that China has violated the obligation assumed under the note to Annex 6 to consult "with other affected WTO Members prior to the imposition" of the export duties on bauxite, coke, fluor spar, magnesium, manganese, silicon metal, and certain forms of zinc.

Article XX of the GATT 1994 and in particular its provisions relating to environmental matters play a major role in this case. China¹³⁸ *inter alia* argued that the export duty applied to fluor spar was justified pursuant to Article XX (g) because it is a measure relating to the conservation of an exhaustible non-renewable mineral resource, and is applied together with restrictions on domestic production and consumption. The export duties applied to coke,

133 WT/DS394/1.

134 WT/DS394/4.

135 WT/DS394/2.

136 WT/DS394/5.

137 WT/DS394/3.

138 In its first written submission see WT/DS394/R/Add.1, WT/DS395/R/Add.1, WT/DS398/R/Add.1.

magnesium metal, and manganese metal are justified pursuant to Article XX (b) because they are necessary for the protection of human, animal, and plant life or health by virtue of their contribution to the reduction of the polluting and energy-intensive production of coke, magnesium metal, and manganese metal.

On 5 July 2011, the panel¹³⁹ ruled in favour of the claimants and found that the wording of the Accession Protocol did not allow China to use the general exceptions in Article XX of the GATT 1994 to justify its WTO-inconsistent export duties and that even if China were able to rely on certain exceptions available in the WTO rules to justify its export duties, it had not complied with the requirements of those exceptions. The panel recommended that China bring its export duty and export quota measures into conformity with its WTO obligations such that the series of measures do not operate to bring about a WTO-inconsistent result.

Upon appeal the Appellate Body¹⁴⁰ upheld the Panel's finding that there is no basis in China's Accession Protocol to allow the application of Article XX of the GATT 1994 to China's obligations under Paragraph 11.3 of the Accession Protocol. The Appellate Body report and the panel report, as modified by the Appellate Body report have been adopted by the DSB¹⁴¹ and China informed the DSB of its intention to implement the rulings and recommendations and rulings.

5.6.10 China - Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum

On 13 March 2012, the United States¹⁴², Japan¹⁴³, the European Union¹⁴⁴ requested consultations with China under the WTO's dispute settlement system. Canada requested to join the consultations.¹⁴⁵ The case deals with China's restrictions on export of various forms of rare earths¹⁴⁶, as well as tungsten and molybdenum. Rare earths feature unique magnetic, heat-resistance and phosphorescence properties and are used to inter alia produce highly efficient magnets, phosphors, optical and battery materials. These materials are key components of products such as helicopter blades, wind power turbines, energy-efficient bulbs; motors for electric and hybrid vehicles; flat screens and displays, hard drives, medical equipment and many more. Although rare earth elements reserves are dispersed throughout the world, with China holding 50% of the world's reserves, China has a near-monopoly position with more

139 WT/DS394/R; WT/DS395/R; WT/DS398/R.

140 WT/DS394/AB/R, WT/DS395/AB/R, WT/DS398/AB/R.

141 At its meeting on 22 February 2012, see WT/DS394/16, WT/DS395/15, WT/DS398/14 (24 February 2012).

142 WT/DS431/1; G/L/982 see http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds431_e.htm.

143 WT/DS433/1; G/L/984 see http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds433_e.htm.

144 WT/DS432/1; G/L/983 see http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds432_e.htm.

145 WT/DS431/4; WT/DS432/4; WT/DS433/4.

146 A set of seventeen chemical elements are usually referred to as rare earths. These include 15 lanthanides (lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium) as well as scandium and yttrium. The request specifically refers to certain materials falling under but not limited to a vast number of Chinese Customs Commodity Codes.

than 97% in world rare earth production.¹⁴⁷ The country has curbed output and exports since 2009 to conserve mining resources and protect the environment. China's restrictions subject to the complaint include export duties, export quotas, minimum export price requirements, export licensing requirements and additional requirements and procedures in connection with the administration of the quantitative restrictions. The complainants claim that China's measures are inconsistent with Articles VII, VIII, X and XI of the GATT 1994 and several provisions of China's Protocol of Accession. It is argued that China administers export restrictions on various forms of rare earths, tungsten, and molybdenum and the requirements and procedures in connection with these export restrictions in a manner that is not uniform, impartial, reasonable, or transparent. On 23 July 2012, the Dispute Settlement Body established a panel to consider China's exports of rare earths, tungsten and molybdenum.¹⁴⁸

6 Multilateral Environmental Agreements (MEAs) and the Multilateral Trading System

International environmental treaties or Multilateral Environmental Agreements (MEAs) as they are commonly referred to, regulate the relationships between states pertaining to the environment. Generally, the first objective of any MEA is the protection and conservation of the environment. International trade agreements focus on the exchange of goods, services and capital across international borders. That there is *de facto* a close interrelationship between trade and the environment can be taken from the respective legal documents: Environmental agreements contain trade measures and trade agreements provide for measures for environmental protection, as has been sketched in the previous section. This close relationship and a call for mutual supportiveness of trade and environment agreements with a view to achieving sustainable development has been emphasised by Chapter 2 of Agenda 21 and various environmental and trade agreements.

Different trade measures are provided for in MEAs, which are taken to protect the environment and have an impact on international trade flows. The most direct such measure is to prohibit or restrict trade in certain goods or products. Trade measures may be imposed in different forms, such as import or export licences, product standards, labelling, certification systems, notification procedures, taxes or subsidies. By applying trade measures, environmental agreements typically either aim to control and monitor trade activities with regard to the over-exploitation of natural resources, or to combat trade activities considered being sources of pollution.

The 1973 Convention on International Trade in Endangered Species (CITES) for example contains several trade measures to control the trade of species in danger of extinction or which might become endangered. The species to which the trade measures are applicable are specified in the annexes to CITES. Trade measures here include export and import licenses, quotas and certificates on the country of origin.

The 2000 Cartagena Protocol on Bio-Safety, agreed upon by the Parties to the 1992 Convention

147 Humphries (2011).

148 See http://www.wto.org/english/news_e/news12_e/dsb_23jul12_e.htm; last accessed 12 October 2012.

on Biological Diversity, is another important example of MEAs that have an impact on international trade flows. The Protocol provides for specific steps states may take to regulate trade in genetically modified organisms (GMOs) in order to ensure safety of international transfers and of the use of any living GMOs resulting from biotechnology as trans-boundary movements of GMOs may have adverse effects on the conservation of biological diversity. The import of living GMOs may thus be restricted as part of a detailed risk management procedure. The Protocol establishes trade control measures based on a compulsory procedure of notification by the exporting country.

The 1985 Vienna Convention for Protection of the Stratosphere was developed as a framework convention establishing general objectives and a basis for cooperation on ozone layer protection. In order to achieve the elimination of the production of ozone depleting substances, the 1987 Montreal Protocol on Substances that Deplete the Stratospheric Ozone Layer, established trade restriction measures. Certain substances are listed as ozone depleting and all trade in those substances is generally banned between parties and non-parties. Bans may also be implemented against parties as part of the Protocol's non-compliance procedure. Whereas the 1992 United Nations Framework Convention on Climate Change (UNFCCC) does not provide for specific trade measures, the 1997 Kyoto Protocol contains more detailed obligation related to the reduction of greenhouse gases and provides for trade affecting techniques such as tax impositions on carbon dioxide emissions, the adoption of certain treatment or emission rules for greenhouse gas emissions not covered by the Montreal Protocol or the elimination of subsidies adversely affecting the objective of the UNFCCC.

Aiming to protect human health and the environment against the adverse effects which may result from the production and management the 1989 Basel Convention on the Control of Trans-Boundary Movement of Hazardous Wastes and their Disposal contains trade measures establishing a notification and consent procedure for any envisaged trans-boundary movement of hazardous and other wastes. The Convention acknowledges the sovereign right of states to ban the entry of hazardous wastes in their territories and contains obligations concerning transport, disposal, packaging and labelling. Parties may only export a hazardous waste to another party that has not banned its import and that gives written consent to the import. In general, parties may not import from or export to a non-party. Parties are also obliged to prevent the import or export of hazardous wastes if there is an indication that the wastes will not be treated in an environmentally-sound manner at their destination.

The above examples of trade measures in MEAs show that measures generally designed to protect the environment may have a direct impact on the freedom of international trade. Although the provisions in the fields of trade and environment should mutually complement each other according to Agenda 21 and many other international rules, it may occur that MEAs and trade agreements address the same issues differently whereby conflicts between the two fields of international law may arise. In such instances, disputes may be resolved according to the procedures as described in the respective MEA. However, disputes on trade measures in MEAs could also be taken to the WTO's DSB, especially, if the Party affected by

the trade measure is not a party to the MEA, but a member of the WTO. So far, MEAs have not been challenged directly under the WTO's DSU. However, conflicts may arise between WTO rules and trade related measures where trade restrictions provided for in MEAs are used by a party to the MEA against a non-party to the MEA if both parties are members of the WTO. In such cases, the MFN and national-treatment principles, as well as provisions on eliminating quantitative restrictions are potentially infringed.¹⁴⁹ Neither the WTO's legal framework nor the wordings of MEAs claim to be hierarchically superior to the other. On the contrary, the concept of mutual supportiveness of trade and environment agreements is emphasised by both regimes without offering express solutions to solve possible conflicts resulting from the coexistence of trade and environment agreements. Generally, it can be stated that in case of a conflict between MEAs and WTO rules, the rules of treaty interpretation under the Vienna Convention on the Law of the Treaties and general rules of interpretation would have to be applied in order to determine which rules would take precedence over others.¹⁵⁰ So far, trade measures within MEAs have not been in the centre of attention of international trade proceedings. However, WTO members may choose to take a case relating to trade measures in MEAs to the DSB of the WTO. Included in the Doha development agenda, and thus subject to ongoing negotiations, is the task of clarifying the relationship between trade measures in MEAs and WTO rules, the responsibility for which has been given to the WTO's Committee on Trade and Environment.

7 Concluding Remarks

Natural resources represent a significant and growing share of world trade, and properly managed, provide a variety of products that (continue to) contribute greatly to the quality of human life. They, however, also represent challenges for policy makers. Natural resources are scarce, economically useful, distributed unevenly and exhaustible. Their production, trade and consumption can have negative externalities¹⁵¹ on people and the environment. Natural resources are dominated by national economies, they are highly volatile.¹⁵² Some have considered it problematic that the WTO does not have an agreement specifically regulating trade in natural resources. However, most GATT and GATS rules remain relevant for the trade in natural resources.¹⁵³

The 'curse' of natural resources, climate change, water stress, food security and the prevalence of poverty *inter alia* remain challenges for Africa. All of these are also linked to international trade and certainly go hand in hand with poverty reduction, self-reliant sustainable development and the rational use of Africa's natural resources.

With regards to trade, over-exploitation of natural resources, widespread dumping of sub-

149 For more details see UNEP (2005d:65ff).

150 For a detailed discussion see Goyal (2006:356ff).

151 An example of such negative externality would be when a production or mining process results in pollution affecting the health of people who live nearby, or that damages the natural environment, animal or plant life or reduces the livelihood of people.

152 WTO (2010).

153 Ibid.

standard products and services, second-hand and re-conditioned machinery, including of transport goods to increase the share in exports in organically-grown agricultural products to create technical data bases on a wide range of exportable products, implementing and monitoring plans for detection of heavy metals, pesticides, microbiological and contaminants in food items are issues that need to be addressed. What remains a challenge in terms of the WTO and the environment (e.g. biodiversity) is to control the transfer of genetically modified goods, including when delivered as food aid.¹⁵⁴

In the implementation of pro-poor policies and sustainable development, natural resources management, integrated reporting, environmental planning, environmental impact assessment and the overall policy review remain part of the on-going African working agenda. Moreover, new technologies, environmentally friendly goods and services need to be promoted and the protection and preservation of traditional knowledge, agriculture and species is important, especially in the African context. All of that requires national commitment, international cooperation, adequate technical assistance and capacity building. Let us see what (and when) the ongoing Doha negotiations will bring for Africa.

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See <http://www.uneca.org/>; accessed 22 November 2010.

CHAPTER 18

ENVIRONMENTAL JUSTICE: ADVOCACY, LITIGATION AND MEDIATION

Oliver C. Ruppel

1 The Concept of Environmental Justice

Today, in both the industrialised and developing parts of the world, a growing body of evidence demonstrates that poor and other disenfranchised groups have been the greatest victims of environmental degradation. The poor and marginalised still lack access to justice, especially environmental justice. The North-South divide still needs to be bridged in this respect.¹ The social impact of degradation increases the vulnerability of specific groups and populations. This vulnerability has become a key element in human rights discussions. Rights and responsibilities regarding the utilisation of environmental resources need to be distributed with greater fairness among communities – globally, regionally and domestically. Therefore, human rights movements increasingly apply a rights-based strategy to confront global environmental devastation and to protect ecological habitats and the planet for future generations.²

Environmental justice as a concept embraces two objectives. The first is to ensure that rights and responsibilities regarding the utilisation of environmental resources are distributed with greater fairness amongst communities. This entails ensuring that poor and marginalised communities do not suffer a disproportionate burden of the costs associated with the development and exploitation of resources, while not enjoying equivalent benefits from their utilisation. The second is to reduce the overall amount of environmental damage, again globally and domestically.³ Recognition of the link between the abuse of the human rights of various vulnerable communities and related damage to their environment is expressed in the concept environmental justice. The scale and urgency of environmental justice are beyond past challenges: solving them will perhaps mean destabilising and reorienting global economic growth.⁴

Only recently, the Council of Europe stated that “living in a healthy environment should

1 Beyerlin (2006:259–296).

2 Kiss/Shelton (2004:12ff.).

3 Ibid.

4 Thus, the issue of climate change prompts significant questions about justice and distribution. There is an acute need for intelligent collective action focusing on the human suffering that climate change will cause in future. As a matter of law, the human rights of individuals need to be viewed in terms of state obligations: it is the state that is responsible for human rights fulfilment. This assignation of such responsibility may seem inadequate in the context of climate change, where social and economic rights in poor countries are threatened primarily by actions undertaken elsewhere. The special responsibility of wealthy countries to mitigate climate change remains – and is widely accepted. See also Kiss/Shelton (2004:12ff.).

be made a legally enforceable human right”.⁵ On 30 September 2009, the Parliamentary Assembly of the Council of Europe (PACE) called for the “right to live in a healthy and viable environment” to be enshrined in the European Convention on Human Rights – which would make it legally enforceable in courts across Europe. It was further said that “society as a whole... must pass on a healthy and viable environment to future generations, in accordance with the principle of solidarity between generations”.⁶ Yet, the Legal Affairs and Human Rights Committee of the Council of Europe expressed a dissenting opinion, raising concerns about defining any new right in a way that could be enforced.⁷ Although the European Convention on Human Rights does not include any provisions on the environment, the European Court of Human Rights (ECHR) has upheld the right to a healthy environment in an indirect manner.⁸

Environmental justice includes two complementary dimensions: *procedural* and *substantive*. The procedural dimension is divided into three rights: the right to information, the right to participate in decision-making, and the right of access to justice in environmental matters. Environmental rights still face a multitude of challenges of a procedural nature. To what extent these challenges are relevant depends, amongst others, on the following:

The question of whether and under what conditions an individual, organisation or state has the right to commence action regarding a right to environment needs to be addressed. The issue of *locus standi* is of great relevance in respect of judicial enforcement of the right to environment and needs specific attention. The Indian experience with the establishment of public interest litigation has shown that environmental concerns can be advanced more efficiently by enabling any citizen to appeal directly to the Supreme Court.⁹

Another focal point deals with the question of who would be the proper addressee of claims dealing with a right to environment, and whether a right to environment is to be enforced vertically between individuals and/or horizontally between individuals and states. Moreover, the question whether environmental rights can be enforced at the national or international level is of particular interest in the globalising world, also with regard to the concept of regional integration, which is playing an increasingly important role in sub-Saharan Africa.¹⁰

2 Environmental Advocacy

Namibia is at the dawn of environmental advocacy, which refers to the act of speaking out in favour of, supporting, and defending the environment with the aim of having an impact

5 <http://assembly.coe.int/ASP/Press/StopPressView.asp?ID=2206>; last accessed 3 January 2010.

6 Ibid.

7 Ibid.

8 Here one could mention the judgments in *López Ostra v Spain* of 9 December 1994, which dealt with the relationship between the right to a healthy environment and the right to respect for private life; *Guerra and Others v Italy* of 19 February 1998, which put forward the theory of the “positive obligations” of states; *Hatton and Others v The United Kingdom* of 8 July 2003, in which the Grand Chamber employed the term *environmental human rights*; and *Öneryıldız v Turkey* of 30 November 2004, for an approach to environmental degradation from the angle of Article 2 of the Convention enshrining the right to life.

9 Rosencranz/Jackson (2003:228).

10 Ruppel (2009c:277ff.).

on a decision or policy. Environmental advocates seek to preserve the natural and man-made environment, and to protect the relationships that people have with their environment. One of the more important aims of this Chapter was to demonstrate that human rights concerns are closely related to environmental issues. Cities, villages, communities and individuals can experience a wide array of threats to the environment that may require advocacy. Business interests may be moving forward with a development project such as a dam, without addressing the needs and interests of the communities that will be affected by it. A factory may be polluting air or water, thereby posing risks to public health; or the government or other resource users might be proposing an activity that threatens humans and wildlife alike. Many problems can potentially be addressed through environmental advocacy. Through environmental advocacy, environmental rights can be strengthened. Through more public participation in environmental affairs and more participatory democracy¹¹ environmental justice can be achieved. Unfortunately, more often than not, the people who suffer from violations of their environmental rights are incapable of instituting litigation due to a number of factors, including poverty, access to information, and access to justice.¹²

3 Environmental Litigation

Disputes relating to environmental issues are often characterised by a blurring of boundaries requiring professional expertise, time-consuming processes, high costs and irreversible damage to the environment or to public health. In the case of matters relating to the development and construction of infrastructure, for example, the advantages of development are almost always accompanied by heavy social and public costs. The production of goods almost inevitably (and the provision of employment) pollutes air, water and soil, the construction of roads takes place at the expense of open spaces, the lack of a clear suburbanisation policy results in unwanted urban sprawl, imposing strain on the municipal systems. There are many other examples. In a nutshell: disputes over the environment usually occur where different interests collide.

Fighting, for example, industries and corporations that cause environmental damage can be quite demanding. Many businesses prefer cheaper methods of production, but these are far more often than not ones that produce more pollution.¹³ Even in the face of strict regulation, companies will often act against the law. Taking these to court can prove to be a challenging endeavour. In order to prepare a successful case, plaintiffs must be able to link the damage to the alleged source. For the lawsuit to make it to court, the plaintiff must have credible evidence that he/she was exposed to, for example harmful substances. A resident may develop cancer and sue a nearby chemical manufacturer, but to prove it was that specific chemical in the water or in the air that caused the cancer, as opposed to, e.g. a genetic predisposition, requires substantial scientific evidence.

11 Ruppel/De Klerk (2009:2–4).

12 Ferris (2009).

13 The Namibian case of Ramatex is a good example for this; cf. Ruppel (2008a).

Moreover, taking a large corporation to court can be expensive. Whenever corporations' profits and public perceptions are at stake, these are often quite willing pay for highly skilled (and expensive) legal teams to preclude an unwanted negative outcome. One strategy is to draw the trial out as long as possible, as the prospect of spending years in court can wear plaintiffs down. Defence teams often use this strategy to bully victims to agree to 'more favourable' out-of-court settlements.

In Namibia, environmental litigation, with very few exceptions, has not yet been an issue. For this purpose lawyers need to be trained in the theory and practice of environmental litigation. Environmental litigation is an integral part of the environmental regulatory instruments and the designing of environmental policy. The role of lawyers in environmental litigation should become clearer when it comes to effective project planning, consultation, sound environmental management practices, and Alternative Dispute Resolution (ADR). Lawyers need to be familiarised with specific litigation strategies, the litigation process and in particular the use of expert witnesses. Environmental litigation is not only a means to enforce the law by private individuals using common law and statutory avenues. Environmental litigation can also be used against government decisions and by government, including civil litigation and criminal prosecutions.

Environmental litigation can play an important role in shaping and preserving the quality of life. Namibia has enacted numerous statutes designed to improve air and water quality, to better cope with waste, to protect the wild life and endangered species, and to establish rules for the management of land and marine resources. These statutes are deemed to become more and more subject in law suits, filed by affected industry, state and local governments, indigenous groups, conservation groups and private citizens. Environmental litigation entails a variety of highly specialised legal fields, *inter alia*:

- Global Climate Change Litigation;
- Environmental Criminal Litigation;
- Civil Environmental Enforcement Litigation;
- Insurance Recovery for Environmental Liabilities;
- Litigating Natural Resource Damages.¹⁴

4 Environmental Mediation

Private business actors are using mediation in many parts of the world with increased regularity in order to resolve commercial environmental disputes, such as those involving pollution indemnification or regulatory compliance. Mediation has also been used to address prosecutorial disputes between government and business. Finally, and more surprisingly, parties are turning to mediation to address seemingly intractable disputes over deeply rooted values, which are often the source of the environmental conflict. In the resolution of environmental disputes, adversarial processes (like litigation) are only advantageous under certain circumstances. This is the case, when there is an imbalance in power between

14 Perlman (2009).

disputants or when one or both parties aim to establish a precedent in an evolving area of the law. Consequently, litigation and mediation importantly remain complementary of one another.¹⁵ Against this backdrop, there are numerous reasons why parties choose to mediate an environmental dispute, even where litigation is an option. Mediated processes, for example, help parties control dispute resolution costs that might otherwise escalate. These cost savings are advantageous regardless of whether a dispute concerns two businesses, a government prosecutorial action, or a citizen suit against developers. Mediated processes also allow people to maintain control over the dispute without delegating decision-making power to a third party or divulging confidential information. As a result, in mediation, parties can explore innovative means of dispute settlement that may offer joint gains for the parties involved, and also improve environmental quality. In mediated processes, parties are also more likely to develop parallel dispute and information management processes such as joint fact-finding sessions to navigate the inevitable scientific and technical complexities and uncertainties that exacerbate environmental conflict. Mediation allows parties to sit around the negotiating table and create the solution together. However, an agreement reached through mediation should always be formally drawn up so that the agreement can be implemented.¹⁶

5 Concluding Remarks

In Namibia, 20 years after independence, a legal culture upholding environmental rights still needs to be created. Moreover, the holistic fulfilment of the Constitution's environmental principles regarding state policy requires even more political will and public participation at different levels. There is also a need for Namibian society as a whole, and individuals in particular, to pass on a healthy and viable environment to future generations. For this purpose, it is imperative that Namibia considers a healthy and viable environment to be (at least implicitly) a fundamental right of its citizens and is ready to reaffirm its international commitment to issues regarding the environment. The right to information, public participation and the right of access to justice should also be underlined in this respect.

The courts' role in promoting environmental justice cannot be overestimated. Internationally, the experience of courts that have been asked to decide on cases with regard to environmental rights shows that the judiciary is crucial when it comes to interpreting existing law in a way that takes into account recent developments incorporating environmental concerns. In the 2009 South African case of *Lindiwe Mazibuko and Others v City of Johannesburg and Others*, O'Reagan J held that –

[t]he purpose of litigation concerning the positive obligations imposed by social and economic rights should be to hold the democratic arms of government to account through litigation. In so doing, litigation of this sort fosters a form of participative democracy that holds government accountable and requires it to account between elections [for] specific aspects of government policy. When challenged as to its policies relating to social and

15 Ruppel (2007).

16 Ibid.

economic rights, the government agency must explain why the policy is reasonable...¹⁷.

Litigation concerning environmental rights cannot only lead to more environmental justice for the individual, but will also exact more detailed accounting from government and, with an attendant beneficial influence on the policy-making process. In this context, the Namibian judiciary will inevitably be confronted with the dilemma of *judicial activism* versus *judicial self-restraint*.¹⁸ While the latter refers to a situation in which the judge tries to avoid developing the law beyond its clearly established parameters in order not to take over a lawmaker's function, *judicial activism* describes a situation in which judges extend or modify certain legal provisions as living legal instruments by interpreting them in the light of present-day conditions.¹⁹

In this spirit it is hoped, that in the course of dealing with practical cases and a subsequent increase in environmental rights litigation and advocacy, Namibian courts will gradually clarify the substance of those rights, while also drawing on international experience.

Environmental mediation can be a flexible alternative permitting a wider view of the dispute and the reaching of agreements that extend the range of possible solutions (unlike a judicial process, which is usually characterised by its focus on a very limited aspect of the problem and which is bound by procedural rules). After all, it is the complexity of environmental disputes that often requires an overall and comprehensive viewpoint and creative solutions.

17 *Lindiwe Mazibuko and Others v City of Johannesburg and Others*, Case CCT 39/09, [2009] ZACC 28.

18 The term was coined by Mahoney (1990:57–88).

19 White/Boussiakou (2009:42).

CHAPTER 19

THE OMBUDSMAN AND THE ENVIRONMENT

Katharina Ruppel-Schlichting

In 1982, the United Nations General Assembly requested the Lusaka-based United Nations Institute for Namibia (UNIN), to prepare a comprehensive document on all aspects of socio-economic reconstruction and development planning for an independent Namibia.¹ The document recommended the creation of an institution based on the model of the Ombudsman, which has its origin in Sweden.² At the beginning of the nineteenth century, the Swedish Parliamentary Ombudsman was instituted to safeguard the rights of citizens through a supervisory agency independent of the Executive. The tasks of Ombudsmen, making government accountable, have meanwhile been developed to a sophisticated level. Today, such institutions have been adopted in many countries all over the world and in many countries of southern Africa.³ In some countries there have also been developments of Ombudsman schemes in the private sector. Within the Southern African Development Community (SADC), all member states have institutions that keep an eye on the proper execution of power and the protection of human rights, even though not all these countries use the term Ombudsman.⁴

Usually, the Ombudsman is established per constitutional stipulation as an official, appointed by Government or Parliament. This official is charged with representing the interests of the public by investigating and addressing complaints reported by individual citizens. The major advantage of an Ombudsman is that he/she examines complaints independently of those state institutions charged with irregular conduct. In Namibia, the Office of the Ombudsman was constitutionally established, at Namibian Independence on 21 March 1990. Since then, two Acting Ombudsmen, one Deputy Ombudsman, two Ombudsmen and one Ombudswoman have been at the helm of the Office.⁵

1 UNIN (1986). UNIN was established in 1976 by the United Nations Council for Namibia. The document was prepared in cooperation with the South West Africa People's Organisation (SWAPO), the Office of the United Nations Commissioner for Namibia and the United Nations Development Programme.

2 UNIN (1986:970).

3 Cf. Kasuto/Wehmhörner (1996).

4 Ombudsmen are established in Angola, Botswana, Lesotho, Malawi, Swaziland, Zambia, Zimbabwe, Namibia, Mauritius, and the Seychelles. In Mozambique, the institution of an Ombudsman was established by constitutional amendment in 2005, which is in the process of being realised. In Tanzania similar functions to those typically held by an Ombudsman are performed by the Permanent Commission of Enquiry. In South Africa, the title Ombudsman was changed to 'Protector-General', Madagascar has established an institution of a public protector (*Défenseur du Peuple*) and the Democratic Republic of Congo constitutionally provides for five institutions to support democracy, including the National Observatory for Human Rights. (*L'Observatoire National des Droits de l'Homme*) as well as a Commission for Ethics and Anti-corruption (*La Commission de l'éthique et de la lutte contre la corruption*).

5 The Office is currently headed by Ombudsman John Walters.

1 Legal Foundations

The intention behind this institution, the Ombudsman, is to protect and maintain the respect of the State for the rights of the individual citizen, to promote the rule of law, and to promote and advance democracy and good governance.⁶ The Namibian Bill of Rights in Chapter 3 of the Constitution contains a provision dealing with the enforcement of fundamental human rights and freedoms. Article 25(2), reads as follows:

Aggrieved persons who claim that a fundamental right or freedom guaranteed by this Constitution has been infringed or threatened shall be entitled to approach a competent Court to enforce or protect such a right or freedom, and may approach the Ombudsman to provide them with such legal assistance or advice as they require, and the Ombudsman shall have the discretion in response thereto to provide such legal or other assistance as he or she may consider expedient.

However, the really relevant legal provisions with regard to the Ombudsman are to be found in Chapter 10 of the Namibian Constitution as well as in the Ombudsman Act⁷. They include provisions on the establishment of the office and on his/her political independence, appointment and term of office, functions and powers of investigation, amongst others.

According to Article 91 of the Constitution, the mandate of the Ombudsman in Namibia relates to three widely-defined categories:⁸ human rights, administrative practices and the environment. Moreover, the Ombudsman contributes proactively towards education and development.⁹ Before the Namibian Constitution Second Amendment Act¹⁰ came into force, the Ombudsman's mandate also included the fight against corruption. However, with the amendment, the word corruption was removed from the list of functions of the Ombudsman in Article 91 in order to avoid a duplication of functions between the Office of the Ombudsman and the Anti-Corruption Commission of Namibia, which was established by the Anti-Corruption Act¹¹, and inaugurated in early 2006. Thus, corruption-related complaints are now to be followed-up by the Anti-Corruption Commission (ACC).

Generally speaking, the Ombudsman in Namibia investigates complaints concerning violations of fundamental rights and freedoms, and regarding the administration of all branches of Government. Violations are rectified by attempting a compromise between the

6 Kasuto/Wehmhörer (1996:118).

7 No. 7 of 1990.

8 For more details on the mandates of the Ombudsman see Ruppel/Ruppel-Schlichting (2010).

9 The Office of the Ombudsman provides for outreach programmes and specific human rights education, in order to enhance public education. These programmes are carried out in collaboration with NGOs, community leaders, local authorities, etc. The Office of the Ombudsman has also conducted several awareness campaigns, and continues to do so. Such campaigns take the form of public lectures, community meetings, or the distribution of newsletters and brochures, to name but a few. Furthermore, during April 2006, in collaboration with NGOs, civil society organisations and the Council of Churches in Namibia, the Ombudsman established the Ombudsman Human Rights Advisory Committee. The latter Committee consists of 20 members of the afore-mentioned institutions, who together create a forum for dialogue on all aspects of human rights. For more detail on specific awareness campaigns undertaken by the Office of the Ombudsman, see Walters (2008:122f.).

10 No. 7 of 2010.

11 No. 8 of 2003.

parties concerned, or by bringing the matter to the attention of the authorities, by referring the matter to the courts or by seeking judicial review.

2 Basic Characteristics of the Ombudsman in Namibia

To ensure citizens have an avenue, open to report complaints, free of red tape and free of political interference, the Namibian Ombudsman is politically independent, impartial, fair, and acts confidentially in terms of the investigation process.¹² Negotiation and compromise between the parties concerned are the main objective when handling complaints.¹³

Different acts or non-actions can give rise to complaints under the competence of the Ombudsman. They include the failure to carry out legislative intent, unreasonable delay, administrative errors, abuse of discretion, lack of courtesy, oppression, oversight, negligence, inadequate investigation, unfair policy, partiality, failure to communicate, maladministration, unfairness, unreasonableness, arbitrariness, inefficiency, violation of law or regulations, abuse of authority, discrimination, and all other acts of injustice.

Complaints may be submitted to the Office of the Ombudsman by any person, free of charge and without specific formal requirements. The Office of the Ombudsman cannot investigate complaints regarding court decisions, however. The Office cannot assist complainants financially or represent a complainant in criminal or civil proceedings. Authorities which may be complained about include government institutions,¹⁴ parastatals,¹⁵ local authorities and, in the case of the violation of human rights or freedoms, private institutions and persons.¹⁶ In 2009, complaints were brought against several Ministries, the Namibian Police, Prison Service, and others.¹⁷ A statistical analysis of cases taken up by the Ombudsman's office during the period 2007–2009 shows that among those objections against government institutions, around 65% were directed at the Ministry of Justice and the Namibian Police, and prison-related matters.¹⁸

In order to effectively fulfil his or her functions, the Ombudsman has to be impartial, fair, and independent. Independence is probably the most fundamental and inviolable value for the successful functioning of the Ombudsman's office.¹⁹ This is emphasised in Article 89 of the Constitution, which explicitly provides that “[T]he Ombudsman shall be independent and subject only to this Constitution and the law” and that

[N]o member of the Cabinet or the Legislature or any other person shall interfere with

12 Tjitendero (1996:10). As to the characteristics of a classical Ombudsman in general see Gottehrer/Hostina (1998).

13 Article 91(e) of the Constitution and Section 5(1) of the Act.

14 Including Ministries, the National Assembly, the National Planning Commission, and the Attorney-General.

15 Including NamPower, Telecom, NamWater, NamPost, and the Namibian Broadcasting Corporation.

16 Gawanas (2002:104).

17 Office of the Ombudsman (2010:29ff.).

18 Ibid:29.

19 See Ruppel-Schlichting (2008:277).

the Ombudsman in the exercise of his or her functions and all organs of the State shall accord such assistance as may be needed for the protection of the independence, dignity and effectiveness of the Ombudsman.

The underlying rationale for independence is that an Ombudsman has to be able to conduct fair and impartial investigations, be credible to both complainants and the authorities that may be reviewed by the Office of the Ombudsman.²⁰ There are several determining factors, which, taken as a whole, serve to secure the independence of the institution. These factors are related to the positioning of the institution within the legal framework, the method of appointing and removing an incumbent from office, accountability, funding and personnel issues, enforcement mechanisms, and the investigation process.²¹

In terms of functional and political autonomy, it is essential that the Ombudsman is independent of the institutions or organisations he/she reviews.²² If this were not the case, there would be an increased risk of serving the interests of the reviewed organisation, and complaints would not be dealt with in an impartial manner based on examination and analysis of the facts and the law. Provision for the independence of the Ombudsman from the organisations s/he reviews is made in Article 89(2) of the Constitution. Legislative control is only permissible by way of the Ombudsman's appointment, reappointment or removal from office, with strict preconditions attached to the latter, as regulated by Article 94.

In Namibia, the establishment of the Office of the Ombudsman rests on two pillars. The first of these, the legal authority, is found in the Constitution. The Constitution of Namibia also authorises the legislative body to enact statutory law to amplify the Ombudsman's powers and responsibilities. This law has duly taken the form of the Ombudsman Act. By integrating the institution of the Ombudsman into the Constitution, which is the supreme law of the land,²³ the permanence and authority of the institution is underscored, since any constitutional amendment is subject to strict conditions. The aforementioned measure creates stability for the office, and lends credibility to it in terms of public perception. The Ombudsman is thus free to investigate cases without fear that the office's activities will be hampered by political considerations, that it will easily be closed down or restricted in its tasks.

The Ombudsman is appointed by the President on the recommendation of the Judicial Service Commission.²⁴ The latter consists of the Chief Justice, a judge appointed by the President, the Attorney-General, and two members of the legal profession.²⁵ The appointment

20 UNDP (2006:12).

21 Ruppel-Schlichting (2008:277).

22 An example of the independence of the Ombudsman in Namibia is associated with a Government directive that prohibits offices, ministries and agencies to advertise in one specific newspaper. The Ombudsman, however, does not follow this directive, demonstrating his independence. To reach the public, the Ombudsman considers it necessary to approach the public in all newspapers. Interview with Ombudsman J Walters with OC Ruppel, 12 August 2008. See also Blaauw (2009:18).

23 Article 1(6), Namibian Constitution.

24 Article 90(1), Namibian Constitution.

25 Article 85(1), Namibian Constitution.

process is initiated by the Judicial Service Commission's recommendation and followed by the formal act of proclamation by the President. The two-stage appointment process intends to make sure that the Ombudsman is independent of any agency. If the Ombudspersons were not independent of the agency being reviewed, he/she could be subject to pressures that would reduce the credibility of the institution. All appointments of Ombudsmen to date have observed this constitutional two-stage appointment process.²⁶ With regard to the appointment of an acting or deputy Ombudsman, respective provisions are contained in the Ombudsman Act.²⁷ Strict selection criteria in terms of personal qualifications are applied to warrant that the Ombudsman is not subject to further control:

The Ombudsman shall either be a Judge of Namibia, or a person possessing the legal qualifications which should entitle him or her to practise in all the Courts of Namibia.²⁸

The Ombudsman enjoys a fixed, long term of office – which is another way of securing independence from actual political developments. Article 90(2) of the Constitution provides that the Ombudsman holds office until the age of 65. However, the retiring age may be extended by the President to the age of 70. No further provision is contained in the Act as to the term of office, which implies that, regardless of the age at the time of appointment, the Ombudsman theoretically holds office until the age of 65 or 70, respectively. The Ombudsman Act, however, states that the appointment of the Ombudsman is required to be in accordance with such terms and conditions as the President may determine. Many legal systems providing for the establishment of the institution of Ombudsman have a time restriction on the term of office, combined with the possibility of an extension. In light of especially the independence of the institution, a long, fixed term of office, subject to a time limit with the option of reappointment or extension seems to more acceptable, than an indefinite term of office. Experience has shown, however, that the possibility of one person holding the office for decades remains theoretical. Before the expiry of the Ombudsman's term of office, the Ombudsman can only be removed from his office subject to the tight requirements of Article 94 of the Constitution. The President, acting on the recommendation of the Judicial Service Commission, is empowered to remove the Ombudsman from office only for specified causes, e.g. incapacity, or gross misconduct. This guarantees that the Ombudsman will not be removed for political reasons or just because the results of investigations have offended those in political power in the legislative body.

Following the principle of immunity from liability and criminal prosecution that is granted to heads of state, it is considered appropriate to grant immunity to an Ombudsman for acts performed under the law. The Southern African Conference for the Institution of the Ombudsman in its resolutions and recommendations provides that

[t]he Ombudsman and members of his/her staff should not be personally liable for

26 So far, three Ombudsmen have taken office: the late Fanuel J Kozonguizi in 1992, Bience Gawanas in 1996, and John Walters in 2004.

27 Section 2.

28 Article 89(4), Namibian Constitution.

anything that they do in the due course of their duties, provided that liability be attached to the Institution for the Ombudsman and his/her staff for wilfully committing or omitting anything in bad faith.²⁹

Namibia's Ombudsman Act provides for a limitation of liability in respect of anything done in good faith under any provision of the Act.³⁰ This applies to the Ombudsman³¹ as well as to his/her deputy and other office staff. According to Section 2(4) of the Ombudsman Act, the Ombudsman is not permitted to perform remunerative work outside his or her official duties without the permission of the President.

3 The Environmental Mandate of the Ombudsman

Beside the mandates on human rights and maladministration, the environmental mandate is of specific importance with regard to the legal implications of environmental concerns in Namibia. This mandate, according to Article 91(c) of the Constitution, inter alia, relates to the over-utilisation of natural resources, the protection of ecosystems, and to the maintenance of the beauty and character of Namibia.

The power to investigate complaints concerning environmental issues contains unique provisions, which go beyond the traditional powers and functions of an Ombudsman institution. The environmental mandate of the Ombudsman is a progressive and innovative step towards environmental protection, which may have model rule character. However, the provision could be given a more vital role within the Ombudsman's activities. Two major points may be listed for the fact that the Office of the Ombudsman to date are not dealing with many complaints under the environmental mandate; on the one hand, the imbalance can be traced back to the nature of topics/complaints, with some occurring more frequently than others; on the other hand, despite the fact, that the Office of the Ombudsman endeavours to raise publicity for the institution and to take the office to the grassroots level,³² the awareness of the potential of the Ombudsman in environmental matters is very low. Many people are still unaware of the availability of the institution in environmental matters.³³ The lack of sufficient specifically trained staff³⁴ and financial resources as well as the heavy workload are

29 The Conference was held in November 1995 in Swakopmund, Namibia. For the resolutions and recommendations, see Kasuto/Wehmhörner (1996:6).

30 Section 11 of the Ombudsman Act.

31 The Ombudsman holds a diplomatic passport *ex officio*.

32 Tours all over the country are recurrently undertaken by the Office of the Ombudsman to expose the office to the population and to enhance publicity; alongside the main Office of the Ombudsman in Windhoek, the institution maintains branches in Keetmanshoop and Oshakati.

33 Many cases of environmental concern do, regrettably, still not find their way to the Ombudsman Office. The case of the Epupa dam might serve as a prominent example. In this case, a hydropower scheme was proposed by NamPower (the Namibian parastatal for the bulk supply of electrical power) for the lower Kunene River in north-western Namibia. The case drew local and international attention, when the Himba community opposed the project in 1998. However, in this case, it was not the Office of the Ombudsman that was approached with a complaint by the communities' Chief. For further reference see Daniels (2003:52).

34 However, several training measures on environmental issues, such as workshops on environmental law in Namibia, have been performed recently in order to train staff of the Office of the Ombudsman in environmental matters. Further projects of this kind are on the Ombudsman's agenda in the near future.

further challenges for the Ombudsman's activities in environmental matters. Nevertheless, the Ombudsman's environmental mandate is a progressive step towards environmental protection in Namibia and it is hoped that because of the multi-functionality of the Office this mandate can be invested with the much-deserved and needed importance in future.

Although the categories of maladministration and violation of human rights play the most vital role in the work of the Office of the Ombudsman,³⁵ environmental concerns deserve equal attention. The imbalance as to complaints by specific mandates can be clearly seen when consulting relevant data of the recent years.³⁶ In 2009, the Office of the Ombudsman received a total of 1,608 complaints. A statistical analysis of complaints according to the Ombudsman's mandates shows that 1,064 of these complaints related to maladministration, 165 to human rights violations, 30 to corruption, and only six referred to environmental matters. The remaining 343 complaints covered miscellaneous issues.³⁷ In 2008, a total of 1,542 complaints were brought to the Office of the Ombudsman, of which 872 related to maladministration, 138 to human rights violations, 35 to corruption, and only three referred to environmental matters. The remaining 494 complaints covered miscellaneous issues.³⁸ The respective statistics for 2007 present a similar picture.³⁹ The few investigations on environmental issues in 2009 touched on waste disposal at the Windhoek Central Prison, and the oxidation pond system and the management of the solid waste disposal side in Okahandja.⁴⁰ In an earlier case in relation to a Malaysian textile company, Ramatex, which allegedly had failed to maintain sound environmental practices and contaminated some soil and groundwater in Windhoek, a complaint was brought to the Office of the Ombudsman by Earthlife Namibia, an environmental NGO.⁴¹ One environmentally relevant complaint brought to the attention of the Ombudsman recently relates to the harvesting of Cape fur seals (see box below). But still, many cases of environmental concern do not, regrettably, find their way to the Ombudsman's Office.

The Ombudsman and the Annual Harvest of the Cape Fur Seals in Namibia

While seal harvesting in South Africa was banned in 1990, the harvesting of seals is still permitted under certain conditions. The harvest is carried out in three main areas: Cape Cross, Wolfe Bay and Atlas Bay, annually from July to November. On one side, the Namibian government argues that seals are harvested due to the fact that the seal population has flourished to such an extent they exceeded the carrying capacity of the environment and represent a threat to other marine life. Namibia's seal population would thus have to be curbed to a level where they can be sustained by the environment. On the other side, environmentalists argue that harvesting is motivated by the greed for profit;

35 Walters (2008:121ff.).

36 Cf. Office of the Ombudsman (2006, 2007, 2008, 2009 and 2010).

37 Office of the Ombudsman (2010:27).

38 Office of the Ombudsman (2009:18).

39 Office of the Ombudsman (2008).

40 Office of the Ombudsman (2010:20ff.).

41 See in this regard Ruppel (2008b:116ff.).

baby seals are harvested for their soft pelts, while bull seals are shot for their genitals, exported mainly to Asian markets and used for in aphrodisiac products.

Under international law, Namibia is bound by the Convention on the Trade in Endangered Species of Fauna and Flora (CITES). The International Union for Conservation of Nature (IUCN) has listed the Cape Fur Seal in Appendix II of CITES, which means that the species is not necessarily threatened with extinction, but that trade must be controlled in order to avoid utilization incompatible with their survival. Under national law, seal harvesting is governed by the Marine Resources Act (MRA) No 27 of 2000 and the regulations under Section 61 of the MRA, namely the Regulations Regulating to the Exploitation of Marine Resources⁴². Section 20 of these regulations specifically deals with the harvesting of seals. The current Namibian seal population stands at around 700,000 individuals and the current 3 year rolling total allowable catch, which is revised annually currently stands at 6,000 males and 80,000 pups per season.

In 2011, the Ombudsman received a complaint by Dawson, Edwards and Associates on behalf of Seal-Alert SA, alleging illegalities pertaining to the annual seal hunt in Namibia and requesting an urgent interdict preventing the harvest from commencing. Grave concerns about Namibia's annual seal harvest have furthermore been raised by several civil society organisations, NGOs and individuals.

An interdict for the harvesting season 2011 could not be obtained because the Ombudsman's office needed time to investigate the matter. However, on 22 June 2012, the Office of the Ombudsman published its report on the matter at hand⁴³. The Ombudsman concluded that the harvesting of seals is lawful and that he does not have adequate and sufficient grounds in law and fact to recommend to the Namibian government to stop the annual seal harvest. On the question however, of whether, in harvesting Cape Fur Seals in the manner, which is currently practised, Namibia would use its natural resources unsustainably, the Ombudsman was unable to come to a definite finding. The lack of sufficient evidence in this regard was given as reason. The Ombudsman in his report states that despite several oral and written requests, he could not obtain the information requested by the Ministry of Fisheries and Marine Resources, namely the 2011/12 aerial survey of seals by the Benguela Current Commission and other related information. This outcome is worrying, indeed. Not only for the case at hand, but also and in particular for future cases, the rule of law and the institution of the Ombudsman *per se*. It raises grave concerns, if after a year of investigations, the Ombudsman is not able to obtain information from a government institution, a Ministry in this case, despite the vast powers of investigation with which he/she is endowed and penalties and offences related thereto. All available measures should be exhausted in order to prevent a situation in which a question is left open, which is essential for a balanced and satisfactory finding in the case, and particularly for its assessment under international law.

42 Government Notice No. 241, 2001.

43 Office of the Ombudsman (2012).

The Namibian Constitution, as well as a multitude of statutory enactments and policies underlines the importance of environmental matters and the Ombudsman is endowed with the constitutional power, to play a significant role within the wide field of environmental protection. Hopefully, the importance of the Ombudsman's environmental mandate will be reflected in a higher number of environmentally relevant complaints sometime in future.

4 Investigation, Enforcement and Reporting Procedures

Section 4 (a) of the Ombudsman Act provides that

[W]hen the Ombudsman performs his or her duties and functions in terms of the Act the Ombudsman may in his or her discretion determine the nature and extent of any inquiry or investigation.

The investigative powers and procedures are described in Article 92 of the Constitution and Section 4 of the Act:⁴⁴ The Ombudsman may determine the nature and extent of any inquiry or investigation and has

...the right to enter at any time...any building or premises..., except any building or premises or any part thereof used as a private home, and to make such enquiries therein or thereon, and put such questions to any person employed thereon...in connection with the matter in question....

Usually, the investigation process is started by a complaint brought before the Ombudsman by an individual. In this context, and with regard to the Ombudsman's independence, consideration needs to be given to whether the Ombudsman, apart from conducting an investigation on the basis of a complaint, may also conduct proactive investigations. Such competence would indeed contribute to the independence of the Ombudsman in that he/she would not be tied down by incoming complaints only. Proactive investigations may also be appropriate in cases where the persons affected are unable to make a complaint themselves, e.g. if affected persons would endanger themselves by submitting a complaint.⁴⁵

Although neither the Constitution nor the Ombudsman Act contains an explicit provision allowing the Ombudsman to conduct an investigation without having received a complaint, the Ombudsman may decide to undertake proactive investigation if such an investigation concerns issues and involves authorities which would be within the institution's competence if they had been brought by a complainant.⁴⁶ Own-motion investigations are acceptable and are indeed being conducted.⁴⁷ After having received a complaint, and after having decided on the question of jurisdiction, and whether to investigate, investigations are undertaken through fact-finding by collecting all necessary information with the goal to resolve complaints where

44 As to the adequacy of powers given to the institution, see Gawanas (2002:105).

45 UNDP (2006:25).

46 For further reference see Ruppel-Schlichting (2008:283).

47 The recent investigation with regard to waste disposal at Windhoek Central Prison was initiated on the Ombudsman's own motion in the course of a routine visit at the prison; see Office of the Ombudsman (2010:20). Especially in cases of human rights violations, own-motion investigations have repeatedly been conducted.

possible and to achieve a remedy for the complainant and/or a restoration of rights that have been violated. In the event the Ombudsman is of the opinion that any instance investigated by him or her can be rectified or remedied in any lawful manner, he or she gives notification of his or her findings and the manner in which the matter can, in his or her opinion, be rectified or remedied.⁴⁸

Although the Ombudsman obviously has to adhere to the provisions of the Constitution and the Ombudsman Act, strict rules of procedure such as those that apply to court proceedings do not have to be applied by the Ombudsman. Instead, the Ombudsman uses his/her discretion to generate a speedy and informal resolution by applying techniques such as negotiation and compromise.⁴⁹ The powers of investigation described in Article 92 of the Constitution and Section 4 of the Ombudsman Act warrant self-determined investigation procedures.⁵⁰

The Ombudsman, furthermore, has the right to access all documents relevant to the investigation, as well as the right to seize anything that he/she deems necessary in connection with the investigations.⁵¹ The investigative powers of the Ombudsman also imply the right to require any person to appear before him/her in relation to a specific inquiry or investigation. Individuals may be compelled to appear and give testimony, or to produce information determined to be relevant to the investigation. In this regard, the Ombudsman even has the right to issue subpoenas.⁵² These far-reaching powers of investigation and their anchorage in the afore-mentioned legal instruments emphasise the basic approach that the Ombudsman is empowered to conduct investigations without being dependent on any other body. However, litigation might become necessary to enforce the powers granted to the Ombudsman by the Constitution and the Ombudsman Act.

The investigation generally ends once the Ombudsman is satisfied that it has yielded all the relevant facts. As soon as the investigation process is completed, the Ombudsman notifies the person who laid the matter before him or her, and takes appropriate action or steps to call for or require the remedying, correction and reversal of matters such as: negotiation and compromise between the parties concerned; reporting the findings to the superior of an offending person; referring the matter to the Prosecutor-General or to the Auditor-General or both, or bringing proceedings in a court.⁵³

The Ombudsman may in general not make binding orders. It could be argued that without such power, the Ombudsman cannot protect the rights under his or her mandate efficiently and the lack of such power might be interpreted as a weakness of the Ombudsman institution. On the other hand, the Ombudsman has extensive powers to inquire and investigate. If the

48 Section 5 (1) (b) of the Act.

49 Article 91(e) (aa), Namibian Constitution.

50 As to the adequacy of powers given to the institution, see Gawanas (2002:105).

51 Section 4 (1) (b), Ombudsman Act.

52 Article 92 (a), Namibian Constitution.

53 Article 91(e), Namibian Constitution and Section 5 of the Act.

Ombudsman would have the power to make binding orders, the institution would take the function of a court of last instance, which would – despite the fact that much more financial resources would be needed – not meet the basic rationale of such institution.⁵⁴ In case that complaint shows that the complainant was justified in bringing the complaint, the Ombudsman’s main instrument is rather to make recommendations in order to solve problems or prevent them from reoccurring.⁵⁵ By using this method, government agencies are persuaded rather than forced to act, which in many cases may lead to more effective and efficient solutions.

The Ombudsman is not endowed with the coercive powers typical of formal justice systems. The institution follows the approach of alternative dispute resolution; an informal process in which conflicting parties revert to the assistance of a third party who helps them resolve their dispute in a less formal and often more consensual way than would be the case in court. The methods for dealing with grievances underline the Ombudsman’s independence in terms of the broad variety of options available for conflict resolution. On the one hand, the Ombudsman can bring proceedings before competent courts if he/she deems it necessary;⁵⁶ on the other, the Ombudsman can opt for various alternative methods to resolve the disputes in question. Compared with the rights-based traditional adversarial attitude towards dispute resolution, the alternative interest-based approach to dispute resolution has expanded significantly within the past few years, not only in the field of human rights and administrative justice, but also in the private sector.⁵⁷

Indeed, several arguments favour alternative dispute resolution above court proceedings. Normally, such alternatives are faster and less expensive. Generally, they also allow greater and more flexible control over the dispute. Moreover, the process is based on more direct participation by the disputants, rather than being run by lawyers, judges, and the state; and finally, in most processes, the disputants outline the process they will use and define the substance of the agreements. This type of involvement is believed to increase people’s satisfaction with the outcomes, as well as their compliance with the agreements reached.

54 See UNDP (2004:3). This Report on the Fourth UNDP International Round Table for Ombudsmen institutions in the ECIS Region makes the point convincingly, that the lack of power of making binding orders, considered by some as a weakness, in fact is the institution’s strength for “[w]here any institution has the power to order others to do its bidding, another institution must have to power to review the decisions of the first institutions. In this case, if Ombudsmen were to have the power to issue binding orders, the courts would be the place where the Ombudsman’s orders would be reviewed. Having the power to order that recommendations be implemented would change dramatically the dynamic of an Ombudsman institution... What was created to be a less formal and faster way of solving problems would likely become more formal and slower. The cost to the Ombudsman, the people and the state would be greater and the benefits would be fewer.” Similar arguments were given by the European Ombudsman, Diamandouros (2006).

55 For these reasons, the sub-regional *Conference on the Ombudsman in southern Africa* in its concluding resolutions and recommendations held that “[T]he Ombudsman should not have enforcement mechanisms and/or powers”. See Kasuto/Wehnhörner (1996: 5).

56 Article 91(e) of the Constitution provides for specific instances in which the Ombudsman can bring proceedings before the courts, e.g. in order to obtain an interdict to secure the termination of the offending action or conduct, Article 91(e)(dd) or to seek an interdict against the enforcement of legislation by challenging its validity, Article 91(e)(ee).

57 Ruppel (2007:1).

By avoiding court proceedings, the relationship between the disputing parties is often less afflicted, which is a key advantage in situations where the parties need to continue interacting after settlement has been reached, such as in labour cases.

While the most common forms of alternative dispute resolution are mediation and arbitration, there are many other techniques and procedures applied by Ombudsman institutions. Typically, the Ombudsman explores options and attempts to achieve equitable solutions for all parties. The Ombudsman works through alternative dispute resolution methods such as negotiation, mediation, consultation, influence, shuttle diplomacy, and informal investigation.

Due to the fact that the Ombudsman may not issue binding orders, he/she cannot be taken to court to appeal the findings; neither can the findings and reports be subject for review or modification. However, courts may decide upon the question, whether or not the Ombudsman has jurisdiction in specific cases. A claimant can still take the case to the courts after having submitted a respective complaint to the Ombudsman, for one objective of establishing the office is to offer an alternative to litigation, but not to force an aggrieved party to choose between the option to submit a complaint to the Ombudsman and the possibility of taking the alleged offender to court.

According to the Constitution and the Act, the Office of the Ombudsman is obliged to draft reports on his/her investigations.⁵⁸ These reports can be divided into two main categories: those drafted for single complaints, and those which contain all the activities of the Office within a specific period. When investigations are completed, the Ombudsman drafts a report containing findings on the complaint, as well as recommendations to solve the problems or to prevent them from happening again. Despite the final recommendations, the report summarises the complaint, the facts found, the law governing the situation, an analysis of the facts in light of the law, as well as a finding on what the complaint alleged.⁵⁹ An annual report containing the Ombudsman's activities during the period ending on 31 December of the previous year has to be drafted and submitted to the Speaker of the National Assembly and subsequently to the National Assembly.⁶⁰ The annual reports contain information as to the scope of activities, complaints, investigations, management services and administration, outreach activities and public education. The reports impressively reflect that the Office of the Ombudsman takes serious the task to protect and promote the values under his mandate through independent and impartial investigations, as words are not minced in these annual reports. The annual reports contain specific case summaries and, statistical breakdowns, which draw a clear picture on the work performed by the office in several respects.

58 Provisions for reports to be furnished by the Office of the Ombudsman are contained in Article 91(g) of the Constitution as well as in Section 6 of the Ombudsman Act.

59 UNDP (2006:21).

60 Article 91 (g) of the Constitution and Section 6 (2) of the Act.

CHAPTER 20

ENVIRONMENT AND THE MEDIA

I. ENVIRONMENTAL JOURNALISM IN NAMIBIA - AN OVERVIEW

Absalom Shigwedha

1 The Media in Namibia

The Namibian Constitution guarantees and protects the freedom of the press and other media, Article 21(1)(a). Namibia has several newspapers, amongst which are the English- and Oshiwambo-medium *The Namibian* (daily), the *Namibia Economist* (English weekly); the German-language *Allgemeine Zeitung* (daily), established in 1916; and the Afrikaans-medium *Die Republikein* (daily), published since 1977. Other Namibian newspapers include a weekly SWAPO Party newspaper *Namibia Today*, *New Era* (Government daily), *Namibian Sun* (private daily), *Informanté* (weekly) *Confidenté* (private weekly newspaper established in 2011), *The Villager* (a private weekly newspaper established in 2011), the regional weekly *Southern Times*, the monthly Oshiwambo-medium *Omutumwa Community Newspaper*, the coastal-based weekly *Namib Times*, the Katima Mulio-based *Caprivi Vision* and the monthly *Insight Namibia Magazine*. The parastatal Namibia Press Agency (NAMPA) is the country's leading domestic news agency. The Namibian Broadcasting Corporation (NBC) is the successor to the South West African Broadcasting Corporation (SWABC). It is responsible for radio and television services.

Moreover, Multichoice Namibia and One Africa Television provide additional television services. Besides the various NBC radio language services, other stations like Radiowave, Hitradio, Karas Community Radio, Ohangwena Community Radio, Radio Kudu, and Radio Energy have been established.

2. Environmental Journalism

Environmental journalism entails the collection, verification, production, distribution and exhibition of information regarding current events, trends, issues and people that are associated with the interaction between nature and man. The environmental journalist should have an understanding of scientific language and practice, knowledge of historical environmental events, the ability to keep abreast of environmental policy decisions and the work of environmental organisations, a general understanding of current environmental concerns, and the ability to communicate all of that information to the public in such a way that it can be easily understood, despite its complexity. Environmental journalism supports the effective protection and management of the environment.

Environmental journalists very often advocate for change to improve the quality of environmental protection. With their writings they educate people about the serious problems pertaining to the environment. For example: If environmental journalists interview climate experts as to when the rains will come and how much rain is expected, such information will help farmers choose the right time to plant their crops to avoid floods or droughts. They also make use of the power of the media to improve general awareness on the earth and its natural resources. In this respect the media also plays an important role in educating the public on the sustainable use of natural resources, sustainable development and the need to achieve the Millennium Development Goals (MDGs).

3 Challenges and Opportunities

Environmental journalists play an essential role in explaining technical, scientific, and environmental terms in a simple language that ordinary people can understand. While reporting on environmental issues is very important, it is at the same time a challenging task. No doubt, in many developing countries environmental journalism is still new and does not receive much coverage. Many environmental journalists struggle to come up with informative and balanced reporting and newspaper editors often fail to see the relevance of environmental reporting.

The African Network of Environmental Journalists (ANEJ) seeks to promote public understanding of environmental issues in Africa by improving the quality, accuracy, and intensity of environmental reporting. The organisation, whose motto is “the voice of the African environment”, aims to increase the coverage of environmental issues in the media in Africa and to enhance the capacity of African journalists to report on environmental issues through workshops, networking, information sharing, and institutional development. Specific objectives include mainstreaming environmental journalism in Africa; enhancing the capacity of African journalists to deal with existing and emerging environmental challenges; disseminating relevant information on environmental issues in Africa; promoting web journalism on environment and sustainable development in Africa; influencing decision-making processes with regard to environmental policies in Africa; and disseminating information on the activities implemented by the United Nations Environment Programme (UNEP) and other relevant institutions, organisations, and governments.¹

The emergence of environmental focus pages in some newspapers and the establishment of some magazines focusing on the environment in Namibia, such as Conservation and Development in Namibia, as well as environmental journalism competitions are encouraging initiatives. Journalists involved in environmental journalism in Namibia should organise themselves and network as to how they can take this field of journalism to greater heights. In order to facilitate open discussion and information sharing on environmental, agricultural and sustainable development issues, local journalists have established the Media for Environment, Agriculture and Sustainable Development in Namibia (MEAD-Namibia). This group

¹ See <http://www.comminit.com/en/node/133330/307>; last accessed 19 December 2010.

also has a news group called the Namibian Environmental Media Online (NEMO). NEMO is a discussion group for Namibian environmental journalists, scientists and policymakers. MEAD-Namibia is in the process of setting up a website, which will feature information about the body as well as well activities it is engaged in. MEAD-Namibia has about 15 members from different media houses in the country. It is led by a Board consisting of the author of this chapter (as a chairperson), NBC journalist Jacky Hindjou-Mafwila (Deputy chairperson), New Era's Irene !Hoaes (Treasurer), Namibia Press Agency's Pearl Coetzee (Secretary), environmental freelance journalist Servaas van den Bosch (additional member), NBC journalist Chrisjan Appollus (additional member) and NBC Otjiherero Radio journalist Vincent Kazongominja (additional member).

MEAD-Namibia is a self-regulatory body that was initiated in 2009 and was formally established in 2011 by journalists reporting on environmental, agricultural, science and sustainable development issues. It has links with the Lusaka-based Panos Institute of Southern Africa, Internews and the London-based International Institute for Environment and Development. The principal objective of MEAD-Namibia is to ensure that environmental and developmental issues are seriously analysed and well covered in the national and community media. This means overcoming serious challenges and constrains that presently limit journalist's capacity to report on these issues.

Every year, a joint venture between Internews and the International Institute for Environment and Development (IIED), called the Climate Change Media Partnership (CMP), takes journalists from around the world to the Conferences of the Parties to the UN Framework Convention on Climate Change (UNFCCC) to report on the conference.

The Japanese-funded Africa Adaptation Programme (based in Dakar, Senegal) is running a Media Capacity Development Programme, which is funding training workshops on climate change for media practitioners. In November 2011, the programme funded a climate change-reporting workshop for Namibian journalists.

4 Environmental Reporting

As a developing nation in need of funds to further develop the country and create job opportunities, the Namibian Government has allowed mining companies to prospect for uranium. This has led to a uranium rush, making Namibia now one of the largest producers of uranium worldwide. Discourse about mining operations that damage the environment has grabbed the attention of Namibian media houses and the general public. "African civil society hits back at uranium mining," read a headline to an article by freelance Namibian journalist Brigitte Weidlich.² "Prospectors pose environmental challenges in Namib-Naukluft", was another headline to an article by the author of this chapter.³ The article quoted the former Director of Parks and Wildlife Management in Namibia's Ministry of Environment and Tourism, the late

² *The Namibian*, 28 October 2008.

³ *The Namibian*, 17 October 2008.

Ben Beytell, saying companies that prospect and mine for uranium in the Namib-Naukluft Park pose a major challenge to this protected area. Further to this, he said that some of these companies were trying to avoid official procedures. He noted that mines were also problematic for insects and reptiles as the noise from the mine stops them from calling each other for mating.⁴

While the government rightfully strives to develop the country, a balance should be struck in an effort to achieve sustainable development at the same time. Development that ignores environmental concerns should not be allowed and the media is the appropriate platform to communicate this message. Some Namibian journalists are of the opinion that the local media is not yet active enough in the field of environmental journalism. Jacky Hindjou-Mafwila, an environmental journalist at NBC Television and Deputy chairperson of MEAD-Namibia, stated that the role of the media in Namibia on environmental concerns still leaves much to be desired. This, she said, was due to the fact that journalists in Namibia are not trained or have little training in environmental reporting. Moreover, editors do not understand the importance of environmental protection to the economy, which means that editors also need to be sensitised on the importance of environmental reporting.

These concerns were raised at several training workshop of journalists in environmental reporting in Namibia. At a Media Capacity Building of Journalists Training Workshop on the Convention on Biological Diversity and its Protocols (held in Windhoek from 24-25 September 2012), journalists said while they find it difficult to get their environmental stories used because editors do not understand the importance of environmental reporting and there is also no institutions where one can study environmental journalism in Namibia or in Africa. A few years ago, Makerere University in Uganda had such as course but it was a once-off arrangement. Therefore, there is a need to introduce such courses at African education institutions as this would help contribute to strengthening environmental journalism in the continent.

Namibia's Minister of Environment and Tourism, Netumbo Nandi-Ndaitwah, in January 2011 informed NBC Radio that her Ministry was satisfied with the establishment of MEAD-Namibia as it will help strengthen environmental reporting in the country.

Recently, Namibia has seen a number of media houses frequently reporting on environmental matters. While some newspapers and radio stations do not have specific sections or programmes on environmental issues, they do report occasionally on these issues. Newspapers that have pages dedicated to environmental matters are *The Namibian* and *Informante*. *New Era* brings out a page on agricultural matters once a week. During its initial months of establishment, *The Villager* had an environmental page but this has since stopped. NBC Television has a programme called *Green Horizon* on environmental and agricultural matters.

4 Ibid.

5 Training of environmental journalists in Namibia

The Namibian Government, through the Ministry of Environment and Tourism (MET), has shown commitment towards supporting environmental journalism in Namibia. The Ministry has so far funded a number of training workshops on environmental reporting. In January 2010, the Ministry in conjunction with the Namibian Coast Conservation and Management (NACOMA) project, held a training workshop for journalists on general environmental reporting at the coastal town of Swakopmund. NACOMA was launched in 2006 as a project in the Ministry of Environment and Tourism. It is funded by the Global Environment Facility (GEF). Its objective is to strengthen conservation and sustainable use and mainstreaming of biodiversity in coastal and marine ecosystems in Namibia.

In April 2010, the Capacity Enhancement to Implement the Global Environmental Conventions in Namibia (CEGEM) project of the Ministry of Environment and Tourism, funded a two-day training workshop on reporting biodiversity. Facilitated by the Senior Lecturer in the Department of Biological Sciences at the University of Namibia, Dr John Mfune, the workshop was held at the Waterberg resorts in the Waterberg Plateau Park in Otjozondjupa region. It was officially opened by Environment and Tourism Deputy Minister, Uahekua Herunga. In October 2010, the same project funded a two-day media-training workshop on reporting climate change held at Walvis Bay. Officially opened by former Walvis Bay Mayor Uilika Nambahu, this workshop was specifically for MEAD-Namibia members but non-members were later included to make up the required number of participants. The CEGEM project came to an end in 2011.

In May 2011, the Africa Adaptation Project Namibia (AAP-Namibia) – also a project of the Ministry of Environment and Tourism – funded a two-day media-training workshop on environmental reporting. The training was held at Swakopmund and was facilitated by Maureen Nkandu-Mundea, the United Nations Development Programme's Regional Communication Advisor for East and Southern Africa.

From 24-25 September 2012, a Capacity Building of Journalists Training Workshop on the Convention on Biological Diversity (CBD) and its Protocols (the Nagoya Protocol on Access and Benefit Sharing, the Cartagena Protocol on Biosafety and the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress) was held in Windhoek. Facilitated by the Project Officer of the Windhoek-based Regional Agricultural and Environmental Initiatives Network-Africa (RAEIN-Africa) Henry Ndengejeho, this training was funded by the Namibia Protected Landscape Conservation Areas Initiative (NamPlace) project of the Ministry of Environment and Tourism. The objective of the workshop was to enhance the levels of awareness on the CBD and its Protocols among the local media practitioners. These training workshops for local journalists clearly showed that the Ministry of Environment is committed to the advancement of environmental journalists in Namibia. Officially opening this workshop, the Environmental Commissioner Teofilus Nghitila said MET will continue to support training for environmental journalists as they play a role in ensuring environmental protection. He added that for the last three years the Ministry has been availing funds for the

training of environmental journalists as well as exposing them to international environmental conferences and will continue to do so.

The UNESCO-Namibia Office has also chipped in. In June 2011, this UN agency funded a two-day training workshop on Media a Partner in Education for Sustainable Development for local journalists. Held at the Habitat Research and Development Centre (HRDC) in Windhoek, the training was conducted by Emmanuel Koro, a Zimbabwean international award-winning environmental and sustainable development journalist.

Another training workshop on Media as Partners in Education for Sustainable Development held at the northern town of Eenhana in Ohangwena region in April 2012 was also funded by UNESCO-Namibia Office. The training was attended by freelance reporters from the north, reporters from Omutumwa Community Newspaper and reporters from the Ohangwena Community Radio. It was conducted by the author of this chapter.

UNESCO is the lead agency in implementing the Decade for Education for Sustainable Development (2005-2014). One of its responsibilities in this endeavour is to work with different partners, including the media to promote public education for sustainable development.

6 Freedom of the Media

It is accepted that environmental journalists should establish good relationships with government officials and experts working in the environmental field. Yet, journalists are not tools to be used and cannot be told what to write. They are professionals and government officials should expect questions and criticism from the media.

When the Communication Act No. 8 of 2009 came into effect on 16 November 2009, it replaced the 1992 Namibian Communications Commission Act No. 4 of 1992 and amended certain relevant Sections under the 1992 Post and Telecommunications Act No. 19 of 1992, among others. This Act provides for the regulation of telecommunications services and networks, broadcasting, postal services and the use and allocation of radio spectrum. It establishes an independent Communications Regulatory Authority of Namibia and an Association to manage the internet domain “.na”. The Act also provides for the interception of such electronic communications that are deemed dangerous to the country’s security. The Act came under heavy criticism from the media and other civil society organisations which argued that the interception clauses open the way for abuse of power and could be used to silence the media. So far, however, Namibia has not experienced any instances restricting journalists on reporting on environmental matters.

7 Concluding Remarks

Environmental journalism is a key to sustainable development in Namibia. Environmental degradation and the depletion of vital resources are examples of the kind of complex topics that need to be incorporated in both the agendas of politicians and the media. People are

suffering and dying from lack of clean water and inadequate sanitation and the media should play a more prominent role in telling these stories.

The media can influence the direction environmental policy and growth will take. Every development issue such as agriculture, industrial development, maternal and infant health, education, combating diseases such as HIV-AIDS, malaria etc, empowering women, eradicating poverty and hunger and ensuring environmental sustainability have a direct or indirect relation with the provision of water and sanitation within the households and communities across the country.

Factors such as climate change, desertification, flooding and erosion are environmental issues in Namibia that need to be brought into the media scene with more vigour. The media should provide a more enabling environment for public debate. Insufficient coverage results from a number of factors, including lack of scientific and environmental knowledge, insufficient journalistic training on the subject, and pressures from powerful local interests and advertisers who support media outlets. To combat these barriers, it is necessary to create partnerships that extend from the local grass roots level to top policy makers.

After all, the role of environmental journalists should not be underestimated in future. Environmental journalists raise awareness and highlight environmental issues that require specific attention. They can function as societal watchdogs over private and public institutions, influence consumer behaviour and lead to more transparency and public participation. They can even promote environmental compliance and enforcement. All of this of course requires that their reporting is genuine, based on accurate, objective and sound information.

II. NAMIBIAN MEDIA AND THE ENVIRONMENT – A CRITICAL ANALYSIS

Frederico Links

1 Introduction

If you went into any Namibian newsroom and requested to speak to the reporter responsible for the environment beat and then asked that reporter to tell you about the activities of the UNFCCC or to explain what the IPCC was and did, or even to give you a brief introduction to contemporary climate science, chances are you would be greeted with a blank stare or a blustery reply or even a terse response telling you where to get off.

These responses would have indicated that either the reporter in question did not know what you were talking about or lacked confidence in their own understanding of topical environmental issues, or quite possibly just did not care to get into a discussion.

At the time of writing in late 2012 this arguably would have been the case if you had actually undertaken such an excursion. For at that point, environmental journalism in Namibia was still very much nascent practice. This despite the fact that Namibia, as an arid, drought-prone and temperature sensitive region on the African continent, was at that stage probably already amongst the most susceptible of nations to the adverse impacts of global warming-induced climate change.

However, that environmental journalism had yet to really take off in Namibian newsrooms was not a situation unique to the country. For at the time African journalists and media organisations, despite the fact that the continent stood to be amongst, if not the, hardest hit, due to a variety of factors, by climate change, had yet to come to grips with the multitude of issues which had aggregated to create a complex and complicated picture of the continental climate environment in flux.

That said, that the Namibian news media were behind the curve on climate-related coverage – although it has to be pointed out that in media markets with a long established tradition of environmental coverage, accurate and balanced reportage of climate change issues was also still problematic in 2012 – was a reflection of long standing institutional weaknesses. These weaknesses are the theme for discussion of this chapter.

2 The Namibian back story

However, before going there, it is necessary to set the scene by highlighting the context within which these weaknesses play out and contribute towards the maintenance of an atmosphere of wholesale ignorance of the impending impacts of global warming-induced climate change, a situation which suggests that Namibia will be ill-prepared once these impacts really start to bite at some point in the not too distant future.

In the interest of brevity, and maximum impact, the following is an overview of key population and economic indicators, the relevance of the isolation and spotlighting of which will become clear as the discussion unfolds.

The Republic of Namibia encompasses the most arid land area, with low and highly variable rainfall patterns, on the African continent south of the Sahara Desert. It is bordered on the west by the Namib Desert, stretching along the Atlantic seaboard, and to the east the Kalahari Desert, along the border with Botswana. Perennial rivers are only to be found at the northern and southern extremities, with the Orange River forming a natural boundary between Namibia and South Africa to the south, and to the north, the Kunene, Okavango, Kwando and Zambezi rivers establishing the borders with Angola, Zambia, Zimbabwe and Botswana. Irregularly dispersed over its 825,615km² is a population of just over 2.1 million¹, 51% of which is female, with the country having one of the lowest population densities in the world, at just 2.5 persons per/km².

Just over 50% of Namibians reside in the north central to north eastern areas of the country, with the four north central regions – Omusati, Ohangwena, Oshana and Oshikoto – together being home to well over 800,000 people. About 58% of the country's population dwell in rural areas and it is estimated that roughly 700,000 people are involved in or rely on subsistence agriculture for a livelihood, most of these concentrated in northern communal areas.

Unemployment, depending on which statistic you choose to go with, was estimated to be floating somewhere between 34%² and a high of 51.2%³, with poverty pegged at roughly the same levels. Once again, unemployment and poverty are exceedingly high in rural areas and across the northern regions of the country.

Since the early 1990s, Namibia's gini-coefficient has remained stubbornly high, between 0.7 and 0.6, indicating persisting and exceptionally high income and wealth distribution imbalances, placing the country among the most unequal societies in the world. Contributing to this situation is the failure of the state to provide quality healthcare and education, especially in rural areas.

However, it is necessary to insert a disclaimer at this point, for when sampling Namibian socio-economic statistics for purposes of reporting, in a case such as this particular exercise, care has to be taken as much of the information and data that one is exposed to and goes on to quote is usually quite often considerably old and might even be out-dated. This in itself is a concern when attempting to provide accurate and balanced reportage of issues as they unfold. This disclaimer aside, and considering all of these indicators together, the typical Namibian

1 Namibia 2011 Population and Housing Census Preliminary Results, Namibia Statistics Agency, Republic of Namibia.

2 National Household Income and Expenditure Survey 2009-2010, Central Bureau of Statistics, National Planning Commission, Republic of Namibia.

3 Namibia Labour Force Survey 2008, Ministry of Labour and Social Welfare, Republic of Namibia.

in 2012 was a young unemployed and poorly educated female, most probably already a mother, trapped in poverty and engaged in subsistence farming as a means of survival in one of the underdeveloped northern regions of the country.

Compounding this state of affairs, on the political front, by 2012, Namibia had become a single dominant party state over the two decades since achieving independence from South Africa in 1990. This dominance of the political space by one political movement has a bearing on the quality of debate and discussion in the country, and especially within the media sector, and government accountability.

Against this backdrop, Namibia is a model in terms of being a signatory to all major international climate or environment related treaties and protocols. Even so, with the country ranking amongst those with the potential to be hardest hit by unfolding climate change, by 2012, Namibia had decidedly underperformed on putting in place tangible climate change mitigation and adaptation strategies and initiatives. In fact, the state's approach to climate change up till then had been uncoordinated and even downright confusing, and in this the news media and Namibian journalism, as watch-dogs and agenda-setting agents, have to carry some of the blame.

However, before unpacking the motivation for making this last statement, it is necessary to provide an overview of the Namibian media sector in 2012.

3 The Namibian media landscape

The Namibian media landscape, for a country of only just over two million, is quite congested and vibrant.

Freedom of the media or press⁴ is enshrined in the Constitution of the Republic of Namibia⁵, a situation which has allowed for robust media development over the decades since Namibian independence in 1990.

Given the population spread across the country, radio is by far the most accessible medium and as of September 2012, there were eight commercial and four independent community broadcasters operational in the country, complementing the sectoral dominance and deep nation-wide penetration of the vernacular radio services of the state broadcaster, the Namibian Broadcasting Corporation (NBC).

As for television, once again, the free-to-air state broadcaster, the NBC, is almost completely dominant, with the only form of local competition coming by way of the independent One Africa Television. South African multinational media giant, Naspers, dominates the digital satellite-broadcasting sector through its Multichoice subsidiary, relaying the Dstv bouquet of

4 Article 21(1) (a).

5 Adopted in February 1990.

international entertainment, sport, news and general information channels.

In terms of the press – newspapers and magazines – as of September 2012, the Namibian market was serviced by five daily newspapers, six weekly newspapers, two monthly magazines, a smattering of irregularly appearing titles and one or two regional newspapers. And squeezed in somewhere between the broadcast and print sectors, and servicing both, is the Namibia Press Agency (Nampa), a statutorily created news and information service funded by government. Furthermore, at the time of writing, Internet-based news media had yet to take off in Namibia, possibly largely due to low computer use and accessibility in the country. In general, listenership, viewership and readership figures have to be viewed with suspicion, as these are not independently verifiable.

While on the face of it there would appearance to be great diversity on the media landscape there is in actual fact great ownership concentration, for broadcasting is overwhelmingly dominated by the state-owned NBC and in the print sector, one daily and one weekly newspaper are also state-owned, along with the only press agency, while another weekly ‘newspaper’ is the propaganda vehicle of the ruling SWAPO Party. Three of the daily newspapers and one commercial radio station are owned by a single company, which also owns the only newspaper printing press and prints basically all of the national newspapers. Furthermore, two of the weekly newspapers and one monthly magazine are owned by individuals who are paid-up members of the ruling party and some of whom occupy positions in government and party and push the interests of factional alignments on the news pages of their titles. Weakening the influence of the print media still further is the fact that newspapers, all of which have generally modest print runs, are primarily distributed in the major urban centres around the country, while most Namibians are to be found in rural settlements.

Compounding this situation is the fact that commercial broadcasters – radio and television – carry very little self-generated journalistic content, with programming rather entertainment based. In the state media sector, the national broadcaster and state-owned newspaper titles are generally uncritical of government and the ruling party.

In this environment, accurate and objective coverage of pressing societal issues, including climate change impacts, is of major concern. Critical voices could be perceived as being very faint on the media landscape. A situation, which does not bode well in the face of potential impending climate change-induced environmental and socio-economic catastrophe.

Against this backdrop, how all this plays out will be the subject of discussion of the following section, by isolating and assessing recent coverage of happenings in three critical economic sectors in Namibia. This will be followed by an analysis of factors contributing to why – informed and critical – environmental journalism has so far failed to find a foothold on the Namibian media landscape.

4 Flawed reports – How Namibian media are failing the environmental coverage test

The mining, agriculture and tourism sectors have traditionally been key contributors to Namibia's Gross Domestic Product (GDP) over the last decade or so. All three of these sectors involve considerable human interaction with the natural environment and because of this some sort or level of environmental degradation is inevitable. In its watch-dog role, and specifically pertaining to the environment, it is the responsibility of the media to ensure this human-induced degradation is kept to a minimum and appropriate mitigation measures are introduced, regardless of by whom, in order to counter the negative long term effects of such degradation, especially in a country with recognised fragile ecosystems as a consequence of the harshness of climatic conditions.

Given all this, it would be reasonable to assume that Namibian journalism would be strongly focussed on these sectors. However, this has never been the case and coverage has generally tended to be superficial over the years.

4.1 Mining

The importance of the mining sector to the Namibian economy cannot be emphasised enough, for over the past decade, even considering fluctuations in commodity prices, the sector has accounted for between 8% and 16% of Gross Domestic Product and in 2010 alone mineral exports accounted for 53% of Namibia's merchandise exports, without factoring in the export of cut and polished diamonds.

In terms of its real impact on people and communities, the mining sector employs about 13,000 Namibians at various skill levels and it is estimated that every worker and contractor in the sector supports between five and seven other people, suggesting that mining activities support in excess of 90,000 people.

This is because, according to the website of the Chamber of Mines in Namibia⁶, the country "is a world-class producer of rough diamonds, uranium oxide, special high-grade zinc and acid-grade fluorspar, as well as a producer of gold bullion, blister copper, lead concentrate, salt and dimension stone."

Whereas this is a rather upbeat and compartmentalised view of the mining sector, there is a, of course, the other side, specifically concerning the environment in relation to governance weaknesses and exploitative practices, formulated in a 2009 Legal Assistance Centre (LAC) report⁷ as follows:

There is little effective environmental management within the Namibian mining industry.

6 www.chamberofmines.org.na.

7 See 'Striking a better balance – An investigation of mining practices in Namibia's protected areas', Legal Assistance Centre, 2009.

This is the result of inadequate coordination between the MME [Ministry of Mines and Energy] and the MET [Ministry of Environment and Tourism] in relation to environmental legislation; a lack of public awareness, capacity weaknesses and education programmes focused on environmental issues; the absence of an environmental budget, and the public antagonism towards mining activities because of its negative effects on the environment. The problem is compounded by the fragmentation of environmental capacity throughout the various Government Ministries.

In addition, the Minerals Act does not provide for transparency in the mineral licensing process. To the contrary, the Act contains specific language that discourages it. Section 6 calls for the preservation of secrecy by the MME of all matters pertaining to compliance with the provisions of the Minerals Act. This cloak protects the mining companies and inhibits public awareness and participation in decision-making relating to prospecting and mining operations. Through the MET, however, the public can gain access to some records, including those of a company's EIA/EMP compliance, environmental clearance status, and biannual reports.

Finally, the Minerals Act currently only requires information on the previous convictions of individuals applying for NEPLs and Mining Claims; corporations are entirely exempt from any background checks. In a globalised economy, this gaping hole creates an incentive for companies with histories of poor environmental performance to seek licenses in Namibia where their records will not be subject to public scrutiny in any way. In this way, the Minerals Act seems to create a perverse incentive for the country: it attracts precisely the type of unscrupulous companies that the country should be avoiding due to the unnecessary risks to the environment, wildlife, and eco-tourism that such companies might present.

The report goes on to paint a picture of questionable and even unlawful dealings, fuelled by confusions of mandate and jurisdiction, incompetence and inefficiency, ignorance and disinterest, and states the following:

Mining companies bypassed the corrupt MME officials or the unyielding MET personnel by appealing directly to the Ministers themselves. This was effective in forcing the ministries to act, and also helped ensure that future EPL applications or conversions to mining licenses would be reviewed and approved expeditiously. At times, this created the incentive for mining companies to bypass the process ruled by law and formal policy, and instead to use political and personal connections. This had the effect of degrading the importance of legal standards and requirements, and removed the few mechanisms in place intended to help the country distinguish between good and bad mining companies. If a company with poor environmental practices and inadequate qualifications did not acquire a licence through outright bribery, they could nonetheless use their political influence to put pressure on the ministry staff to approve their application.

The report highlighted years of environmental abuse and regulatory slackness and represented rich pickings for journalists to investigate further. However, in general coverage of the issues highlighted in the report was restricted to the launch of the report itself and a day or two later, a debunking of the assertions and accusations of the report authors by government officials. The stink was short-lived and the report quickly forgotten.

This is just an example of a mining sector story, involving environmental harm, which journalists failed to pick up on and develop further. There, of course, were others in the intervening years, and the handling of these was almost exactly the same. The point is that Namibian journalists tend to hunt news and quotes and not develop stories, and they rely heavily on information from official sources, whether government officials or company executives.

4.2 Agriculture

The agricultural sector is arguably the most cross-cutting of sectors as its focus, directly or indirectly, depending on what is being produced, is human food production and because of this it impacts on all manner of issues and concerns spanning the entire range of human health, wealth and prosperity indicators. The practice of agriculture is situated in nature, where climatic and environmental conditions are the pre-eminent influences.

Agricultural production in Namibia has traditionally been dominated by livestock production – primarily cattle and sheep – which accounts for about 75% of sectoral output.

With regard to crops, Sherbourne⁸ states: “In production of basic staple grains Namibia has historically been a net importer, especially of maize and wheat since mahangu [pearl millet] is not a major export crop in the region.”

He goes on to state: “Taking the sector as a whole ... it is clear that one of the major structural changes to have taken place in the Namibian economy is that agriculture’s relative contribution to GDP has steadily declined over the last 18 years. Whereas in 1990 the agriculture sector contributed some 9.4% to GDP, by 2008 this had fallen to just 5.4%. Growth in agriculture has been less than growth in the overall economy.”

Whereas the national economy has experienced annual growth of over 4% through the 1990s and 2000s, growth in agriculture was less than 2%, and for the subsistence agricultural sector overall growth has been hovering disappointingly at below 0.5% annually.

Without going into much detail, food security has always been a significant national preoccupation, especially over the last decade or so as droughts, floods and crop failures, compounded by rising food prices, have necessitated government stepping in and assisting vulnerable parts of the country with food aid over the years. In 2012, government was already distributing drought relief in the Kunene Region and in September 2012 it was reported that 20,000 people in the neighbouring Omusati Region faced starvation and required assistance.⁹

Since the early 2000s government has been touting the Green Scheme as a way to food security, job creation and import substitution, through the development of large-scale irrigation projects, for which it was decided to allocate N\$1 billion over ten years, starting in 2004. The

8 Guide to the Namibian Economy 2010, IPPR, 2010.

9 ‘People starving at Ruacana’, Oswald Shivute, *The Namibian*, 11 September 2012.

Green Scheme has largely failed to materialise as envisaged and where such projects have been introduced, environmentalists have warned of the potential of significant environmental harm, as well as green schemes not delivering on the jobs government had promised.¹⁰

Similar to mining, reporting on agriculture and green schemes have tended to reflect a paucity of depth, indicating a lack of understanding of the issues, especially the environmental concerns arising from large scale industrial-sized projects. Reportage has consisted primarily of quoting government ministers or senior ruling party officials making sweeping and, often times, emotional statements about the merits of state funded and driven agricultural projects, couching these projects in a terms of patriotism and the exercise of sovereignty to appeal to largely under-educated and ill-informed audiences. Reporters on the whole have failed to question the politics and business sense, as well as resources invested, behind green schemes and other government agricultural experiments which have so far roundly failed to deliver the initial loudly proclaimed outputs.

Exacerbating this state of affairs is that agricultural authorities regard themselves as being beyond criticism and questioning, a situation which is busy playing out on crop fields across the northern communal areas with increasingly disastrous results. Corruption in the agricultural sector has become an impending threat and deforestation and desertification¹¹ are looking to put paid to efforts at uplifting communal households.

Namibian journalism is largely oblivious of these occurrences, it would seem.

4.3 Tourism

As with mining and agriculture, tourism is another sector directly linked to environmental concerns and the Namibian sector, given the fragility of the environment and biodiversity landscape, faces considerable challenges in the face of unfolding global warming-induced climate change.

However, to briefly highlight the significance of the tourism sector to the Namibian economy, the following quote makes the case adequately: “Namibia’s network of national parks and other protected areas such as reserves, national monuments, and conservancies house a wide variety of threatened endemic species as well as unique landscapes and geologic formations that draw increasingly large numbers of tourists. The extent of the tourism industry’s potential as a source of revenue appears not to have been fully explored, but it already contributes significantly to Namibia’s economic development.”

The report¹² from which it is quoted here goes on to state: “It is estimated that tourism will con-

10 ‘Flawed farming’, *Insight Namibia Magazine*, September 2012.

11 ‘The roots of deforestation’, *Insight Namibia Magazine*, June 2012.

12 See ‘Striking a better balance – An investigation of mining practices in Namibia’s protected areas’, Legal Assistance Centre, 2009.

tribute N\$28.4 billion to GDP by the year 2017.” And continues: “If managed carefully, tourism offers a sustainable option for economic growth and development well into the future. Tourism is a long-term activity with environmental impacts that are more easily controlled.”

Despite the positive outlook reflected by the quoted statements, at the time of writing in late 2012, the Namibian tourism sector was said to be starting to really feel the effects of the global financial and economic crisis, which had hit traditional tourist markets of western Europe and the United States especially hard. Namibian foreign tourist arrivals by 2012 had nudged up to about a million per annum, but as the economic crisis started to deepen, arrivals and hospitality sector bookings have plummeted by all accounts. Sources within the sector were saying at the time that quite a number of establishments and operators were facing closure as a result of the drop in overseas bookings. At the same time, alternative tourist markets – China, the Middle East, and South America – were being explored by government, but these had yet to start delivering significant numbers of tourists as of September 2012. Widespread predicted and projected 2012 losses in the tourism sector had yet to be quantified at the time of writing.

Obvious questions about maintaining the integrity of Namibia’s environmental bounty in the face of increasing tourism activities and government’s push for greater revenues from the sector, have never really been addressed in the media, with most reports about the sector being little more than press statement reporting, or a replication of the same approach as that with which most journalists approach mining and agriculture, as outlined above. At the time of writing, waste management at state-run tourism facilities had become a point of contention¹³, but it hardly featured on news pages and reports.

Once again, a lot more with a greater emphasis on depth and insight, could have been done over the years to flesh out the issues surrounding tourism and the initiatives rolled out by the state to promote the country and attract visitors.

Briefly highlighting the three sectors discussed in this section, sets the stage for the discussion of shortcomings and weaknesses, both institutional and individual, which impact on the quality of journalism about such crucial economic sectors as the ones addressed here.

5 Understanding the weaknesses

In order to understand where Namibian journalism is failing to engage with and deepen society-wide environmental, and specifically the impacts of climate change, debate, it is necessary to spotlight the factors which collide in the average newsroom to create a situation in which much of what makes the practice of journalism an art fall by the wayside.

These factors circumscribe a host of issues, which can basically be aggregated under the following: The nature of the news cycle and newsroom organisation; a general lack of skills and expertise; the availability and accessibility of information; a culture of silence/self-censorship; and a basic lack of interest.

13 ‘Causing a stink’, *Insight Namibia Magazine*, October 2012.

5.1 The nature of the news cycle and newsroom organisation

In a nutshell, the average Namibian newsroom is singularly preoccupied with filling the next day's, or week's or month's, pages or bulletins with editorial content, while business processes are geared towards generating enough paid-for-content to make each publication or broadcast viable. Survival for many, especially print products, is literally a daily, weekly or monthly struggle. In the course of hastening to bring out the next issue, there quite often is a compromise on quality – not taking the time to get to the bottom of a story – and reportage becomes event and personality driven, with little, if any, examination and analysis of events as they occur. In this tight deadline driven environment reporters and newsroom managers – editors and sub-editors – often do not take the time to look up and see the big picture. This sort of working environment brings into frame the discussion of reporting versus journalism, with circumstances – limited resources, staff and time – favouring reporting. And this state of affairs is further exacerbated by a shortage of skills, experience and expertise in all newsrooms.

This sort of working environment also makes it easy to push subjects and topics, such as environment and climate change, which because of the myriad of issues is perceived as complex and complicated, or niche, to the periphery in favour of easier to do stories. This then translates into dedicated pages once a week, further underscoring the impression of the environment being a niche concern, instead of seeing it as a stream running through all other topics.

5.2 Lack of skills and expertise

The dearth of journalistic skills, coupled with the appropriate experience and some sort of specialisation, is an issue which cannot be emphasised enough. The average Namibian newsroom is staffed predominantly by young journalists who are the products of a dysfunctional education system, as a result of which their language proficiency and numeracy skills are deficient and they struggle to grasp moderately complex concepts and phenomena. Bluntly, the average Namibian journalist lacks the capacity to competently connect the dots.

This shortage of even basic skills, and the altogether absence of specialised and even elite skill sets, impacts on the newsroom's ability to engage in themed-coverage of a relatively complex nature, investigative journalism and even standard news analysis. And it is not only in the quality of environmental coverage that these deficiencies are reflected, but economics and health reporting as well, all of which are related. The flimsiness of the daily news reports in Namibia is something foreign journalists and media practitioners have often remarked on in the company of this author.

Ideally, as in more developed media markets, individuals with a specialised qualification – economics, medicine, science, etc – could be roped in to become journalists on issues related to their field of specialisation. However, such specialist skills are in general short supply and the best of the meagre stream of graduates from Namibian or South African tertiary institu-

tions are immediately snapped up by higher paying sectors. In many newsrooms even editors and sub-editors lack capacity and thus do not themselves have an appreciation for appropriate and professional standards and how to build out the quality of their particular journalism product.

5.3 Availability and accessibility of information

For a journalist, and anyone else seeking, to get hold of accurate information or data in Namibia is a continuous struggle. Consider that less than 10% of Namibians are in possession of some sort of tertiary qualification and that most of the positions in both the public and private sectors are held by people without such qualifications, the quality of record keeping in institutions is generally poor, and thus the information, they produce, is deficient and highly suspect, if information is actually produced or records kept.

Further complicating things is the fact that access to information or data produced by government departments or agencies is centralised at senior executive level, in keeping with a general political culture which shies away from transparency.

In a sense this also applies to private organisations, in that, for instance, there are a number of environment-related non-governmental organisations active in Namibia, all of which produce information and/or data on a regular basis, but share this information narrowly or only with donors, without considering the possible educational value of such information for a much wider audience, reachable through the news media.

How information vacuums relate to news coverage of socio-economic issues is that often reporters compile stories without having evidence or facts, but base entire articles on what they are told by sources, which in turn impacts on the credibility of news reports, which are perceived and quite easily made out and often shot down, by those implicated, as rumours and/or misrepresentations. That this happens also speaks to lazy newsroom management, as deadline pressures create the excuse that allows sloppiness to pass through quality control processes.

5.4 Existence of a culture of silence or self-censorship

Something, which should not be underestimated, is the way people, journalists in this case, will avoid causing displeasure in order to hold on to basic advantages, such as a regular pay-cheque, which they rightly or wrongly, perceive to be under threat if they should report on certain issues or be critical. In a country with exceedingly high unemployment and poverty rates, self-censorship or silence on sensitive topics could be perceived as a small price to pay in order to hang on to a treasured job. However, an uncritical journalist is a mediocre journalist, and the public interest is not best served by such a culture pervading newsrooms. Sadly, this sort of uncritical culture has long been evident in especially state-owned media newsrooms, such as that of government funded daily newspaper, New Era.

In this sense, some sections of the Namibian media fraternity, and not just state-owned media, reflect the prevailing post-truth political climate – in which politicians are left unchallenged to make baseless statements, wild promises and fling accusations and threats as they will, all of which are devoid of truth or fact. The media then reports such statements, promises of accusations as if they were worthy news items that pass the test of a dubious understanding of vague news values.

Politicians or senior officials of every hue making uninformed and reckless statements on serious issues, such as climate change and/or the state of the environment, and such statements receiving wide media coverage, without the veracity of the statements being challenged, is not an uncommon occurrence in Namibia.

5.5 Lack of interest

In this the failings of the formal education sector are probably also primarily to blame in that young journalists, coming from backgrounds lacking in a strong reading culture, when confronted with complex real world issues in the workplace and professional environment, and perceiving themselves ill-equipped to deal with such subject matter or issues, become demoralised and ultimately lose interest.

This, combined with some of the other factors already discussed, can have a considerable impact on the quality of coverage of such pressing national issues as climate change mitigation and adaptation, for if journalists are disinterested, then the public is not adequately informed and politicians and other decision-makers are not pressurised from below to perform.

Of course, by no means are these the only factors contributing to wholesale poor coverage of environmental and climate issues – another important one to consider is the absence of any real interactive engagement with audiences, creating direct informant and feed-back loops with people at grassroots levels across the country, tapping in to concerns and events as they unfold on the ground and addressing them in real-time, as current technology allows – but these are the ones long visible within newsrooms and the conduct of the media sector at large as well as increasingly impacting on the quality of journalism to which audiences are exposed daily, weekly and monthly.

6 Concluding remarks

Concerning coverage of environmental and climate issues, Namibian journalists and news media outlets are roundly failing in their mandate to the keep the public informed and educated, and to hold government accountable by fulfilling their agenda-setting role through continuously casting the spotlight on the performance of policy and legislative measures aimed at installing climate change mitigation and adaptation initiatives and mechanisms. In not doing so, the news media are substantially contributing to blissfully helping society along to potential future catastrophe.

It might possibly not be too late to turn this trend around – by shifting journalistic practice from reporting to journalism; by transforming news coverage from being event and personality driven to being systems and processes focused; by resetting the news agenda to one that is proactive and anticipatory of future events and scenarios, instead of having a retro-glare, for the challenges are in the future, not the present or the past; by reintroducing intensive on-the-job training programmes to keep newsroom morale up and assist journalists in capacitating themselves.

Sadly, however, this reorientation of newsroom processes and journalistic methods does not appear to be on the cards anywhere, at least not visibly so.

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Allgemeine Zeitung, Windhoek, 3 March 2011

...dit is belangrik om buitelandse onwikkeling te lok, maar nie as dit met onherstelbare skade aan die omgewing gepaard gaan nie...

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ENVIRONMENTAL LAW AND POLICY IN NAMIBIA

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Since Independence, environmental law has become an important branch of the law in Namibia. Over the past years new legislation has been passed and environmental law and policy has gained momentum practically and academically. Internationally, environmental law has also emerged from a soft law instrument to a key negotiating platform in international diplomacy.

Key features of this work are: national environmental law and policy; international environmental law, also focusing on environmental law within the African Union (AU) and the Southern African Development Community (SADC); environmental management; water and land law; conservation of biodiversity; mining and energy law, including renewable energy law; customary law, common law and criminal law aspects of environmental law; intellectual property rights and traditional knowledge; climate change; environmental justice and human rights; international trade, sustainable development and the environment; and environmental journalism.

This publication is expected to be valuable for students, researchers, academics, legal and environmental practitioners, judges, government officials and anyone interested in this field – be it from Namibia, Africa or beyond.

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