

**UNIVERSITY OF CAPE TOWN**

**FACULTY OF LAW**

**CLIMATE CHANGE GOVERNANCE IN THE SADC REGION: TOWARDS  
DEVELOPMENT OF AN INTEGRATED AND COMPREHENSIVE FRAMEWORK  
POLICY OR PROTOCOL ON ADAPTATION**

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## **ABSTRACT**

The scientific community has shown that climate change is occurring and is caused mainly by human activities. This state of affairs has various societal and environmental implications which has demanded attention and raised concerns about the future of human life on earth. Increasing concerns about climate change has led the international community, regional bodies and national governments to adopt legal instruments and other mechanisms to address the phenomenon. In these efforts and measures mitigation and adaptation have been the prominent response strategies. However, adaptation to climate change has experienced much less attention than mitigation. This research provides a conceptual analysis of adaptation, and discusses some socio-economic and cultural implications of climate change in the Southern African Development Community (SADC), in order to show why adaptation is a better response to climate change. The research outlines and assesses the relevant developments in international, African and mainly SADC's responses to climate change through adaptation in their legal and institutional frameworks. This includes related developments in Namibia and South Africa as SADC Member States. The study advocates for regional consensus to design a holistic policy framework and effective governance on adaptation to climate change in the SADC, as one of the world's most vulnerable regions. As such, the study further examines the aspect of good governance and institutional frameworks as essentials for climate change adaptation in the SADC context. It concludes that it is necessary for SADC member states to cooperate in formulating an integrated and comprehensive protocol on adaptation.

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**LIST OF ABBREVIATIONS**

ACHPR	AFRICAN COMMISSION ON HUMAN AND PEOPLES' RIGHTS
ACPC	AFRICAN CLIMATE POLICY CENTRE
AF	ADAPTATION FUND
AFDB	AFRICAN DEVELOPMENT BANK
AMCEN	AFRICAN MINISTERIAL CONFERENCE ON THE ENVIRONMENT
AR	ASSESSMENT REPORT
AU	AFRICAN UNION
AUC	COMMISSION OF THE AFRICAN UNION
CAF	CANCUN ADAPTATION FRAMEWORK
CCU	CLIMATE CHANGE UNIT
CH <sub>4</sub>	METHANE
ClimDev-Africa	CLIMATE FOR DEVELOPMENT IN AFRICA
CO <sub>2</sub>	CARBON DIOXIDE
COMESA	COMMON MARKET FOR EASTERN AND SOUTHERN AFRICA
COP	CONFERENCE OF PARTIES
CSC	CLIMATE SERVICES CENTRE
CTWG	CLIMATE CHANGE INTER-SECTORAL TECHNICAL WORKING GROUP
DEA	DIRECTORATE OF ENVIRONMENTAL AFFAIRS

DMC	DROUGHT MONITORING CENTRE
DWEA	DEPARTMENT OF WATER AND ENVIRONMENTAL AFFAIRS
EAC	EASTERN AFRICAN COMMUNITY
GCCC	GOVERNMENT COMMITTEE ON CLIMATE CHANGE
GCF	GREEN CLIMATE FUND
GDP	GROSS DOMESTIC PRODUCT
GEF	GLOBAL ENVIRONMENTAL FACILITY
INC	INITIAL NATIONAL COMMUNICATION
IPCC	INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
IUCN	INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE
LDCF	LEAST DEVELOPED COUNTRIES FUND
LDCs	LEAST DEVELOPED COUNTRIES
MDGs	MILLENNIUM DEVELOPMENT GOALS
MET	MINISTRY OF ENVIRONMENT AND TOURISM
N <sub>2</sub> O	NITROUS OXIDE
NAPAS	NATIONAL ADAPTATION PLAN OF ACTIONS
NCCC	NATIONAL CLIMATE CHANGE COMMITTEE
NCCC	NATIONAL COMMITTEE ON CLIMATE CHANGE
NCCP	NATIONAL POLICY ON CLIMATE CHANGE
NCCRS STRATEGY	NATIONAL CLIMATE CHANGE RESPONSE

NCOLP	NATIONAL COMMITTEE FOR OZONE LAYER PROTECTION
NDP	NATIONAL DEVELOPMENT PLAN
NEMA	NATIONAL ENVIRONMENTAL MANAGEMENT ACT
NEPAD	NEW PARTNERSHIP FOR AFRICA'S DEVELOPMENT
RISDP	REGIONAL INDICATIVE STRATEGIC DEVELOPMENT PLAN
SADC	SOUTHERN AFRICAN DEVELOPMENT COMMUNITY
SARCOF	SOUTHERN AFRICA REGIONAL CLIMATE OUTLOOK FORUM
SARUA	SOUTHERN AFRICAN REGIONAL UNIVERSITIES ASSOCIATION
SCCF	SPECIAL CLIMATE CHANGE FUND
SNC	SECOND NATIONAL COMMUNICATION
TFCAS	TRANS-FRONTIER CONSERVATION AREAS
UN	UNITED NATIONS
UNCBD	UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION
UNCCD	UNITED NATIONS CONVENTION ON BIODIVERSITY
UNECA	UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA
UNFCCC	UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

## CHAPTER 1: INTRODUCTION

### 1.1 Background

The Intergovernmental Panel on Climate Change (IPCC)<sup>1</sup> Working Groups' contributions to the Fifth Assessment Report (AR5)<sup>2</sup> stresses that previous assessments have already shown through multiple lines of evidence that the climate is changing across our planet, largely as a result of human activities.<sup>3</sup> The most compelling evidence of climate change derives from observations of the atmosphere, land, oceans and cryosphere.<sup>4</sup> Unequivocal evidence from *in situ* observations and ice core records shows that the atmospheric concentrations of important greenhouse gases such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) have increased over the last few centuries.<sup>5</sup>

Climate change is acknowledged by the United Nations (UN) as one of the biggest challenges of our time and said to be one of the biggest threats humanity is facing.<sup>6</sup> Climate change directly and indirectly impacts on both the social, economic and cultural aspects, and the connection between climate change and human rights is receiving increasing attention.<sup>7</sup> Climate change impacts vary by sector and threaten inter alia water availability, food security,

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<sup>1</sup> The IPCC was set up in 1988 by the World Meteorological Organization and the United Nations Environment Programme to provide governments with a clear view of the current state of knowledge about the science of climate change, potential impacts, and options for adaptation and mitigation through regular assessments of the most recent information published in the scientific, technical and socio-economic literature worldwide.

<sup>2</sup> IPCC Working Group Contributions to the Fifth Assessment Report, available at <http://www.ipcc.ch/report/ar5/>, accessed 22 April 2014.

<sup>3</sup> U Cubasch et al *Introduction*, In T Stocker et al (eds) *Climate Change: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*.(2013) 121, available at [http://www.climatechange2013.org/images/report/WG1AR5\\_Chapter01\\_FINAL.pdf](http://www.climatechange2013.org/images/report/WG1AR5_Chapter01_FINAL.pdf), accessed 22 April 2014.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> I Mapaure *Climate Change: Review of Climate Change in Namibia: Projected Trends, Vulnerability and Effects*, in OC Ruppel & K Ruppel-Schlichting (eds) *Environmental Law and Policy in Namibia: Towards Making Africa the Tree of Life Fully Revised* 2ed (2013) 245.

<sup>7</sup> J Glazewski & L du Toit *International Climate Change Law*, in J Glazewski & L du Toit (eds) *Environmental Law in South Africa Loose-Leaf Edition (Issue 1)* (2013) 3-19.

human health, and biodiversity.<sup>8</sup> Human vulnerability has become a key focus of human rights discussions, which now tend to focus on how, inter alia, flooding, property devastation, water stress, diseases, drought, forced migration, and poverty will impact on human lives.<sup>9</sup> Segments of the population such as women, children, the aged, and the disabled and indigenous people will be feeling the effects of climate change the hardest.<sup>10</sup> Recent concerns include the climate refugee phenomenon and what would happen to the Antarctic region and small islands. Climate change remains a bigger threat to both present and future generations, and can therefore never be ignored, especially by the SADC with common characteristics and heritage. It is these factors, issues and concerns that this work calls for adaptation to be pursued by the SADC community to adequately address its own similar problems.

The state of affairs on climate change vulnerability dictates that it is crucial not only to mitigate, but also to adapt to climate change. Adaptation and mitigation are considered as the most appropriate measures to deal with global warming. In recent years both the direct and indirect impacts of climate change continue to be globally felt and observed, thereby making it a common problem prompting immediate and effective responses. Climate change mitigation and adaptation are critical not only for 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. Whereas for industrialised states the key concern is mitigation of greenhouse gases, for developing countries, the overriding concern is adaptation to the inevitable impacts of global warming.<sup>11</sup> Climate change adaptation should be seen as the main focus of developing and poor countries at this point in time, because

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<sup>8</sup> OC Ruppel *Climate Change and Human Vulnerability in Africa*, in OC Ruppel & K Ruppel-Schlichting (eds) *Environmental Law and Policy in Namibia: Towards Making Africa the Tree of Life* Fully Revised 2ed (2013) 280.

<sup>9</sup> *Ibid.*

<sup>10</sup> *Ibid* at 283.

<sup>11</sup> N von Bassewitz *International Climate Change Policy and Legislation: Where Do We Stand?*, in OC Ruppel & K Ruppel-Schlichting (eds) *Environmental Law and Policy in Namibia: Towards Making Africa the Tree of Life* Fully Revised 2ed (2013) 352.

the global commons nature of mitigation gives countries no incentive to cooperate.<sup>12</sup>

Global warming affects the entire planet, posing huge challenges to countries, communities, organisations, and individuals. Developing countries will suffer the most from the adverse effects of climate change and some highly vulnerable regions, such as Southern Africa, are already being affected by the impacts of climate change.<sup>13</sup> In Southern Africa and Africa in general, adaptation must be the main priority when it comes to climate change. Indeed, most African countries only contribute to a very small portion of global emissions of greenhouse gases. As such, the reduction of emissions in Africa will only have a marginal effect on global warming, and mitigation measures are also associated with very high opportunity costs. Hence, an adaptive approach is necessary as most countries in the region are already confronted with the adverse impacts of climate change.<sup>14</sup>

On the international level, (see legal instruments assessed in chapter 3) the scope and mandates for adaptation are incorporated in the provisions of the decisions and agreements of the international community on climate change. These legal instruments provide a framework for developing regions on climate change such as SADC or Africa. The instruments also emphasise and make specific reference to the needs and vulnerability of the developing world particularly Africa. The SADC is a developing region and vulnerable to climate change, and has therefore taken various steps to respond to environmental issues including climate change.

SADC was established in 1992 in Windhoek Namibia, and consists of 15 states as its members, namely Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia,

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<sup>12</sup> R Mendelsohn *Development and Climate Adaptation*, in RW Hahn & A Ulph (eds) *Climate Change and Common Sense: Essays in Honour of Tom Schelling* (2012) 245.

<sup>13</sup> *Climate Change Adaptation in SADC: A Strategy for the Water Sector* (2001) 1, available at [http://www.sadc.int/files/2213/5293/3544/SADC\\_Climate\\_Change\\_Adaptation\\_for\\_the\\_Water\\_Sector\\_booklet.pdf](http://www.sadc.int/files/2213/5293/3544/SADC_Climate_Change_Adaptation_for_the_Water_Sector_booklet.pdf), accessed 5 April 2014.

<sup>14</sup> *Ibid* at 3.

Seychelles, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe.<sup>15</sup> The objectives of the SADC Treaty include environmental protection. According to Article 5(g) of the SADC Treaty one of the key objectives of the regional economic community is to “*achieve sustainable utilisation of natural resources and effective protection of the environment*”. The SADC Treaty also calls for cooperation of Members in key areas such as protection of natural resources and environmental protection.<sup>16</sup>

Given that the effects of climate change are cross-cutting and indiscriminate, members of the SADC region need to embark on a collective consensus-based approach to address the impacts of climate change through adaptation. This includes the determination of risk zones, public and private risk insurance mechanisms, vulnerability reduction programs or resilience enhancement initiatives.<sup>17</sup> This paper outlines and assesses SADC’s governance on climate change and argues that SADC should develop a holistic climate change framework policy or protocol on adaptation in particular.

## 1.2 Statement of the problem

This study highlights the phenomenon of climate change paying specific attention to *adaptation* in the SADC region by cross reference to the African Union (AU) and the international arena. It seeks to undertake an analysis of the measures adopted in the SADC region against the backdrop of legal/policy and institutional frameworks, and actions taken or other initiatives to effectively deal with climate change through adaptation. The work suggests that there is necessity for an integrated and a comprehensive climate change framework policy or protocol on adaptation within the SADC region, as a crucial measure for developing countries.

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<sup>15</sup> J Glazewski & OC Ruppel *International Environmental Law*, in J Glazewski & L du Toit (eds) *Environmental Law in South Africa* Loose-Leaf Edition (Issue 1) (2013) 2-103-4.

<sup>16</sup> Article 21(3)(f) of the SADC Treaty.

<sup>17</sup> A Zia *Post-Kyoto Climate Governance: Confronting the politics of scale, ideology, and knowledge* (2013) 36.

It is worth noting that SADC agendas, strategies, and action plans on climate change are still at the very early stages of development. The same applies to a holistic framework prioritising climate change adaptation in the region. Furthermore, in SADC climate change issues and provisions are segmented across other protocols, policies, initiatives and other various sectorial legal instruments. It is vital to segment or incorporate climate change issues and provisions as such, but paramount for SADC members is to develop progressive consolidated frameworks and legal setups against climate change via adaptation.

The design of a consolidated specific protocol or framework on adaptation in the SADC region would be a stepping stone and essential avenue for curbing and coordinating climate change issues, activities and responses within the region. A holistic framework on adaptation would provide a roadmap on how to cope with climate change in the region, as well as serve as a guide for policy and decision-making. The formulation of a comprehensive protocol or framework policy would also adequately address climate in an open, timely and systematic manner, and would be a tool for cooperation between SADC members on the adaptive approach.

In addition, the study examines adaptation interventions in two SADC member states namely Namibia and South Africa in the fourth chapter. Climate change in the SADC region has been too focused on individual national levels and it seems prioritised in countries such as Namibia<sup>18</sup> and South Africa<sup>19</sup>. But what comes to one's mind is whether the SADC community as a whole is doing enough to curb climate change as a cross-cutting issue, and if not, identify the challenges and opportunities. These two member states are looked upon to mainly provide reflections on national developments with regard to climate change adaptation. The purpose for their discussion is further expounded in paragraph 2.1 of the next chapter.

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<sup>18</sup> See for example the 2011 National Climate Change Policy for Namibia.

<sup>19</sup> See for example the National Climate Change Response Strategy; the 2010 National Climate Change Response Green Paper; the 2011 National Climate Change Response White Paper.



It is recommended that the SADC members design, in the spirit of cooperation and respect for human rights, a specific holistic framework policy or protocol on climate change adaptation, as suggested in the concluding chapter.

### 1.3 Significance of the study

Climate change is a major environmental concern, a threatening reality and cannot be ignored in contemporary legal literature. Southern Africa is a developing region and one of the most vulnerable to climate change.

Climate change has potential impacts on the entire African continent increasing stress in sectors such as agriculture, health, energy, water resources, coastal areas, ecosystems and biodiversity. The impacts of climate change comprise these multiplicities of social, economic and cultural effects. The impacts of climate change also violate fundamental human rights such as the right to life, food and water, and they are mostly felt by certain vulnerable groups.<sup>20</sup> As such, substantive research on the subject needs to be carried out to address challenges and opportunities.

Since the emergence of climate change as a public policy concern in the late 1980s, most attention has been focused on mitigation.<sup>21</sup> However, due to the global and cumulative nature of greenhouse gases emissions, mitigation alone will not yield tangible climate benefits for many years.<sup>22</sup> Notably, the worst effects of climate change and the greatest need to adapt, tend to fall on the poorest areas of the world, which also have the least capacity to adapt.<sup>23</sup> Nonetheless, there is growing realisation that both mitigation and adaptation must be pursued vigorously, because without major efforts to control greenhouse gases emission, the suffering will become far worse.<sup>24</sup> “The

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<sup>20</sup> O Jonas ‘A human rights approach to climate change in Africa: Challenges and prospects’ (2012) 2 SADCLJ 78-97; see S Humphreys (ed) *Human Rights and Climate Change* (2010).

<sup>21</sup> MB Gerrard *Introduction and Overview*, in MB Gerrard & KF Kuh (eds) *The Law of Adaptation to Climate Change: U.S. and international Aspects* (2012) 3.

<sup>22</sup> *Ibid.*

<sup>23</sup> *Ibid.*

<sup>24</sup> Gerrard *op cit* (n21) 4.

*planet is ailing, and we need both cure (mitigation) and treatment (adaptation)*".<sup>25</sup>

As mentioned, SADC members are party to a number of multilateral environmental agreements and protocols which directly and indirectly incorporate provisions about climate change. However, a concern is why there is lack of 'dedicated', specific agendas or comprehensive framework policies, even beyond adaptation, to tackle and respond to climate change in the SADC region. Therefore, it is also the aim of this research to make a substantial contribution to the development of more effective and equitable climate change laws, policies and protocols on adaptation in particular.

Lastly, the research is initiated to provide an insight to governments, decision and policy makers, environmentalists, academics and interested members of the civil society.

#### **1.4 Key research questions**

The key research questions addressed in this thesis are:

1.4.1 What is the SADC region doing to adapt to climate change? Is there any necessity for a consolidated climate change framework or protocol on adaptation in the SADC region?

1.4.2 What are the socio-economic and cultural implications of climate change in the SADC region?

1.4.3 Do the SADC region's legal, governance and institutional frameworks on climate change adequately address adaptation?

1.4.4 Should a process be put in place to develop a protocol on climate change adaptation? If yes, how will this protocol be established?

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<sup>25</sup> Ibid.

## 1.5 Theoretical underpinnings underlying the dissertation

Long time ago, scholars characterized climate change as a “*wicked problem*” that defies resolution because of the enormous interdependencies, uncertainties, circularities, and conflicting stakeholders implicated by any effort to develop a solution.<sup>26</sup> Some classic wicked problems include HIV/AIDS, healthcare, and terrorism, however, climate change has been fairly described as a “*super wicked problem*” because of its even further exacerbating features.<sup>27</sup>

The responses to wicked problems need to be collaborative and innovative, employing strategies that encompass:<sup>28</sup> holistic, not partial or linear thinking; innovative and flexible approaches built on action, evaluation; working collaboratively across boundaries; engage stakeholders in understanding the problem and identifying responses; develop core skills and competencies; and adopt a long-term focus.<sup>29</sup>

Even if global agreements are efficient and universal, some warming will still occur, and even with efficient mitigation programmes, there will still be climate change.<sup>30</sup> If few adaptation occur there will be extensive damage to, inter alia, agriculture, coastal communities, water availability, and there will be increase in temperatures, disease vectors and countless species will be lost if nothing is done to adapt.<sup>31</sup> Adaptation can reduce the magnitude of climate change. For example, reallocating water supplies to their best use, building sea walls along valuable coastlines, creating dynamic conservation programmes for endangered species, changing crops and livestock to allow agriculture to migrate, and public health programmes for infectious diseases will all reduce the damages of climate change.<sup>32</sup>

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<sup>26</sup> RJ Lazarus Super ‘*Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*’ (2009) Cornell LR 1159.

<sup>27</sup> Ibid.

<sup>28</sup> Climate Change is a Wicked Problem: Responding to wicked problems, Available at <http://chrisriedy.me/2013/05/29/climate-change-is-a-super-wicked-problem/accessed>, 22 April 2014.

<sup>29</sup> Ibid.

<sup>30</sup> Mendelsohn op cit (n12) 246.

<sup>31</sup> Ibid.

<sup>32</sup> Ibid.

Some literature cited in this study mentions that international negotiations on climate change have failed to neither take meaningful action on their promises nor have they effectively and proactively dealt with climate change. The same applies to the SADC agenda on climate change despite that it has been mainstreamed in various protocols or other environmental protection instruments.

The United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol regulate the international climate change regime. After several international meetings on climate change in which States have tried, unsuccessfully, to find common ground on climate policy, there is a general sense of frustration made more acute by a sense of urgency, frustration at the lack of progress on a collective agreement and urgency because the consequences of delay could be grave.<sup>33</sup> Given the fact that the UNFCCC was put in place in 1994, it does not augur well for international cooperation in this regard.<sup>34</sup> However, the contemporary international climate change regime holds important lessons for policy and law-making which can enable the SADC region in formulating a framework or protocol on climate change adaptation and implementing it.

In addition to the international regime, the Cancun Adaptation Framework (CAF) was adopted as part of the Cancun Agreements and its main objective covers adaptation.<sup>35</sup> The objective of the CAF is to enhance action on adaptation, including through international cooperation and coherent account of matters relating to adaptation under the UNFCCC. The Parties emphasize that adaptation must be addressed with the same level of priority as

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<sup>33</sup> RW Hahn & A Ulph (eds) *Climate Change and Common Sense: Essays in Honour of Tom Schelling* (2012) 5.

<sup>34</sup> Glazewski & Du Toit op cit (n7) 3-36.

<sup>35</sup> The Cancun Adaptation Framework, Available at [http://unfccc.int/key\\_steps/cancun\\_agreements/items/6132.php](http://unfccc.int/key_steps/cancun_agreements/items/6132.php), accessed 7 April 2014.

mitigation.<sup>36</sup> It recognises the need to assist the particularly vulnerable people in the world to adapt to the inevitable impacts of climate change by taking a coordinated approach to adaptation. Ultimately enhanced action on adaptation seeks to reduce vulnerability and build resilience in developing countries, taking into consideration the urgent and immediate needs of those developing countries that are most vulnerable.<sup>37</sup> The UNFCCC urges all parties to formulate and implement national adaptation measures, as well as to cooperate internationally on adaptation issues.<sup>38</sup>

Africa in general is a vulnerable continent to climate change coupled with the low capacity to adapt. In terms of the African Union (AU), the Constitutive Act establishing the AU contains objectives of the AU many of which are environment and climate change related, and provides a mandate to address these issues.<sup>39</sup> These are also reflected in various African initiatives such as the 2001 New Partnership for Africa's Development (NEPAD), the 2009 Kampala Convention<sup>40</sup>, the African Climate Policy Centre established in 2010 as part of the Climate for Development in Africa (ClimDev-Africa) Programme, and the 1985 African Ministerial Conference on the Environment (AMCEN) as outlined in the third chapter.

At the level of SADC, the Regional Indicative Strategic Development Plan (RISDP)<sup>41</sup> acknowledges the challenges that are posed by climate change and proposes providing mechanisms to implement various multilateral environmental agreements, taking into account the international climate change regime.<sup>42</sup> Furthermore, at SADC level certain structures such as the SADC Climate Services Centre (CSC) has mandate to contribute to the

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<sup>36</sup> OC Ruppel *International Legal Climate Change Regimes and Climate Finance from a Southern African Perspective*, in OC Ruppel & K Ruppel- Schlichting (eds) *Environmental Law and Policy in Namibia: Towards Making Africa the Tree of Life Fully Revised* 2ed (2013) 308.

<sup>37</sup> Ibid.

<sup>38</sup> Article 4.4, 4.8 & 4.9.

<sup>39</sup> See Article 3, 4 & 6 of the Constitutive Act of the African Union.

<sup>40</sup> AU Convention for the Protection and Assistance of Internally Displaced Persons in Africa.

<sup>41</sup> SADC Regional Indicative Strategic Development Plan, available at [http://www.sadc.int/files/5713/5292/8372/Regional\\_Indicative\\_Strategic\\_Development\\_Plan.pdf](http://www.sadc.int/files/5713/5292/8372/Regional_Indicative_Strategic_Development_Plan.pdf), accessed 20 March 2014.

<sup>42</sup> N Lubbe and M Barnard 'Climate change as a common concern: Challenges and opportunities for lawmaking in SADC' (2012) 2(1) *SADCLJ* 37.

mitigation of adverse impacts of climate variations on socio-economic development and the Drought Monitoring Centre (DMC) which was established in 1991 in order to enable strategic planners in SADC to adopt developmental plans takes into account anticipated climate changes.<sup>43</sup> In spite of these positive developments, the lack of capacity to translate policy intentions, public statements, protocols and declarations on climate change into development plans based on concrete regional legislative measures presents a challenge within itself.<sup>44</sup>

It is important to assess the legal governance and institutional aspects on climate change in SADC in relation to the proposed SADC climate change adaptation framework policy or protocol. At the supranational level, governance involves a number of policy-making processes and institutions which help manage policy processes, dispute settlement, rulemaking in support of implementation, technical standard-setting, networking and policy coordination, and public-private efforts among others.<sup>45</sup> This study further suggests that SADC members as developing countries need to encourage active regulatory governance and develop an adequate institutional framework regime aimed at adaptation to climate change.

Climate change is a common concern prompting need for a uniform, integrated and collaborative approach based on collective consensus for effective adaptation in the SADC region. A climate change adaptation framework policy would also be a roadmap of national legal developments, a set of directive principles and a means to foster further cooperation between SADC members. Developing countries should largely be responsible for defining their own best adaptation strategies to climate change without undue reliance on international aid and international concerns.<sup>46</sup>

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<sup>43</sup> Ibid.

<sup>44</sup> Ibid at 38.

<sup>45</sup> CP Carlarne *Climate Change Law and Policy: EU and US Approaches* (2010) 312.

<sup>46</sup> Mendelsohn op cit (n12) 248.

## 1.6 Methodology

The research will employ the desktop study and applied doctrinal legal research methodologies characterized by the formulation of legal doctrines through the analysis of legal rules.<sup>47</sup> Doctrinal research is concerned with discovery and development of legal doctrines usually for publication in textbooks and journal articles.<sup>48</sup> The actual process of analysis will be subjective and argument-based rather than data-based methodologies.<sup>49</sup>

The applied form of doctrinal research involves the systematic presentation and explanation of particular legal doctrines referred to as the 'expository' tradition in legal research.<sup>50</sup> This form of scholarship has been the dominant form of academic legal research and has a vital role in the development of legal doctrines through the publication of conventional legal treaties, articles and textbooks.<sup>51</sup>

As such, the research will therefore be conducted through extensive research in books, publications and unpublished papers, websites, as well as articles. This will include statutes and major relevant national, regional and international instruments on climate change and the environment. The research will also look closely into international trends surrounding the topic of climate change.

## 1.7 Organisation of the study

This dissertation is comprised of six chapters; each chapter shall include an introduction. The current chapter provides an introduction which includes the background, problem statement, rationale or significance of the study, key

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<sup>47</sup> P Chynoweth *Legal Research*, in A Knight & L Ruddock (eds) *Advanced Research Methods in the Built Environment* (2008) 29.

<sup>48</sup> *Ibid* at 30.

<sup>49</sup> *Ibid*.

<sup>50</sup> Chynoweth *op cit* (n47) 31.

<sup>51</sup> *Ibid*.

research questions, theoretical underpinnings, methodology and a synopsis of the chapters.

The second chapter of the study goes on to provide a background to understanding the conceptual framework on climate change adaptation, and the social, economic and cultural implications of climate change within the SADC region.

Chapter 3 assesses and scrutinises the legal and policy framework relevant to climate change adaptation in the SADC region. In addition, it examines the international dimension in relation to SADC in order to assess progress, identify opportunities and challenges.

Chapter 4 contrasts two national jurisdictions within two SADC countries namely Namibia and South Africa to assess progress on national levels or perspectives.

Chapter 5 analyses the governance aspects and explores the institutional framework relevant to climate change adaptation in the context of SADC. It stresses that good governance and institutional frameworks would be essential to control and direct SADC's approach on adaptation.

Chapter 6 contains the conclusion of the dissertation. Here, some concluding remarks, findings, and recommendations will be made.



## CHAPTER 2: A CONCEPTUAL ANALYSIS AND SOCIO-ECONOMIC IMPLICATIONS OF CLIMATE CHANGE IN THE SADC

### 2.1 Introduction

The concept of climate change adaptation is not something new. It emerged predominantly in the late 80s and early 90s due to the increase of global warming concerns. Climate change refers to 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.<sup>52</sup> Climate change may be a result of natural internal processes or external force such as modulations in solar cycles, volcanic eruption, and persistent anthropogenic changes in the composition of the atmosphere or land use.<sup>53</sup> Article 1 of the 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’. This definition makes a distinction between climate change attributable to human activities altering the atmospheric composition and climate variability attributable to natural causes.<sup>54</sup>

The first part of this chapter outlines a background and analysis of the conceptual framework on climate change adaptation. The second part highlights some of the social, economic and cultural implications of climate change in the SADC region. Since adaptation to climate change is the main focus of this work, less attention will be given to the mitigation aspect.

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<sup>52</sup> IPCC WGII AR5: *Climate Change: Impacts, Adaptation and Vulnerability, Summary for Policymakers* (2014) 4, available at [https://ipcc-wg2.gov/AR5/images/uploads/IPCC\\_WG2AR5\\_SPM\\_Approved.pdf](https://ipcc-wg2.gov/AR5/images/uploads/IPCC_WG2AR5_SPM_Approved.pdf), accessed 10 May 2014.

<sup>53</sup> Ibid.

<sup>54</sup> Ibid.

## 2.2 Conceptual framework for understanding adaptation

Climate change adaptation is not a new idea. It is broad and closely associated with various concepts assessed below. Understanding adaptation as a response to climate change is critical for individuals and policy makers.

### 2.2.1 Brief background

Comprehensive and transformative actions are needed to adequately address climate change. As an aid to understanding and supporting informed decision-making regarding climate change adaptation, it is vital to highlight theories on vulnerability and resilience literature to produce the adaptation action cycles concepts and applied frameworks.<sup>55</sup> A key finding of the IPCC Working Group I in the AR5 warns that ‘it is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20<sup>th</sup> century’. The Working Group II AR5 assessment of impacts, adaptation and vulnerability considers how impacts and risks related to climate change can be reduced and managed through both mitigation and adaptation.<sup>56</sup>

Impacts of climate change generally refer ‘to effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services, and infrastructures due to the interaction with climate changes or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system’.<sup>57</sup> Impacts also refer to consequences or outcomes, takes into account both human and natural systems.<sup>58</sup>

### 2.2.2 Adaptation

The concept of adaptation to climate change is variously conceptualized depending on disciplinary perspectives. Generally, adaptation refers to all

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<sup>55</sup> SE Park et al ‘*Informing Adaptation Responses to Climate Change through Theories of Transformation*’ (2012) 22 *Global Environmental Change* 115.

<sup>56</sup> IPCC WGII AR5 op cit (n52) 3.

<sup>57</sup> Ibid at 4-5.

<sup>58</sup> Ibid.

those responses to climate change that may be used to reduce vulnerability.<sup>59</sup> Adaptation is therefore a term used to describe efforts to moderate, cope with, and prepare for the current and anticipated impacts of climate change on human and natural systems.<sup>60</sup> According to the IPCC, adaptation to climate change is a notion that refers to both human and natural systems. Adaptation in human systems refer to the process of adjustment to actual or expected climate and its effect, in order to moderate harm or exploit beneficial opportunities.<sup>61</sup> In natural systems it is defined as a process of adjustment to the actual climate and its effects, and human intervention may facilitate adjustment to expected climate.<sup>62</sup> Adaptation can therefore influence the degree to which climate change events translate into impacts and disasters, and the assessment of adaptation options requires understanding the meaning and essence of adaptation.

Adaptation measures and initiatives can take various forms; they can be anticipatory or reactive, and autonomous or planned.<sup>63</sup> While anticipatory adaptation is that which takes place before impacts of climate change are observed, autonomous adaptation refers to actions taken by individuals, households and businesses without public intervention<sup>64</sup>, triggered by ecological changes in natural systems and by market or welfare changes in human systems. Mostly, this takes a form of a response to already apparent climate impacts mainly at the local level, defined by the extent to which private actors are able to reduce negative impacts from climate change and the

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<sup>59</sup> I Burton, JB Smith & S Lenhart *Adaptation to Climate Change: Theory and Assessment*, in JF Feenstra et al *Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies* (1998) 5-1.

<sup>60</sup> Gerrard op cit (n21) 3.

<sup>61</sup> IPCC 2012: *Managing the risks of Extreme Events and Disasters to Advance Climate Change adaptation, A Special Report of Working Groups I and II of the intergovernmental Panel on Climate Change*, available at [http://www.ipcc-wg2.gov/SREX/images/uploads/SREX-All\\_FINAL.pdf](http://www.ipcc-wg2.gov/SREX/images/uploads/SREX-All_FINAL.pdf), accessed 10 May 2014.

<sup>62</sup> Ibid.

<sup>63</sup> R Chevallier *Political Barriers to Climate Change Adaptation Implementation in SADC*, in L Masters & L Duff *Overcoming Barriers to Climate Change Adaptation Implementation in Southern Africa* (2011) 2.

<sup>64</sup> L Kandjinga, J Smith & J Zeidler *Economic and Trade Barriers to Climate Change Adaptation: Namibia Country Study*, in Lesley Masters & Lyndsey Duff *Overcoming Barriers to Climate Change Adaptation Implementation in Southern Africa* (2011) 122-3.

related costs.<sup>65</sup> Planned adaptation or policy intervention is associated with public actors, and refers to adaptation measures that result from decisions made at policy-making level.<sup>66</sup> This kind of adaptation is prepared before climate change impacts are experienced by the end-users. Adaptive capacity in turn is defined as all of the ‘... capacities, resources and institutions of a country or region to implement effective adaptation measures.’<sup>67</sup> Thus, a comprehensive and integrated approach towards adaptation to climate change would include all these actors and factors on board.

Transformation has also emerged as a key concept in describing the dimensions, types, and rates of societal responses to climate change. This concept refers to a change in the fundamental attributes of a system, often based on altered paradigms, goals or values.<sup>68</sup> In the context of adaptation, incremental and transformative adaptation is distinguished. Incremental adaptation refers to adaptation actions where the central aim is to maintain the essence and integrity of an incumbent system or process at a given scale.<sup>69</sup> Transformative adaptation entails fundamental changes in the attributes of a system in response to climate change and its effects, such as transformation in technological, financial, regulatory, legislative, and administrative systems.<sup>70</sup> This also includes changes in values, norms, belief systems, culture, and conceptions of progress and well-being as either facilitating or limiting transformation.<sup>71</sup> Transformation therefore requires particular understanding of risks, adaptive management, learning, innovation, and leadership, and may lead to climate resilience development pathways.<sup>72</sup>

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<sup>65</sup> Ibid at 122.

<sup>66</sup> Ibid.

<sup>67</sup> IPCC 2012, op cit (n61) Glossary.

<sup>68</sup> Ibid.

<sup>69</sup> Park et al op cit (n55) 119.

<sup>70</sup> Ibid.

<sup>71</sup> M Pelling *Adaptation to Climate Change: From Resilience to Transformation* (2010) 224.

<sup>72</sup> IPCC WGII AR5 op cit (n52) Section C.

### 2.2.3 Resilience and vulnerability

Related to the concept of adaptation are inter alia the notions of resilience, risk, and vulnerability. The latter, is a term used to refer to the propensity and predisposition to be adversely affected.<sup>73</sup> The concept of vulnerability encompasses a variety of other concepts including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.<sup>74</sup> Risk entails the potential for consequences where something of human value including humans themselves is at stake and the outcome is uncertain, often represented as probability of occurrence of hazardous events or trends multiplied by the trends if these events occur.<sup>75</sup> The term is used in the context of climate-related risks. Adaptation research has adopted the language of disaster and risk because it is able to use a ready-made set of concepts, legislation and practice that has had several decades to mature.<sup>76</sup>

Resilience, also a prominent concept on adaptation, is the capacity to anticipate, prepare for, respond to, and recover from climate impacts.<sup>77</sup> Resilience entails the capacity of a socio-ecological system to cope with a hazardous event or disturbance, responding or reorganising in ways that maintain its essential functions, identify and structure, while also maintaining the capacity for adaptation, learning and transformation.<sup>78</sup> Related is also the concept of disaster management or disaster risk management which entails processes for designing, implementing and evaluating strategies, policies, and measures to improve the understanding of disaster risk, foster disaster risk reduction and transfer, and promote continuous improvement in disaster preparedness, response, and recovery practices, with the explicit purpose of increasing human security, well-being, quality of life, and sustainable

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<sup>73</sup> Ibid.

<sup>74</sup> Ibid.

<sup>75</sup> Ibid.

<sup>76</sup> TD Cousins *A Climate of Trust: Exploring Adaptation Policy* LMM (Cape Town) (2003) 11.

<sup>77</sup> Gerrard op cit (n21) 3.

<sup>78</sup> IPCC 2012, op cit (n66); see also Arctic Council, 2013: Glossary of terms. In: Arctic Resilience Interim Report 2013, available at <http://www.sei-international.org/mediamanager/documents/Publications/ArcticResilienceInterimReport2013-LowRes.pdf>, accessed 10 May 2014.

development.<sup>79</sup> Climate-resilient pathways include actions, strategies, and choices that reduce climate change while assuring that risk management and adaptation can be implemented and planned.<sup>80</sup>

#### 2.2.4 Maladaptation

The adaptation literature is replete with advice to avoid maladaptation (the opposite of adaptation). In a general sense maladaptation refers to actions, or inaction that may lead to increased risk of adverse climate-related outcomes, increased vulnerability to climate change, or diminished welfare, now or in the future.<sup>81</sup> It is possible to make development or investment decisions while neglecting the potential impacts of climate change, such decisions are termed maladaptive.<sup>82</sup> The absence of adaptation therefore means doing nothing to offset adverse effects of climate change.<sup>83</sup>

‘Humans have always adapted to changing conditions; personal, social, economic and climatic. The rapid rate of climate change now means that many groups, ranging from communities to parliaments, now have to factor climate change into their deliberations and decision-making more than ever before. Having a term and working definition is always useful in discussing how to tackle as challenge as it helps define the scope of the challenge. Is adaptation all about minimising damage or are there opportunities as well; can adaptation proceed only through deliberately planned actions, focused specifically on adaptation to climate change; how much must be known about future climates to make decisions about adaptation? How does the adaptation of human’s systems differ from adaptation in natural systems? Can adaptation to climate change be distinguished from normal development and planning processes? Need it be? Are we adequately adapted to current climates, or do we have an ‘adaptation deficit’? The phrase ‘maladaptation’ immediately turns

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<sup>79</sup> IPCC 2014, op cit (n52).

<sup>80</sup> Ibid.

<sup>81</sup> See IPCC 2012 op cit (n61).

<sup>82</sup> JF Feenstra et al (eds) *A Handbook for Climate Change Impact Assessment and Adaptation Strategies* (1998) 5-4.

<sup>83</sup> Ibid.

thoughts to how could plans go wrong and possibly cause greater suffering. A definition does not answer all these questions but it provides a framework for discussing them.<sup>84</sup>

It is important to avoid maladaptation and understanding its implications on natural and human systems. Therefore adaptation is crucial to avoid uncontrollable or grave effects in future.

### 2.2.5 Concluding remarks

Since the late 90s, adaptation has been seen by many scientists and policy makers as a powerful option to reduce the negative impacts of climate change or take advantage of the positive effects.<sup>85</sup> Some would even argue that adaptation is a superior response strategy to climate change than greenhouse gas emissions reductions (mitigation).<sup>86</sup> In contemporary climate change responses both adaptation and mitigation are vigorously pursued, and these climate-resilient pathways have been married to each other. While adaptation is concerned with coping to climate change, mitigation is concerned with reducing greenhouse gases in the atmosphere. Both are the most effective approaches to deal with climatic changes, however, as argued in this study, climate change negotiations and initiatives have focused more on mitigation. The state of affairs therefore also calls for prioritizations of integrated adaptation to climate change on agendas at global, regional and national levels. In the longer term, the magnitude and extent of impacts will depend on the mix of adaptation and mitigation as rapid and successful reductions in GHG emissions will reduce how much adaptation will be needed.<sup>87</sup> Slower and less comprehensive mitigation will increase the challenges to which human and natural systems will need to adapt.<sup>88</sup>

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<sup>84</sup> IPCC 2012, op cit (n61).

<sup>85</sup> RSJ Tol, S Frankhauser & JB Smith 'The Scope for Adaptation to Climate Change: What can we learn from the impact literature?' (1998) 8(2) *Global Environmental change* 109.

<sup>86</sup> Ibid.

<sup>87</sup> KL Ebi & I Burton 'Dangerous Anthropogenic Climate Change from the Perspective of Adaptation', in OC Ruppel, C Roschmann & K Ruppel-Schlichting (Eds) *Climate Change: International Law and Global Governance, Volume II: Policy, Diplomacy and Governance in a Changing Environment* (2013) 734.

<sup>88</sup> Ibid.

Ignorance of adaptation is obviously inadequate and can lead to serious overestimation of the likely impacts.<sup>89</sup> It also conveys a wrong message to policymakers that the only option for climate policy is emission abatement.<sup>90</sup> Improved understanding of adaptation will help us understand the real risks of climate change, and this will help in determining optimal levels of control of greenhouse gases as well as optimal government policies to assist in adapting to a changing climate.<sup>91</sup>

### **2.3 The socio-economic and cultural implications of climate change and adaptation in the SADC region**

Climate change impacts can be felt locally and regionally. These extreme events and disasters should advance and be a pacemaker of adaptation to climate change. The assertion is logical because extreme weather and climate events transcend the signal to noise threshold and make climate risks starkly evident to decision-makers.<sup>92</sup> These hold implications on both the social, economic and cultural aspects of our society, thereby prompting attention and adaptation as a response to limit the projected effects.

The consequences and harsh climate events of climate change act as a wake-call and create a window of opportunity for adaptation and risk reduction.<sup>93</sup> It is crucial for SADC policy makers and framers to grasp the principles of adaptation; the socio-economic and cultural implications of climate change in the SADC zone, and mainstream them in the formulation of integrated framework policies. At the same time, the process and invocation of adaptation to climate change should also involve inter alia the research community, science community, economics community, legal practitioners, policy makers as well as the civil society of the SADC region.

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<sup>89</sup> Tol, Frankhauser & Smith op cit (n85) 112.

<sup>90</sup> Ibid at 113.

<sup>91</sup> Ibid at 120.

<sup>92</sup> See IPCC 2012, op cit (n61); WR Travis *Extreme Events as a Pacemaker of Adaptation to Climate Change, Adaptation Futures: 2012 International Conference on Climate Adaptation*, Cooperative Institute for Research in Environmental Sciences (2012) 1, available at [http://sciencepolicy.colorado.edu/admin/publication\\_files/2012.08.pdf](http://sciencepolicy.colorado.edu/admin/publication_files/2012.08.pdf), accessed 10 April 2014.

<sup>93</sup> Ibid at 2.



Integrated and coordinated approaches to adaptation regionally, even politically, within and across sectors are important for SADC given the trans-boundary impacts of climate change. SADC as a regional community with shared borders and common features will suffer the cross border impacts of climate change dramatically. The mandates for regional cooperation, socio-economic and cultural cooperation in these matters are contained in various SADC legal instruments assessed in paragraph 3.4.2 of chapter 3.

### 2.3.1 The social context

‘Climate extremes influence human health, human well-being and human security. Floods and drought can cause major human and environmental impacts and disruptions to the economies of most African countries, thus exacerbating vulnerability’.<sup>94</sup> Due to the limited scope of the work, the social context discussed here does not include all sectors but only looks at two important concerns about human health and the broader notion of human security as one of the most vulnerable and necessitating adaptation.

#### 2.3.1.1 Human health

Climate change is expected to have significant health impacts, including by increasing, inter alia, malnutrition, death, disease, and injury due to extreme weather events.<sup>95</sup> It affects the fundamental requirements for health such as safe drinking water, clean air, sufficient food, and secure shelter.<sup>96</sup>

SADC has embarked on a regional climate change wide-programme to facilitate the strengthening of adaptive capacity and resilience to climate change across the region.<sup>97</sup> The region is burdened by disease, and faces major crisis in health systems such as inadequate human resources for health. Despite the increasing international awareness and concern about the

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<sup>94</sup> Ruppel op cit (n8) 279-286.

<sup>95</sup> S McInerney-Lankford, M Darrow & L Rajamani *Human Rights and Climate change: A Review of the International Legal Dimensions* (2011) 16.

<sup>96</sup> T Young et al *Climate Change and Health in the SADC Region: Review of the current state of knowledge* (2010) 7.

<sup>97</sup> Ibid at 14.

impacts of climate change on human health, and the consensus that the impact will vary by region with sub-Saharan Africa identified as being worst affected, specific work linking climate change and health in Africa remains almost sparse and inconsistent.<sup>98</sup> Projections show that changes will not be uniform over the region with the central, southern land mass extending over Botswana, South Africa, Namibia and Zimbabwe being likely to experience the greatest warming of 0.2°C to 0.5°C per decade.<sup>99</sup> Planning and action to address climate change and health need to be intersectoral, draw on local data and involve local and regional authorities and health care providers.<sup>100</sup> Therefore, a comprehensive approach to cure the negative impacts of climate change through adaptation should be integrated, taking all sectors into consideration, in the formulation of frameworks, initiatives or policies.

### 2.3.1.2 Human security

‘The idea of human security, though simple, is likely to revolutionise society in the 21<sup>st</sup> century. Human security is an integrative concept and can be said to have two aspects. It means, first, safety from such chronic threats as hunger, disease and repression. And second, it means protection from sudden and hurtful disruptions in the patterns of daily life – whether in homes, in jobs or in communities’.<sup>101</sup>

Climate change events threaten human security, and both climate change adaptation and disaster risk management represent strategies that can improve human security while also avoiding disasters.<sup>102</sup> The IPCC also addresses the combined but related challenges of upholding human rights, meeting basic human needs, and reducing social and environmental

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<sup>98</sup> Ibid at 23.

<sup>99</sup> Ibid at 33.

<sup>100</sup> Ibid; see also H Frumkin & AJ McMichael ‘*Climate Change and Public Health: thinking, communicating, acting*’ (2008) 5 *American Journal of Preventative Medicine* 35.

<sup>101</sup> UNDP Human Development Report (1994) 22-41, available at [http://hdr.undp.org/sites/default/files/reports/255/hdr\\_1994\\_en\\_complete\\_nostats.pdf](http://hdr.undp.org/sites/default/files/reports/255/hdr_1994_en_complete_nostats.pdf), accessed 30 November 2014; see also MR Redclift & M Grasso (eds) *Handbook on Climate Change and Human Security* (2013).

<sup>102</sup> IPCC, 2012 op cit (n61) 457.

vulnerability.<sup>103</sup> Seven broad, interdependent components of human security are originally identified: economic security, food security, health security, environmental security, personal security, community security and political security.<sup>104</sup> Climate change has impacts on all these components of human security, either directly or indirectly. Climate change and variability have the potential to impose additional pressures on human security along with many socioeconomic factors and to overwhelm adaptive capacities of societies in many world regions, including southern Africa.<sup>105</sup> Interrelating issues between climate change and human security include water stress, land degradation, natural disasters and environmentally induced migration.<sup>106</sup> Environmentally induced migration due to the effects of climate change is closely related to the concept of human security. The three types of impacts of climate change on migration have been identified that seem most likely to have an effect on migration patterns, namely extreme weather events, sea-level rise and water stress.<sup>107</sup>

Since SADC countries have a number of shared characteristics, regional cooperation has potential and the responsibility to contribute to mitigating and adapting to the effects of climate change and to enhance human development and poverty reduction in all countries of the region.<sup>108</sup> As adaptation efforts reduce the impacts of climate change, they are likely to enhance the fundamental components of human security and curb climate induced migration particularly rural-urban migration.

### 2.3.2 Economic context

The economic context looks at among other important economic sectors in SADC such as agriculture, trade and tourism as well as the notion of development and adaptation to climate change.

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<sup>103</sup> Ibid.

<sup>104</sup> OC Ruppel & K Ruppel-Schlichting *Climate Change, Human Security and Regional Integration in SADC*, in OC Ruppel, C Roschmann & K Ruppel-Schlichting (Eds) *Climate Change: International Law and Global Governance, Volume I: Legal Responses and Global Responsibility* (2013) 509.

<sup>105</sup> Ibid.

<sup>106</sup> Ibid.

<sup>107</sup> Ibid at 512.

<sup>108</sup> Ruppel & Ruppel-Schlichting op cit (n104) 507.

### 2.3.2.1 Agriculture, Trade and Tourism

Agriculture as an economic sector is most vulnerable and most exposed to climate change in Africa. Agriculture contributes approximately 50% of Africa's total export value and approximately 21% of its total Gross Domestic Product (GDP).<sup>109</sup> Taking into account that large parts of agricultural production derive from rain-fed production systems susceptible to droughts and floods, the possible impacts of climate change cannot be overemphasized.<sup>110</sup> As much as 70% of SADC's population depends on agriculture for food, income and employment, and agriculture contributes to more than 35% of the regional economy.<sup>111</sup> Most research in Africa highlight the vulnerability of the agricultural sector to climate change emphasize the need to adapt such as the innovative idea of switching to climate-smart agriculture.

Trade and climate change are closely related aspects, and trade is fundamental for the continents to prosper in terms of economic development which contributes to employment creation and poverty eradication. Adaptation strategies are vital to ensure sustainability and sustainable utilization of natural resources which contribute significantly to trade. Through these ways the African continent, SADC in particular, would stabilize their economies and reap the benefits of trade liberalization. Trade policy is therefore an important element for strengthening resilience to the physical impacts of climate change in SADC member countries. Adaptation is a challenging policy imperative that is specific to each individual and economic sector, hence difficult to deal with at regional level.<sup>112</sup> Efforts to address adaptation strategies such as National Adaptation Plan of Actions (NAPAs) should take a more local approach that incorporate country-specific characteristics, socio-cultural and economic conditions.<sup>113</sup>

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<sup>109</sup> IPCC, 2012 op cit (n61) 253.

<sup>110</sup> Ruppel & Ruppel-Schlichting op cit (n104) 506.

<sup>111</sup> Ibid.

<sup>112</sup> S Kiratu *Economic Barriers to Climate Change Adaptation Implementation in SADC*, in L Masters & L Duff *Overcoming Barriers to Climate Change Adaptation Implementation in Southern Africa* (2011) 89.

<sup>113</sup> Ibid at 90.

Further, there is no doubt that climate change impacts will affect the tourism sector, a sector also so important for economic development in all SADC countries. Without adaptation measures, most tourism attractions will disappear thereby decreasing revenue generated in this sector.

### 2.3.2.2 Development and adaptation

Adaptation is closely related to development and this linkage is critical for reducing vulnerability as economic growth is essential for SADC countries to improve the health, economic livelihood and quality of life of their citizens.<sup>114</sup> Adaptation is also fundamentally linked to sustainable development and must be part of the development and planning process.<sup>115</sup>

According to Mendelsohn, development is a good adaptation strategy to climate change for developing countries for several reasons: (i) It is not clear that an effective mitigation strategy will be implemented (ii) development is an effective response for a developing country because it shifts its economy from agriculture, which is very climate-sensitive (iii) development offers compensation to developing countries for bearing the burden of climate change damages that they did not cause, and (IV) development provides poverty alleviation, since it targets the world's power and provides resources for poor countries and poor citizens that they can use to pay for climate adaptation.<sup>116</sup> It is important to integrate adaptation in development policies, as would reduce the impacts of climate damage, and may be preferred over greenhouse gas emissions reduction.<sup>117</sup>

The concepts: development, economic growth and sustainable development are used almost inter-changeably. It is crucial that adaptation to climate change is at play in these processes to robust both human and natural

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<sup>114</sup> GLJ Capoco *Trade and Climate Change: The Environment from Developmental and Economic Perspective in Southern African Development Community (SADC), Working Paper Series (2010-01)* 16.

<sup>115</sup> Ibid.

<sup>116</sup> R Mendelsohn op cit (n12) 245.

<sup>117</sup> D Anthoff & RJS Tol *Schelling's Conjecture on Climate and Development*, in RW Hahn & A Ulph (eds) *Climate Change and Common Sense: Essays in Honour of Tom Schelling* (2012) 269.

systems, particularly in SADC. A definition of these concepts should include or reflect equal opportunity and positive outcomes in all spheres of life.

The SADC treaty and protocols, some of which are examined and referred to in chapter 3, clearly mention and press emphasis on sustainable development, economic growth and development. SADC should therefore maintain its process of developing, economic growth or sustainable development to adapt to climate change. It is outside the scope of this work to critic these terms they are highlighted here as crucial adaptation strategies for developing countries.

### 2.3.3 Cultural context

The impacts of climate change on many aspects of cultural life for people all over the world is not adequately accounted for by scientists and policymakers.<sup>118</sup> Culture binds people together and helps overcome threats to their environment and livelihoods.<sup>119</sup> Climate change threatens cultural dimensions on lives and livelihoods that include the material and lived aspects of culture, identity, community cohesion and sense of place.<sup>120</sup> The impacts of climate change affect cultures in different ways.

Climate change also impacts negatively on the right to culture for indigenous peoples since their climate-sensitive ways of life are affected by global warming such as the loss of hunting opportunities for the Inuit or the loss of traditional territories for the pastoral, forest or coastal communities.<sup>121</sup> Adaptation strategies can undermine the resilience of communities and cultures, particularly when they promote private interests at the expense of

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<sup>118</sup> *Cultural Dimensions of Climate Change are Underestimated, Overlooked and Misunderstood*, Available at <http://phys.org/news/2012-11-cultural-dimensions-climate-underestimated-overlooked.html>, accessed 30 June 2014.

<sup>119</sup> *Ibid.*

<sup>120</sup> WN Adger et al 'Cultural Dimensions of Climate Change Impacts and Adaptation' (2013) 3 *Nature Climate Change* 112.

<sup>121</sup> AG Pillay *Economic, Social and Cultural Rights and Climate Change*, in OC Ruppel, C Roschmann & K Ruppel-Schlichting (Eds) *Climate Change: International Law and Global Governance, Volume I: Legal Responses and Global Responsibility* (2013) 246.

public goods such as cultural heritage or community cohesion.<sup>122</sup> Though culture and identity may seem difficult to incorporate in public policy, acknowledging the importance of cultural factors however is an important first step.<sup>123</sup> If the cultural dimensions of climate change are ignored, it is likely that both mitigation and adaptation responses will fail to be effective because they simply do not connect with what matters to individuals and communities.<sup>124</sup>

## 2.4 Human rights as a tool for adaptation

Climate change truly directly and indirectly impacts on both the social, economic and cultural issues, and the connection between climate change and human rights is receiving increasing attention.<sup>125</sup> Human vulnerability has become a key focus of human rights discussions, which now tend to focus on how, inter alia, flooding, devastated property, water stress, diseases, drought, forced migration, and poverty will impact on human lives.<sup>126</sup> Segments of the population such as women, children, the aged, and the disabled and indigenous people will be feeling the effects of climate change the hardest.<sup>127</sup>

Climate change is not just about changing weather conditions; it is also about human rights as it has been increasingly apparent that climate change will have devastating consequences for the effective enjoyment of a range of human rights.<sup>128</sup> The problem of climate change on human rights was acknowledged by the African Commission on Human and Peoples' Rights (ACHPR) expressing concern on the consequences of climate change on, inter alia, the right to economic, social, and cultural development.<sup>129</sup> Moreover, the United Nations Human Rights Council adopted a Resolution entitled '*Human rights and climate change*' which also acknowledges the

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<sup>122</sup> See N Brooks, N Grist & K Brown '*Development Futures in the Context of Climate Change; Challenging the present and learning from the past*' (2009) 27 *Development Policy Review*.

<sup>123</sup> Adger et al op cit (n120) 116.

<sup>124</sup> Ibid.

<sup>125</sup> Glazewski and Du Toit op cit (n7) 3-19.

<sup>126</sup> OC Ruppel op cit (n8) 280.

<sup>127</sup> Ibid at 283.

<sup>128</sup> Jonas op cit (n20) 82-3; see also S Humphreys *Climate Change and International Human Rights Law*, in R Rayfuse & SV Scott (eds) *International Law in the Era of Climate Change* (2012).

<sup>129</sup> The African Commission on Human and Peoples' Rights Resolution 153 (XLVI) 09.

climate change-related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights.<sup>130</sup> However, the social and human rights dimensions on climate change and global warming have not received adequate attention.<sup>131</sup> The panoply of fundamental human rights that are facing imminent threat from global warming include the right to life, to food, to potable water and to housing – all of which rights, governments are obligated to protect and meet.<sup>132</sup> In a South African case of the *Government of the Republic of South Africa v Grootboom*, the Constitutional Court affirmed the government's constitutional responsibility to respect the right to housing and to enact and fund policies designed to realise that right.<sup>133</sup> A human rights framework may have an important role to play in addressing climate change and facilitating the involvement of independent mechanisms to monitor implementation of various obligations, as well as putting human beings at the centre of any action on climate change.<sup>134</sup>

According to Hall and Weiss, the unique characteristics of adaptation make it an optional candidate for a human rights approach.<sup>135</sup> Consequently, governments and communities should use human rights principles to inform adaptation project selection and implementation.<sup>136</sup> They also argue that human rights may be a powerful tool for helping to organize and unify adaptation efforts, while such policies can better moderate the growing threat of the so-called 'adaptation apartheid'.<sup>137</sup>

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<sup>130</sup> United Nations Human Rights Council Resolution 10/4, adopted 29 March 2009.

<sup>131</sup> S Aminzadeh 'A moral imperative: The human rights implications of climate change' (2007) 30 *Hastings International and Comparative LJ* 231; see also AE Boyce & MR Anderson (eds) *Human Rights Approaches to Environmental Protection* (1996); P Romina & JD Taillant (eds) *Linking Human Rights and the Environment* (2003).

<sup>132</sup> Jonas op cit (n20) 83.

<sup>133</sup> *Government of the Republic of South Africa v Grootboom* 2000 (1) SA 46 (CC).

<sup>134</sup> See T Obokata *Analysis of Climate Change from a Human Rights Perspective*, in S Farrall, T Ahmed and D French (eds) *Criminological and Legal Consequences of Climate Change* (2012).

<sup>135</sup> MJ Hall & DC Weiss *Climate Change Adaptation and Human Rights: An Equitable View*, in OC Ruppel, C Roschmann & K Ruppel-Schlichting (Eds) *Climate Change: International Law and Global Governance, Volume I: Legal Responses and Global Responsibility* (2013) 262.

<sup>136</sup> Ibid.

<sup>137</sup> Ibid at 264.



## 2.5 Conclusion

Adaptation involves reducing risk and vulnerability, seeking opportunities and building the capacity of nations, regions, cities, the private sector, communities, individuals, and natural systems to cope with climate impacts, as well as mobilizing that capacity by implementing decisions and actions.<sup>138</sup> Adaptation requires adequate information on risks and vulnerabilities in order to identify needs and appropriate adaptation options to reduce risks and build capacity. In framing an approach to adaptation, it is important to engage people with different knowledge, experience, and backgrounds in tackling and reaching a shared approach to addressing the challenges.<sup>139</sup>

In order to obtain effective answers to how to address adaptation to climate change and the environment from trade as well as developmental and economic perspectives in SADC, it is crucial to engage a variety of government stakeholders in SADC such as ministries of finance, planning, energy, health and other relevant stakeholders such as the private sector, NGOs and civil society.<sup>140</sup> It is therefore, encouraged that SADC countries embark on understanding the implications and actions appropriate for integrated and comprehensive adaptation approaches. It is also important to integrate adaptation to climate change in socio-economic and cultural aspects to foster development, enhance fundamental human rights and needs, and improve the quality of natural systems. The next chapter assesses the international, African regional and the SADC legal and policy frameworks, and related developments vis-à-vis climate change adaptation.

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<sup>138</sup> EL Tompkins et al 'Observed Adaptation to Climate change: UK Evidence of Transition to a Well-Adapting Society' (2010) 20 *Global Environmental Change* 627-635.

<sup>139</sup> See IPCC WGII AR 5 op cit (n52).

<sup>140</sup> Capoco op cit (n114) 9.

## CHAPTER 3: CLIMATE CHANGE LEGAL FRAMEWORKS AND ADAPTATION: THE INTERNATIONAL AND REGIONAL CONTEXTS

### 3.1 Introduction

This chapter outlines and scrutinises the governance, legal and policy framework for climate change adaptation in the SADC region. An appraisal of the SADC climate change framework demonstrates and provides understanding why there is necessity for an integrated and a comprehensive framework policy in the region, for adaptation in particular. Furthermore, SADC countries are part of the international community and the international climate change regime. As such, it is important to examine the international dimension in relation to SADC in order to assess progress, identify opportunities and challenges, as well as define our stand.

### 3.2 The international legal dimension

#### 3.2.1 The UNFCCC on adaptation

The UNFCCC was adopted in 1992 at Rio summit<sup>141</sup> to deal with problems associated with perturbations in the global climate system.<sup>142</sup> The UNFCCC is concerned with warming of the Earth's surface and atmosphere, and the adverse effects on the natural ecosystems and humankind. The Convention incorporates some clauses that specifically address adaptation to climate change, and commits all parties to their common but differentiated responsibilities.

The ultimate objective of this Convention and any related legal instrument is to achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the

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<sup>141</sup> United Nations Framework Convention on Climate Change, available at <http://unfccc.int/resource/docs/convkp/conveng.pdf>, accessed 2 April 2014.

<sup>142</sup> See generally Glazewski and Du Toit op cit (n7) 3-5.

climate system.<sup>143</sup> Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.<sup>144</sup> This implies that the Convention is more concerned with mitigation than adaptation to climate change. This work looks at the aspect of adaptation and less attention shall be given to mitigation measures.

In terms of Article 4(1)(b) all parties have commitments to formulate and implement programmes containing measures to facilitate adequate adaptation to climate change. This is at both nationally and regionally as regards adaptation.

Importantly, Article 4(1)(e) of the Convention commits all parties to cooperate in preparing for adaptation to the impacts of climate change in developing appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, especially in Africa, affected by drought, desertification and floods. Parties should also be committed to integrate climate change in the relevant social, economic and environmental policies and actions with a view to minimising adverse effects on the economy, public health and quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change.<sup>145</sup> Developed country parties included in its Annex II are urged to assist developing countries that are particularly vulnerable to climate change to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.<sup>146</sup>

These references to adaptation constitute only a small part of the Framework Convention, which is primarily devoted to “stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous

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<sup>143</sup> Article 2.

<sup>144</sup> Ibid.

<sup>145</sup> Article 4(1)(f).

<sup>146</sup> Article 4(4).

anthropogenic interference with the climate system”<sup>147</sup>. It is now clear that the climate is already changing and that the world is committed to more change before stabilisation can be reached. Adaptation is therefore of growing importance, and is likely to receive more attention both in the research community and the ongoing negotiations under the Convention.

SADC countries should continue to reflect in international climate change negotiations, emphasize adaptation, and get involved in other multilateral environmental agreements such as the United Nations Convention on Biodiversity (UNCBD) and the United Nations Convention to Combat Desertification (UNCCD). These provide insights and better understanding in adopting and implementing appropriate measures and policies to adequately address climate change adaptation in a holistic manner.

### 3.2.2 The Kyoto Protocol and adaptation

The Kyoto Protocol to the UNFCCC<sup>148</sup> was enacted after several rounds of negotiations after the crafting of the Berlin Mandate at the first Conference of Parties (COP) of the UNFCCC in Berlin 1995.<sup>149</sup> The Kyoto Protocol came into force in February 2005 to pursue the ultimate objectives of the UNFCCC and it was developed as a more specific and binding agreement on the reduction of greenhouse gas emissions in the atmosphere.

Under the Kyoto Protocol a “clean development mechanism” is incorporated in Article 12. The purpose of the clean development mechanism is to assist non-Annex I parties in achieving sustainable development and as contribution to the ultimate objective of the UNFCCC.<sup>150</sup> The clean development mechanism is mainly concerned with international cooperation in the reduction of greenhouse gas emissions, the so-called “certified project

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<sup>147</sup> Article 2.

<sup>148</sup> The Kyoto Protocol to the United Nations Framework Convention on Climate Change, available at <http://unfccc.int/resource/docs/convkp/kpeng.pdf>, accessed 2 April 2014.

<sup>149</sup> Glazewski and Du Toit op cit (n7) 3-10.

<sup>150</sup> Article 12(2).

activities”, but the Article also provides in Clause 8 that: *“The Conference of the Parties serving as the meeting of the Parties to this Protocol shall ensure that a share of the proceeds from certified project activities is used to . . . assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation”*. Thus the financing of adaptation in some countries has been specifically linked to the measures for reducing emissions.

The modest success attained by the UNFCCC process through the Kyoto Protocol has been exaggerated due to the non-participation of the largest GHG emitting countries such as the United States, and lack of meaningful mandatory GHG reductions from the so-called industrialising nations such as BRICS countries.<sup>151</sup> Amidst calls about the failure of Kyoto Protocol to regulate the growth of GHG emissions, a plethora of policy architectures have been proposed for designing an international post-Kyoto climate change governance regime.<sup>152</sup> Under the adaptation objective, the Kyoto Protocol is designed to support developing countries 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 climates impacts.<sup>153</sup> While there are various references in the Kyoto text to the need for adaptation, priorities in terms of implementation and commitments clearly lie with mitigation.<sup>154</sup>

### 3.2.3 The Cancun Adaptation Framework

The Cancun Adaptation Framework (CAF)<sup>155</sup> was adopted in 2010 in Mexico after several negotiations on adaptation under the Ad Hoc Working Group on

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<sup>151</sup> Zia op cit (n17) 1.

<sup>152</sup> Ibid.

<sup>153</sup> Von Bassewitz op cit (n11) 317.

<sup>154</sup> Ibid.

<sup>155</sup> The Cancun Adaptation Framework, available at <http://unfccc.int/adaptation/items/5852.php>, accessed 7 April 2014.

Long-term Cooperative Action. The CAF was adopted as part of the Cancun Agreements<sup>156</sup> and its main objective covers adaptation.

The objective of the CAF is to enhance action on adaptation, including through international cooperation and coherent account of matters relating to adaptation under the UNFCCC. In terms of its shared vision on long-term cooperative action the Cancun Agreements emphasize that adaptation must be addressed with the same level of priority as mitigation. It recognises the need to assist the particularly vulnerable people in the world to adapt to the inevitable impacts of climate change by taking a coordinated approach to adaptation.<sup>157</sup> Ultimately enhanced action on adaptation seeks to reduce vulnerability and build resilience in developing countries, taking into consideration the urgent and immediate needs of those developing countries that are most vulnerable.

Importantly, the framework was designed to enable Least Developed Countries (LDCs) to formulate and implement national adaptation plans in order to identify intermediate and long-term adaptation needs and to develop strategies to tackle these needs, building on their experience with the so-called NAPAs.<sup>158</sup> It also affirms enhanced action on adaptation with a view of integrating adaptation into relevant social, economic and environmental policies and actions, where appropriate.

The COPs in the Cancun Agreement on enhanced adaptation also recalls the Bali Action Plan and the Durban Platform for Enhanced Action. Therefore, related developments include the 2007 Bali Action Plan which identified adaptation as one of the cornerstones of the sustained implementation of the UNFCCC,<sup>159</sup> and since then the Working Group on Long-term Cooperative Action has mainly dealt with adaptation issues. At COPs held in Durban,

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<sup>156</sup> 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, available at [http://unfccc.int/key\\_steps/cancun\\_agreements/items/6132.php](http://unfccc.int/key_steps/cancun_agreements/items/6132.php), accessed 7 April 2014.

<sup>157</sup> Ibid.

<sup>158</sup> Ibid.

<sup>159</sup> The Bali Action Plan, available at <http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf>, accessed 10 April 2014.

States reached consensus on the procedures, work modalities and institutional structure of a new Adaptation Committee.<sup>160</sup>

The CAF makes an important call for taking action and strengthening adaptation as an important tool. Its principles encourages parties to plan, prioritise and implement adaptation actions, projects and programmes including in the areas of water resources, health, agriculture and food security, infrastructure, socio-economic activities, terrestrial, freshwater and marine ecosystems, and coastal zones. It also includes enhancing climate change related disaster risk reduction strategies<sup>161</sup> and institutional arrangements at different levels to strengthen or establish regional centres and networks to facilitate and enhance national and regional adaptation actions. These can be achieved through coordination and cooperation between regional stakeholders, which also improves the flow of information. Like it's said 'Need for advocacy is over, mandate is in place, time for action'.<sup>162</sup>

The Cancun Agreements make special mention of LDCs and their special needs as to adaptation. This is important for SADC as a host of various LDCs, and implies the agreements are directly applicable or relevant to the SADC region. The context of the CAF looked at is not only crucial for SADC LDCs but also all the other LDCs especially in the African region.

### 3.2.4 The Copenhagen Accord

'Action taken by the COPs at its 15<sup>th</sup> session in Copenhagen in 2009 underline climate change as a greatest challenge of our time and emphasize strong political will to urgently combat climate change in accordance with the principle of common but differentiated responsibilities and respective

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<sup>160</sup> Decisions adopted by the COPs in Durban 2011, available at <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>, accessed 10 April 2014.

<sup>161</sup> M Kato 'The Cancun Adaptation Framework Pre-event on Early Warning' *Third Global Platform for Disaster Risk Reduction Adaptation Subprogramme UNFCCC Secretariat*, (2011), available at [http://www.preventionweb.net/files/globalplatform/entry\\_presentation~microsoftpowerpointunfcccpreeventew.pdf](http://www.preventionweb.net/files/globalplatform/entry_presentation~microsoftpowerpointunfcccpreeventew.pdf), accessed 10 April 2014.

<sup>162</sup> Ibid.

capabilities'.<sup>163</sup> The SADC as a developing community can utilise avenues of opportunities from the Copenhagen Accord framework as one of the cornerstone agreements incorporating provisions on climate change adaptation.

The Accord recognises that social and economic development and poverty eradication are first and overriding priorities of developing countries. It also stipulates that adaptation is a challenge faced by all countries. Therefore, enhanced action and cooperation is urgently required to enable and support adaptation implementation actions aimed at reducing vulnerability and building resilience in developing countries, LDCs, the most vulnerable and small island developing countries.

The Accord makes a call to developed countries to support the developing in terms of technology, funding and capacity-building to enable adaptation implementation in developing countries. It is obvious that SADC would yield benefits from cooperating and enhancing action on implementing adaptation actions and responses to climate change provided there is a legal instrument in place. The African dimension is considered below.

### **3.3 The African dimension**

#### **3.3.1 The African Union**

The AU's historical roots originate in the Union of African States, an early confederation that was established in the 1960s. The AU itself was established in 1963.<sup>164</sup> A Constitutive Act of the African Union was adopted

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<sup>163</sup> Decision 2/CP.15 Copenhagen Accord (2009) 5-6, available at <http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf>, accessed 30 November 2014.

<sup>164</sup> OC Ruppel *Climate Change Law and Policy Positions in the African Union and Related Developments in Selected African Countries*, in OC Ruppel, C Roschmann & K Ruppel-Schlichting (eds) *Climate Change: International Law and Global Governance, Volume II: Policy, Diplomacy and Governance in a Changing Environment* (2013) 413-4.



when the Sirte Declaration calling for the establishment of the African Union was issued.<sup>165</sup>

In terms of Article 3 of the AU's Constitutive Act, promotion of sustainable development, international cooperation and continental integration, as well as the promotion of scientific and technological research, and human rights to advance the Africa's development are covered as one of its objectives.

The AU's Constitutive Act does not make implicit reference to climate change, particularly adaptation, but some of its provisions have implications and a mandate to address climate change. For example, Article 4 makes reference to 'early responses to contain crisis situations' and the 'interdependence between socio-economic development and the security of peoples and States'. In addition, the AU's Executive Council shall coordinate and take decisions on policies in areas of common interest to member states, including inter alia environmental protection, humanitarian action and disaster response and relief.<sup>166</sup> The following sub-sections or parts will look at relevant adaptation policy pathways and structures on climate change in the AU and their implications.

### 3.3.2 The New Partnership for Africa's Development

The New Partnership for Africa's Development (NEPAD)<sup>167</sup> was adopted in 2001 by the Heads of State and Government of the OAU and ratified by the AU in 2001.<sup>168</sup> This development initiative envisages partnership and cooperation between Africa and the developed world and also aimed at the economic and social revival of Africa. NEPAD has emphasized Africa's important role in respect of the critical issue of environmental protection, and one of its key thematic areas focus on agriculture and food security, and climate change and natural resource management which focuses on three

<sup>165</sup> The Constitutive Act of the African Union, available at <http://www.peaceau.org/uploads/au-act-en.pdf>, accessed 10 April 2014.

<sup>166</sup> Article 13(1).

<sup>167</sup> The New Partnership for Africa's Development, available at [http://www.nepad.org/system/files/framework\\_0.pdf](http://www.nepad.org/system/files/framework_0.pdf), accessed 15 April 2014.

<sup>168</sup> OC Ruppel 'Climate change policy positions and related developments in the AU and SADC' (2012) 2 SADCLJ 16.

key areas, the being environment, water and energy.<sup>169</sup> The initiative aims to assist countries in integrating climate change responses with their national development process, and to strengthen adaptation, mitigation, technology and finance to combat environmental change.<sup>170</sup> This partnership is important for Africa as it outlines very important issues Africa is facing; therefore co-operative governance on climate change adaptation can play a vital role to achieve the objectives contained therein as well as ensuring the economic and social revival of the continent.

### 3.3.3 The Kampala Convention

One legal instrument which explicitly deals with the potential impacts of climate change is the AU Convention for the Protection and Assistance of Internally Displaced Persons in Africa (the Kampala Convention) adopted in 2009 and still not in force.<sup>171</sup> Article 5 of the Convention provides that State parties must take measures to protect and assist persons who have been internally displaced due to natural and human made disasters, including climate change. The Convention imposes several obligations on State parties, and it addresses the need to prevent displacement for happening, e.g. by establishing early warning systems and adopting disaster preparedness and management measures to prevent displacement caused by natural disaster.<sup>172</sup> Adaptation measures can play a significant role in reducing vulnerability and limiting migration and the displacement of persons, especially rural and indigenous communities.

### 3.3.4 African Ministerial Conference on the Environment

The African Ministerial Conference on the Environment (AMCEN) has also played a prominent role in the African response to climate change and has a strong regional and sub-regional focus.<sup>173</sup> The AMCEN is a forum for African

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<sup>169</sup> Ibid at 17.

<sup>170</sup> Ibid.

<sup>171</sup> Ibid at 20.

<sup>172</sup> Ibid at 21.

<sup>173</sup> Ruppel op cit (n164) 428.

environment ministers to discuss environmental related issues facing Africa. It builds on the potential for regional economic communities to integrate adaptation measures into regional policies and socio-economic development.<sup>174</sup>

In order to attain the Millennium Development Goals (MDGs), adapt to climate change and promote sustainable development, we need adequate responses to these challenges aligned with national and regional strategies for development, poverty alleviation, economic growth, and the enhancement of human well-being, while increasing resilience to the impacts of climate change.<sup>175</sup> The AMCEN has also 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 towards sustainable development.<sup>176</sup>

### 3.3.5 African Climate Policy Centre

Another positive development on the Africa agendas was the establishment of the African Climate Policy Centre (ACPC) in 2010. This initiative is an integral part of the Climate for Development in Africa Programme, which is a joint initiative of the African Union Commission, the United Nations Economic Commission for Africa, and the African Development Bank.<sup>177</sup>

The ACPC was formed in order to develop a hub for a demand-led knowledge base on climate change in Africa to address the impacts of climate change by assisting member states to elevate climate change into mainstream deliberations in their development strategies and development.<sup>178</sup> The ACPC also hosted the 2011 Climate Change and Development in Africa Conference, which also reflected the need for integrating development and climate

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<sup>174</sup> W Scholtz 'The promotion of regional environmental security and Africa's common position on climate change' (2010) 10 *AHRLJ* 1-25, Available at, [http://www.chr.up.ac.za/images/files/publications/ahrlj/ahrlj\\_vol10\\_no1\\_2010.pdf](http://www.chr.up.ac.za/images/files/publications/ahrlj/ahrlj_vol10_no1_2010.pdf), accessed 10 May 2014.

<sup>175</sup> Ruppel op cit (n164) 429.

<sup>176</sup> Ibid.

<sup>177</sup> Ibid at 430.

<sup>178</sup> Ibid.

policies, and emphasized the importance of African ownership of policy formulation and decision-making processes.<sup>179</sup> The main objective of the conference was to establish a forum for dialogue, enhance awareness, 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 and programmes and practises in Africa.<sup>180</sup> It was also aimed at strengthening Africa's position and participation in international climate change negotiations with a view to ensuring that the continent's concerns and priorities are adequately reflected in a post-2012 international climate change regime.<sup>181</sup>

All the climate change development in Africa are laudable, and although always clearly concerted, reflect that the AU and its subsidiary bodies have acknowledged that climate change and its impacts constitute a pressing policy priority.<sup>182</sup> Therefore, adaptation approaches are crucial for these policy priorities to climate change and its associated impacts.

### **3.3.6 The Gaborone Declaration on Climate Change and Africa's Development**

In late 2013, the African counterparts again prioritised climate change by contextualising it within the echoes of the Gaborone Declaration on Climate Change and Africa's Development, developed at the 5<sup>th</sup> Session of the African Ministerial Conference on the Environment, held in Gaborone Botswana.<sup>183</sup> The Declaration reaffirmed adaptation as an essential priority and necessity for Africa, and urged developed countries, and the Green Climate Fund Board, once operational, to quickly scale up support for the implementation of adaptation plans and measures in Africa.<sup>184</sup>

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<sup>179</sup> Ibid.

<sup>180</sup> Ruppel op cit (n168) 24.

<sup>181</sup> Ibid.

<sup>182</sup> Ruppel op cit (n164) 431.

<sup>183</sup> P Urquhart et al *SARUA Climate Change Counts Mapping Study: Strengthening University Contributions to Climate Compatible Development in Southern Africa, Volume 1: Knowledge Co-Production Framework* (2014) 71.

<sup>184</sup> Ibid.

The Declaration called for an international mechanism to address loss and damages associated with the adverse effects of climate change, including particularly its impact on agriculture, and the development of a comprehensive work programme covering a range of areas from finance to technology transfer and capacity building, to support sustainable agricultural production.<sup>185</sup>

### 3.3.7 The EAC-COMESA-SADC Tripartite Initiative

In taking steps against climate change, Member States of SADC, the Eastern African Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA) signed the Tripartite Agreement for the Implementation of the Programme on Climate Change Adaptation in Eastern and Southern Africa at the 19<sup>th</sup> African Union Summit of Heads of State and Government on 15 July 2012 in Ethiopia.<sup>186</sup> The Tripartite Initiative is discussed in this part because it involves three regional economic communities and therefore not only relevant to SADC but also the EAC and COMESA as other parts of Africa.

The three regional economic communities jointly developed the five year programme with the key objective to address climate change through both adaptation and mitigation aimed at socio-economic resilience through climate smart agriculture. It is the goal of the programme to also attract new and increase current investment in climate resilient agriculture through establishment of a regional facility to increase adaptation funds. The Climate Change Unit of COMESA and Programme Coordination Units in the EAC and SADC are responsible for the management, implementation and functioning of the programme.

The signing of the Tripartite Agreement after the Rio+20 Summit held under the auspices of the UN Conference on Sustainable Development

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<sup>185</sup> Ibid.

<sup>186</sup> The Tripartite Agreement, available at [http://www.comesa.int/index.php?option=com\\_content&view=article&id=306:tripartite-agreement](http://www.comesa.int/index.php?option=com_content&view=article&id=306:tripartite-agreement), accessed 21 June 2014.

demonstrates the economic blocs' collective efforts to address climate change.<sup>187</sup> The Summit also acknowledged climate change as a cross-cutting and persistent crisis and resolved to increase sustainable agricultural production. The signing of the agreement provides an opportunity for the inclusion of climate change as one of the areas of cooperation under the tripartite framework.<sup>188</sup>

### 3.4 The SADC dimension

#### 3.4.1 The necessity for adaptation

The global climate is changing and so is SADC's climate. Millions of people, particularly in developing countries including those in the SADC region, face shortages of water and food and greater risks to health, and it's predicted that by 2020 about 250 million in Africa could be exposed to a greater risk of water stress.<sup>189</sup> Adaptation measures that reduce vulnerability are critical especially in many countries where the risks are here and now.<sup>190</sup> Since the release of the IPCC's Fourth Assessment Report in 2007 the need for adaptation measures has been articulated with added urgency, particularly in Africa.<sup>191</sup>

Home-grown, regional climate change adaptation strategies is advocated for countries in sub-Saharan Africa given their peculiar situation and vulnerability to climate change effects due to lack of institutional and financial capacities.<sup>192</sup> Making this argument more compelling is the fact that a new global consensus or deal (in the context of the UNFCCC) is unlikely for now.<sup>193</sup> The international community's inability to reach consensus on a binding climate law,

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<sup>187</sup> Tripartite Agreement signed for the joint implementation of climate change programme, available at [http://www.comesa.int/index.php?view=article&catid=5%3Alatest-news&id=306%3Atripartite-agreement-signed-for-joint-implementation-of-climate-change-programme&format=pdf&option=com\\_content](http://www.comesa.int/index.php?view=article&catid=5%3Alatest-news&id=306%3Atripartite-agreement-signed-for-joint-implementation-of-climate-change-programme&format=pdf&option=com_content), accessed 21 June 2014.

<sup>188</sup> Ibid.

<sup>189</sup> Capoco op cit (n114) 15.

<sup>190</sup> Ibid.

<sup>191</sup> Stern Review: The Economics of Climate Change, available at <http://siteresources.worldbank.org/INTINDONESIA/Resources/226271-1170911056314/3428109-1174614780539/SternReviewEng.pdf>, accessed 10 June 2014.

<sup>192</sup> Y Oke 'Sub-Saharan Africa and Climate Change: Revisiting the 'Multiple Stresses' Factor and Adaptation Strategies of ECOWAS and SADC Zones' (2013) 3(1) SADCLJ 141.

<sup>193</sup> Ibid.

lack of effective implementation and enforcement authority hindered by the principle of territorial sovereignty, and differences in the distribution of technology and financial resources within regions and nations presents a major challenge to international frameworks on climate change.<sup>194</sup>

Therefore, given this state of affairs, it is crucial to pursue regional climate change initiatives aimed to adequately address climate change adaptation comprehensively. The following sections explore the SADC regime on climate change and assess the extent to which adaptation is integrated into its climate change policy and legal developments, and identifies opportunities and challenges.

### 3.4.2 The SADC Treaty and SADC Protocols

The SADC Treaty establishes the Southern African Development Community.<sup>195</sup> SADC consists of fifteen Member States, namely Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe.

The SADC Treaty as part of its objectives includes a clause on the protection of the environment. It does not refer at all to climate change but includes indirect provisions in this regard.

In terms of Article 5(1)(g) the objectives of the SADC region includes inter alia to '*achieve sustainable utilisation of natural resources and effective protection of the environment*'. Related are other objectives incorporated in the Treaty. One of the objectives is also to achieve development and economic growth, alleviate poverty, enhance the standard and quality of life of the peoples of Southern Africa, and support the socially disadvantaged through regional integration.<sup>196</sup> Further, it is the objective of the SADC Treaty to achieve complementarities between national and regional strategies and programmes,

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<sup>194</sup> Ibid.

<sup>195</sup> SADC Treaty, available at [http://www.sadc.int/files/9113/5292/9434/SADC\\_Treaty.pdf](http://www.sadc.int/files/9113/5292/9434/SADC_Treaty.pdf), accessed 10 June 2012.

<sup>196</sup> Article 5(1)(a).

as well as strengthening and consolidating the long standing historical, social and cultural affinities and links among the peoples of the region.<sup>197</sup> In order to achieve these objectives of the SADC Treaty, SADC shall have to develop, harmonise and coordinate political and socio-economic policies, create appropriate institutions and mechanisms for the implementation of programmes and operations of SADC and institutions.<sup>198</sup>

Furthermore, amongst other issues, food security, land degradation, infrastructure and agriculture as well as natural resources and the environment have been identified as areas of cooperation by the SADC Treaty.<sup>199</sup> It is these principles and the recognition of the environment as a fundamental component of the earth and the interdependence of human and natural systems that we now call upon for adaptation interventions to this wicked problem.

There are various protocols the SADC has legislated or concluded in terms of article 22 of the SADC Treaty, several of which deal directly with environmental concerns. These protocols are aimed at some sectors that are vulnerable to the impacts associated with climate change including water, fisheries, forestry, mining and health. The Protocols are instruments by means of which the SADC Treaty is implemented, and have the same legal force as the treaty itself.<sup>200</sup> The protocols relevant to the environment include:<sup>201</sup>

<b>PROTOCOL</b>	<b>DATE OF ENTRY INTO FORCE</b>
Protocol on Energy	17 April 1998
Protocol on Fisheries	8 August 2003
Protocol on Forestry	17 July 2009

<sup>197</sup> Article 5(1)(e) & 5(1)(h).

<sup>198</sup> Article 5(2).

<sup>199</sup> Article 21.

<sup>200</sup> See generally Glazewski & Ruppel op cit (n15) 2-105.

<sup>201</sup> Ibid.



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 1996
Protocol on Wildlife Conservation and Law Enforcement	30 November 2003

These Protocols are particularly relevant in the contemporary context of climate change negotiations and response initiatives. The Protocol on Energy<sup>202</sup>, for example, provides that one of the objectives of energy cooperation in the region is to cooperate in the adaptation and transfer of low-cost energy technologies.<sup>203</sup> It also encourages members to cooperate in the development and utilisation of energy in sub-sectors such as bio-fuel, petroleum and natural gas, electricity, coal, new and renewable energy sources, energy efficiency and conservation, and other cross-cutting themes of interest.<sup>204</sup>

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<sup>202</sup> SADC Protocol on Energy, available at [http://www.sadc.int/files/3913/5292/8363/Protocol\\_on\\_Energy1996.pdf](http://www.sadc.int/files/3913/5292/8363/Protocol_on_Energy1996.pdf), accessed 15 June 2014.

<sup>203</sup> Article 3(6).

<sup>204</sup> Article 3(3).

The Protocol on Health<sup>205</sup> encourages State parties to coordinate regional efforts on epidemic preparedness, mapping, prevention, control and where possible eradication of communicable and non-communicable diseases.<sup>206</sup> It also calls on SADC members to develop common strategies to address the health needs of women, children and other vulnerable groups.<sup>207</sup> Article 23 provides for environmental health in that SADC shall collaborate and assist each other through a cross-sectoral approach in addressing regional environmental health issues and other concerns, including waste management, air pollution, land and water, and the degradation of natural resources. It also incorporates provisions on disaster management, preparedness and risk reduction.<sup>208</sup> Adaptation to the climate phenomena is vital in realising the aspirations of the protocol and improved health status of people of the region in the 21<sup>st</sup> century and beyond.

Furthermore, the Protocol on Forestry<sup>209</sup> in its preamble recalls the ultimate objectives of SADC, including development, poverty alleviation, sustainable utilisation of natural resources, and effective protection of the environment. To achieve these objectives, SADC shall cooperate, assist and support each other to address issues of common concern such as inter alia deforestation and climate change.<sup>210</sup> This protocol was well drafted and encompasses various aspects, and shows the very significance of forests to life, to which adaptation would also play a critical role.

The SADC Protocol on Mining<sup>211</sup> provides that Member States shall promote sustainable development by ensuring that a balance between mineral development and environmental protection is attained.<sup>212</sup> Further, members shall encourage a regional approach in conducting environmental impact

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<sup>205</sup> SADC Protocol on Health, available at <http://www.ifrc.org/docs/IDRL/Southern%20African%20Development%20Community.pdf>, accessed 15 June 2014.

<sup>206</sup> Article 3(b).

<sup>207</sup> Article 3(g).

<sup>208</sup> Article 25.

<sup>209</sup> SADC Protocol on Forestry, available at <http://www.fire.uni-freiburg.de/GlobalNetworks/Africa/Protocol%20on%20Forestry.pdf>, accessed 15 June 2014.

<sup>210</sup> Article 3(2)(a).

<sup>211</sup> SADC Protocol on Mining, available at

[http://www.sadc.int/files/3313/5292/8366/Protocol\\_on\\_Mining.pdf](http://www.sadc.int/files/3313/5292/8366/Protocol_on_Mining.pdf), accessed 18 June 2014.

<sup>212</sup> Article 8.

assessments, and undertake to share information on environmental protection and environmental rehabilitation.<sup>213</sup> The Revised Protocol on Shared Watercourses among others seeks to advance the sustainable, equitable and reasonable utilisation of shared watercourses, and promote a coordinated and integrated environmentally sound development and management of shared watercourses.<sup>214</sup>

Although the SADC protocols are relevant to the environment, they do not directly incorporate provisions on climate change adaptation. In the formulation of policies and other measures against climate change in the region, adaptation should be integrated and articulated in those frameworks as the currently adequate approach. The integration of adaptation into various policies emanating from these protocols will lead to comprehensive approaches and positive results. In this way, vulnerability of human and natural systems in all different sectors will be reduced, thereby enhancing socio-economic and cultural benefits, and development. It is therefore suggested that, as articulated in the concluding chapter, it's essential for SADC to move towards the development of a holistic and dedicated protocol specific for climate change adaptation.

### 3.4.3 The SADC Regional Indicative Strategic Development Plan

In 2001, SADC Heads of States 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).<sup>215</sup> The RISDP affirms 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

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<sup>213</sup> Ibid.

<sup>214</sup> SADC Revised Protocol on Shared Watercourses, *available at* [http://www.sadc.int/files/3413/6698/6218/Revised\\_Protocol\\_on\\_Shared\\_Watercourses\\_-\\_2000\\_-\\_English.pdf](http://www.sadc.int/files/3413/6698/6218/Revised_Protocol_on_Shared_Watercourses_-_2000_-_English.pdf), accessed 18 June 2014.

<sup>215</sup> Glazewski & Ruppel op cit (n15) 2-117.

law.<sup>216</sup> The RISDP is a set of priorities meant to guide the region towards realising its development goals and plans for integration. The report does not identify sustainable development and the environment as primary focus areas, but does mention climate change response strategies as a specific area requiring intervention.<sup>217</sup>

Although the RISDP is not a binding instrument, at every Summit in recent years, member states reaffirmed their commitment to regional integration as per the RISDP, which identifies the environment and development as cross-sectorial priority areas.<sup>218</sup> The SADC community should take hardened action on adaptation to climate change by also integrating it in the development agenda and every initiative involving environmental affairs. Given the wickedness of climate change, it is vital to include it in initiatives such as the RISDP. However, this makes a call to any future SADC initiatives to tackle climate change largely through adaptation.

#### 3.4.4 The SADC Regional Biodiversity Strategy

This strategy was developed to provide a framework for regional cooperation on biodiversity issues that transcend national boundaries and to combine national efforts to conserve and sustainably use biodiversity in SADC.<sup>219</sup> In terms of the strategy, biodiversity in the context of SADC means the variation between ecosystems and habitants, the variation between different species, and the genetic variation within different species.<sup>220</sup> It is a system of interactions between genes, species and the ecosystems they form,

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<sup>216</sup> SADC Regional Indicative Strategic Development Plan, available at [http://www.sadc.int/files/5713/5292/8372/Regional\\_Indicative\\_Strategic\\_Development\\_Plan.pdf](http://www.sadc.int/files/5713/5292/8372/Regional_Indicative_Strategic_Development_Plan.pdf), accessed 10 June 2014.

<sup>217</sup> Ibid at 16; see also R Richards *Assessing Progress on Climate Change Policy and Practice: Observations for South Africa and SADC* (2008) 10.

<sup>218</sup> OC Ruppel 'SADC Environmental Law and the Promotion of Sustainable Development' (2012) 2 (2) *SADCLJ* 262.

<sup>219</sup> SADC Regional Biodiversity Strategy, available at [http://www.sadc.int/files/1213/5293/3516/SADC\\_Regional\\_Biodiversity\\_Strategy.pdf](http://www.sadc.int/files/1213/5293/3516/SADC_Regional_Biodiversity_Strategy.pdf), accessed 14 June 2014.

<sup>220</sup> Ibid.

influencing and influenced by ecological and evolutionary process.<sup>221</sup> Biodiversity forms the source of the vast array of ecosystems products and services that contribute to human well-being and drives the economies of SADC members.<sup>222</sup>

Collective action has been taken in various forms, most notably by way of the establishment of the so-called trans-frontier conservation areas (TFCAs). According to the International Union for the Conservation of Nature (IUCN) it is stressed that one of the main reasons for the establishment of TFCAs is the conservation of nature.<sup>223</sup> Due to the fact that TFCAs straddle borders and transcend traditional notions of sovereign conservation, they are perfectly suited as a mechanism of change, especially adaptation.<sup>224</sup> From a biodiversity point of view, adaptation is said to encompass the ability of species to shift their ranges and migration patterns, among other things.<sup>225</sup> It is also emphasised that TFCAs enlarge conservation areas across borders to allow for these adaptive measures, and another element of adaptation catered for by TFCAs is 'bio-corridors' which establish links between existing conservation areas to facilitate migration, feeding and breeding.<sup>226</sup>

According to Lubbe and Barnard the real change is the realisation that conservation efforts, good or bad, at national level cannot address the challenges faced in a globalised world.<sup>227</sup> This presents a paradigm shift in thinking and proposes that the SADC environment should be seen as a unit, and adaptation therefore should be the manifestation of this realisation.<sup>228</sup> Lubbe and Barnard stress a collective consensus-based approach as the

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<sup>221</sup> W Viljoen *Addressing Climate Change Issues in Eastern and Southern Africa: the EAC, COMESA, SADC, and the TFTA*, in T Hartzenberg et al *Cape to Cairo: Exploring the Tripartite FTA Agenda* (2013) 153.

<sup>222</sup> Ibid.

<sup>223</sup> International Union for the Conservation of Nature, available at [http://www.iucn.org/about/union/commissions/sustainable\\_use\\_and\\_livelihoods\\_specialist\\_group/suli\\_news/issue\\_8/sn8\\_transfrontierconservation/](http://www.iucn.org/about/union/commissions/sustainable_use_and_livelihoods_specialist_group/suli_news/issue_8/sn8_transfrontierconservation/), accessed 15 June 2014.

<sup>224</sup> Lubbe & Barnard op cit (n42) 39-40.

<sup>225</sup> Ervin Jamison 'Integrating Protected Areas into Climate Planning' (2011) 12(1) *Biodiversity* 5, available at <http://www.tandfonline.com/doi/full/10.1080/14888386.2011.564850#.U70NByfMuW8>, accessed 14 June 2014.

<sup>226</sup> Ibid.

<sup>227</sup> Lubbe & Barnard op cit (n42) 40.

<sup>228</sup> Ibid.

overarching mechanism of change and, thus, adaptation.<sup>229</sup> No SADC legal instrument exists to direct the governance of either TFCAs or of cross-border biodiversity conservation in general, leaving a consensus based approach rudderless which in turn results in ineffective adaptation.<sup>230</sup>

### 3.4.5 The SADC Strategy for the Water Sector

Related developments to climate change policy, frameworks and programmes in SADC are in the prioritised water sector. The SADC water sector is indicative of SADC's approach to and priorities for climate change, such as the Protocol on Shared watercourses, the Regional Strategic Infrastructure Development Support Programme<sup>231</sup> and the 2011 Climate Change and Water Strategy set out in the document '*Climate change adaptation in the SADC: A strategy for the water sector*'<sup>232</sup>. The climate change and water strategy has the goal of increasing resilience in southern Africa through integrated and adapted water resources managements at regional, water basin and local levels.<sup>233</sup>

The key adaptation strategies set out for a regional approach comprise water governance, water management and infrastructure development. The strategy also notes the needs to build on and integrate indigenous knowledge when planning adaptation measures for the water sector, and focuses on the implementation of both 'no-regret' and 'low-regret' measures for a period of 20 years.<sup>234</sup> It calls for adaptation measures at different levels, at different stages of the adaptation process and in different areas of intervention.<sup>235</sup>

Projected changes in precipitation in SADC require innovative and comprehensive adaptation strategies, amongst others to also take cognisance

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<sup>229</sup> Ibid.

<sup>230</sup> Ibid; see also WD Lubbe '*Straddling borders and Legal Regimes: The case for cooperative transfrontier biodiversity conservation in the Southern African Development Community*' (2007) 18(1) *YIEL* 126-152.

<sup>231</sup> Ibid.

<sup>232</sup> Climate change adaptation in the SADC: A strategy for the water sector, available at [http://www.sadc.int/files/2213/5293/3544/SADC\\_Climate\\_Change\\_Adaptation\\_for\\_the\\_Water\\_Sector\\_booklet.pdf](http://www.sadc.int/files/2213/5293/3544/SADC_Climate_Change_Adaptation_for_the_Water_Sector_booklet.pdf), accessed 14 June 2014.

<sup>233</sup> Ibid at 9; see also Urquhart et al op cit (n183) 72.

<sup>234</sup> Ibid.

<sup>235</sup> Ibid.

of the fact that major river basins in the region are shared by several states.<sup>236</sup> In formulating policies and strategies in the water sector, an important sector of course, it is also important to interact with meteorological and hydrological authorities for appropriate information which would also help to identify appropriate adaptation options.

As water resource stresses acute in future as a result of climate change impacts and escalating human demand, there will be intensifying conflict between human and environmental demand on water resources.<sup>237</sup> SADC countries therefore need prudent water strategies that ensure sustainable economic and social development without compromising environmental integrity<sup>238</sup> in a way of adaptation that will reduce vulnerability to the impacts of climate change. The adaptation strategy for the water sector is a milestone, although more still needs to be done, as it promotes the adoption of a comprehensive and multidimensional approach to climate change adaptation aligned with an integrated water resource management system. SADC member states are responsible for implementing the principles of the strategy at their national levels.

### 3.4.6 SADC Disaster Risk Reduction Strategic Plan

SADC established a Disaster Risk Reduction Unit responsible for coordinating regional preparedness and response programmes for trans-boundary hazards and disasters. The platform was inaugurated in 2011.<sup>239</sup>

'The Disaster Risk Reduction Strategic Plan (2006-10) sets out the strategic direction to achieve the long-term goal of building resilience of SADC nations and their communities to the impacts of disasters. Governments and partners in the SADC region need to implement disaster risk management to ensure

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<sup>236</sup> G Manase 'Impact of Climate Change on Water in Southern Africa: Documentation of Research on Climate Change and Water Resources in Southern Africa' (2<sup>nd</sup> Draft) *Danish Water Forum*, at 6, available at [http://www.ddrn.dk/filer/forum/File/SADC\\_CC\\_Background\\_report\\_water\\_Feb09.pdf](http://www.ddrn.dk/filer/forum/File/SADC_CC_Background_report_water_Feb09.pdf) accessed 20 June 2010.

<sup>237</sup> Ibid.

<sup>238</sup> Ibid.

<sup>239</sup> SADC Disaster Risk Management, available at <http://www.sadc.int/themes/disaster-risk-management/>, accessed 20 June 2014.

community safety and protection of economic assets. Disaster risk management includes preparedness, mitigation, response, rehabilitation and recovery. It is multi-disciplinary, and involves the participation of a multitude of partners and stakeholders. Key disaster risk management challenges facing the SADC region include: institutional frameworks which are often under-funded and not coordinated, lack of comprehensive and constantly updated risk assessments and analysis, and weak information and knowledge management systems in high areas.<sup>240</sup>

Specialised regional agencies also dedicate part of their work to disaster risk reduction, for example, the SADC Drought Monitoring Centre has in recent years closely linked their climate research programmes to disaster risk reduction.<sup>241</sup> Others include the RISDP, Water programmes, Natural Resource Management Programme, Agricultural Information Management System, and the Regional Vulnerability Analysis Unit.

Disaster risk reduction and management and adaptation to climate change are closely related responses. While the former strives to reduce and manage disaster and risk, the latter is a process to cope with the climate changes which also aims at reducing and managing climate risks and disasters. Disaster risk reduction is a very crucial adaptation strategy and should not be ignored by policy makers in the SADC region.

### **3.4.7 The recent SADC Draft Climate Change Programme**

The SADC has subsequently designed a draft climate change programme, awaiting finalisation.<sup>242</sup> The Draft Climate Change programme has the goal of increasing the regions resilience to climate change effects, and to align climate change initiatives, nationally and regionally, through an integrated approach.<sup>243</sup> This programme sounds more like it has some answers to the calls being made in this study, however, time will tell, or rather design it

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<sup>240</sup> Ibid.

<sup>241</sup> Report on the Status of Disaster Risk Reduction in Sub-Saharan Africa 2010, available at <http://www.gfdr.org/sites/gfdr.org/files/publication/AFR.pdf>, accessed 20 June 2014.

<sup>242</sup> Urquhart et al op cit (n183) 71.

<sup>243</sup> Ibid.



specifically for adaptation integrating all the vulnerable sectors of the SADC zone.

Furthermore, capacity development is a key component of the programme, with a focus not only acquiring skills, knowledge and capacity to understand and address climate change, but also to promote attitude and behavioural change.<sup>244</sup> These elements of the programme highlight the importance of the proposed focus on different aspects in the Southern African Regional Universities Association (SARUA) programme and involving non-traditional social science disciplines such as sociology, psychology and communications, to research methodologies to promote changes in behaviour.<sup>245</sup>

Both adaptation and mitigation are key components of the programme, with the former focusing on resilient or climate compatible development of the SARUA programme, and the latter to embrace low-carbon development pathways. The programme seeks to develop appropriate technologies for sustainable development and poverty reduction and disseminate these technologies, and also aims to establish a regional fund on climate change to facilitate climate funding for member states.<sup>246</sup> These priorities point to the need for additional research and action in the technological, sociological and economic/financial spheres and disciplines.<sup>247</sup>

SADC must utilise every opportunities it, has in order to enhance, most particularly adaptation to climate change, while framing its actions and policy in a holistic and coordinated effective way for positive outcomes. It is suggested that this programme develop into a programme or protocol on adaptation essentially.

### **3.4.8 Opportunities and challenges for SADC**

The SADC region could access resources that are available through the international frameworks for climate change to adapt to the changes that are

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<sup>244</sup> Ibid at 72.

<sup>245</sup> Ibid.

<sup>246</sup> Ibid.

<sup>247</sup> Ibid.

being experienced and adjusting existing policies. There is potential for adaptation through adjusting already developed policies to make them climate change responsive.<sup>248</sup> SADC and the African continent at large need to push the opportunities presented under climate change negotiations to enhance the success rate of their developmental aspirations<sup>249</sup>, with much emphasis on adaptation to climate change.

The efforts of SADC and its cross-regional collaboration on climate change issues notwithstanding, the presence of multiple stresses factors remains a major threat to the effectiveness of regional initiatives aimed at combating or adapting to climate change in the zone.<sup>250</sup> According to Ruppel, although the number climate change-related programmes and initiatives are increasing in SADC, much still needs to be done in SADC when it comes to policy and law.<sup>251</sup> At regional level, adaptation should be seen to include the formulation of regional law geared towards collective action relating to adequate adaptation to climate change, while taking into account international environmental law.<sup>252</sup>

### 3.5 Conclusion

The major weakness within the SADC framework as to climate change related issues is the lack of clear climate change agendas.<sup>253</sup> Albeit some relevant provisions can be traced in various sectoral legal instruments there is no clear roadmap such as a consolidated strategy or action plan charting the course on how to deal with climate change in general,<sup>254</sup> neither adaptation in particular. The SADC lacks a single, coherent overall regional policy on climate change, as evidenced by the various separate policy instruments,

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<sup>248</sup> D Lisolle SADC *Policy Paper on Climate Change: Assessing the Policy Options for SADC Member States*, SADC Research and Policy Paper Series (01/2012) 44.

<sup>249</sup> Ruppel op cit (n218) 278.

<sup>250</sup> Oke op cit (n192) 150.

<sup>251</sup> Ruppel op cit (n168) 25.

<sup>252</sup> Lubbe and Barnard op cit (n42) 37.

<sup>253</sup> Ruppel op cit (n168) 28.

<sup>254</sup> Ibid.

mostly protocols, relating to a range of discrete sectors such as, inter alia, fisheries, water resources, agriculture, and energy.<sup>255</sup>

A regional climate change policy, mostly on adaptation, is critical to guide the activities of the 15 member states, to ensure that the region-wide climate change policy objectives are clearly defined and pursued through commonly agreed climate change policy objectives that are clearly defined and pursued through commonly agreed strategies.<sup>256</sup> SADC held a Regional Climate Change Symposium in September 2013, and is currently engaged in crafting a Regional Climate Change Strategy (ongoing as at September 2013).<sup>257</sup> The SADC Symposium might be a step in the right direction towards reaching the ideal of a SADC climate change policy or programme. It would also focus more on adaptation, direct and adequately address adaptation to climate change in the SADC region.

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<sup>255</sup> Richards op cit (n217) 11.

<sup>256</sup> Ibid.

<sup>257</sup> Urquhart et al op cit (n183) 72.

## CHAPTER 4: NATIONAL PERSPECTIVES ON CLIMATE CHANGE ADAPTATION: NAMIBIA AND SOUTH AFRICA

### 4.1 General introduction

This chapter deals with national perspectives or case studies of two SADC member states, namely Namibia and South Africa. Due to the limited scope of this study and various factors highlighted about climate change vulnerability of their ecosystems and livelihoods, these two countries were chosen. This does not stand to mean that other SADC countries are less important or vulnerable to climate change, but it applies equally and provides lessons for all. This is mainly to go inside SADC Member States and assess national or domestic legal measures and developments on adaptation to climate change.

Namibia is the driest country south of the Sahara a very small population of approximately 2.2 million and Namibia is recognised as one of the countries that are most vulnerable to the impacts of climate change.<sup>258</sup> Given the reliance of the majority population on climate-sensitive sectors such as agriculture, live stock management and fishing, climate change impacts could be catastrophic for the people.<sup>259</sup> The increasing harshness of the climate will place greater stress upon plants and animals, and increased levels of disease and poverty among the vulnerable groups are thus a key concern associated with climate change.<sup>260</sup> So is in most if not all SADC countries. Transformative adaptation is crucial for these sectors including the occurrence of the desertification phenomenon.

South Africa on the other hand, has an extraordinary rich natural resource base, including robust ecological infrastructure and high levels of biodiversity which are highly vulnerable to the impacts of climate change. South Africa is both fairly advantaged and economically dominant in Southern Africa or

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<sup>258</sup> See generally Government of the Republic of Namibia: National Policy on Climate Change for Namibia, available at [http://www.met.gov.na/AAP/Downloads/National%20Policy%20on%20Climate%20Change%20for%20Namibia%202011\\_compressed.pdf](http://www.met.gov.na/AAP/Downloads/National%20Policy%20on%20Climate%20Change%20for%20Namibia%202011_compressed.pdf), accessed 20 June 2014.

<sup>259</sup> Ibid.

<sup>260</sup> Ibid.

among SADC countries in general. However, it is burdened by high levels of unemployment, poverty and inequality. Adaptation to climate change and mitigation of greenhouse gas emissions offer opportunities to foster a new kind of economic development and improve the distribution of resultant economic gains.<sup>261</sup> Moving towards a green economy and clean technology innovation are crucial for South Africa, as well as SADC at large, through adaptation strategies. There is much anticipation about the leadership role of the South African government to champion climate change adaptation as a central pillar to future global agreements and encourage a pro-development agenda.<sup>262</sup>

Furthermore, it is worse noting that South Africa is strategically positioned and geographically wise. The country's democracy is young, but its legislation and policies is immense than any other southern African country. This is vital because South Africa can take lead, and other SADC countries can also draw examples or borrow from South Africa's jurisprudence. Namibia is relatively the same as South Africa that's why it was included. Given the relationship between national and regional law and policy-making, existing national climate change law and policy could or should be used to inform SADC law and policy-making or vice versa.

This chapter contrasts two national jurisdictions (Namibia and South Africa) within SADC to assess progress on national levels, determine what can be learned from each other, as well as lessons for other SADC countries. This is crucial because if it is not working on national levels, then how can it work on the regional level? Or perhaps if it is not working on national levels, it would perhaps work effectively on the regional level.

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<sup>261</sup> Department of Environmental Affairs: Governance of Climate Change in South Africa, available at [https://www.environment.gov.za/sites/default/files/docs/climate\\_change\\_governance.pdf](https://www.environment.gov.za/sites/default/files/docs/climate_change_governance.pdf), accessed 20 June 2014.

<sup>262</sup> Chevallier op cit (n63) 16.

## 4.2 The case of Namibia

### 4.2.1 Introduction

Namibia is a member of SADC and has ratified the UNFCCC in 1995 and acceded to the Kyoto Protocol in 2003,<sup>263</sup> thereby being legally obliged to adopt and implement policies and measures designed to mitigate the effects of climate change and to adapt to such changes.<sup>264</sup> Climate change will have considerable impacts on Namibia, affecting key sectors of the economy, decreasing the Gross Domestic Product (GDP), as well as the livelihoods and wellbeing of the people.<sup>265</sup> The climate change response should therefore focus on adaptation to climate change's impacts in the country.<sup>266</sup> Analysed below are some of the relevant legal developments and policies adopted in Namibia against climate change, particularly in line with adaptation.

### 4.2.2 The Constitution

The Constitution of Namibia does not refer to climate change but it incorporates an environmental provision in the Principles of State Policy articulated in chapter 11.<sup>267</sup> Article 95 (I) of the constitution provides that: 'The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following: maintenance of

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<sup>263</sup> Within the final provisions of the Namibian Constitution, Article 144 deals with the application of international law, which expressly states that: "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". By virtue of this article Namibia recognizes and incorporates the general norms and principles of public international law and international agreements into its legal setup. Therefore, international environmental law and international environmental agreements, treaties or conventions signed by Namibia are binding upon Namibia. Article 144 is a broad provision and enables the state to engage in international negotiations which concern the international community. Given that climate change is an international concern, Namibia benefits from the international agreements that are aimed at combating climate change and environmental protection by virtue of Article 144 of the Constitution.

<sup>264</sup> Mapaire op cit (n6) 245.

<sup>265</sup> Ibid; Sectors that are particularly vulnerable to climate change in Namibia include: food security (agriculture and fisheries), health, water resources, energy, tourism, infrastructure, coastal zone, commerce, industry and business, and natural ecosystems.

<sup>266</sup> Why is climate change adaptation so important to Namibia?, available at [http://www.met.gov.na/Documents/AAP%20NAM\\_CCA%20Decision%20Makers%20Training\\_Theme%205\\_Importance%20of%20CCA.pdf](http://www.met.gov.na/Documents/AAP%20NAM_CCA%20Decision%20Makers%20Training_Theme%205_Importance%20of%20CCA.pdf), accessed 25 June 2014.

<sup>267</sup> The Constitution of the Republic of Namibia Act 1 of 1990.

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; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory’.

As mentioned, this provision does not expressly and directly address climate change. However, it highlights the need to develop and implement policies to maintain the ecosystems, ecological processes, and biological diversity to benefit both the present and future generations. The Constitution here recognizes the environment and the implications it may have on the welfare of the people, and also recognises sustainability as a fundamental remedy to destructive phenomena such as global warming and climate change environmental degradation related issues. The words ‘the state shall actively promote and maintain...’ in Article 95 (l) sound to impose a peremptory obligation on the state to promote the welfare of the people through the formulation of environmental protection policies. This is closely linked to climate change in the sense that climate change impacts on the ecosystem, ecological processes and biological diversity of Namibia. Adaptation efforts to address climate change vulnerability are one of the key cornerstones for the realisation of these constitutional mandates and principles as well as human rights embodied therein in both the short and long-term.

### 4.2.3 Institutions

Various institutions that deal with environmental affairs in Namibia have been established. The Cabinet is the government agency with overall responsibility for all decisions around climate change policy, with assistance and advice from the Parliamentary Standing Committee on Natural Resources and Economics on relevant policy matters.<sup>268</sup>

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<sup>268</sup> Namibia’s Second National Communication to the UNFCCC, (2011) 105, available at <http://unfccc.int/resource/docs/natc/namnc2.pdf>, accessed 20 April 2014.

The Ministry of Environment and Tourism (MET) is the climate change coordinating ministry.<sup>269</sup> Through its Climate Change Unit (CCU) established within the Directorate of Environmental Affairs (DEA), the MET has been responsible for overseeing the coordination of climate change issues in Namibia, and thus the development and submission of national communications in order to fulfil the country's obligations under the UNFCCC.<sup>270</sup> Furthermore, the CCU is directly supported by a formalised multi-sectorial National Climate Change Committee (NCCC) for sector-specific and cross-sector implementation and coordination, advice and guidance.<sup>271</sup> Additionally, civil society, industry, NGOs, local government, educational and research institutions, and others have an important role to play in supplementing the more formally constituted government structures in terms of public awareness, public debate, and focus on local and thematic issues.<sup>272</sup>

At this point in time, it is suggested that these institutions take cognisance of climate change *adaptation* in particular as the most appropriate approach to tackle and overcome the impacts of climate change in Namibia. Namibia is highly vulnerable to climate change making it crucial to adjust communities in order to cope with the changing climate as some impacts are already being experienced such as in agriculture, displacements and the poor. Climate change is linked in many ways to most aspects of the earth or our society, therefore integrated and strategic approaches on adaptation create windows of opportunity in addressing the issues.

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<sup>269</sup> MET Namibia, available at <http://www.met.gov.na/Directorates/EnviroAffairs/Pages/DEAMainPage.aspx>, accessed, 20 June 2014.

<sup>270</sup> Ibid.

<sup>271</sup> Ibid.

<sup>272</sup> Ibid at 106.



#### 4.2.4 Communications under UNFCCC

In 2002, Namibia concluded and published its Initial National Communication (INC) to the UNFCCC.<sup>273</sup> Among the aspects covered in the INC include inter alia the national circumstances, projected impacts and vulnerability assessments, and regional cooperation in climate initiatives with other SADC countries.<sup>274</sup> Among other things the INC also recommended the integration of existing information on vulnerability to climate change and measures to adapt to these changes into existing economic, social, and natural and environmental resource policies.<sup>275</sup> Despite this, and identifying adaptation projects<sup>276</sup>, the INC does little in emphasizing climate change adaptation as top priority.

In 2011 Namibia submitted its Second National Communication (SNC) to the UNFCCC.<sup>277</sup> The SNC highlights inter alia the national circumstances, greenhouse gas inventory, steps envisaged to implement the UNFCCC, and impacts, vulnerability and adaptation measures. In doing this, the SNC takes into account all the vulnerable sectors<sup>278</sup> to climate change including vulnerability of the Namibian economy and the aspect of disaster risk management<sup>279</sup>. It also identifies various barriers to adaptation including inter alia lack of knowledge, funds and institutional capacity, the action or inaction of others, socio-economic barriers, and financial barriers.<sup>280</sup>

The SNC notes that Namibian experience with Community Based Natural Resource Management has provided opportunities for communities to diversify traditional systems as a source of revenue for rural communities, and at the same time providing opportunities to find synergies between improved

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<sup>273</sup> Namibia Initial National Communication to the UNFCCC, available at <http://unfccc.int/resource/docs/natc/namnc1.pdf>, accessed 20 June 2014.

<sup>274</sup> At 48.

<sup>275</sup> At 56.

<sup>276</sup> At 69.

<sup>277</sup> Namibia Second National Communication to the UNFCCC, available at <http://unfccc.int/resource/docs/natc/namnc2.pdf>, accessed 20 April 2014.

<sup>278</sup> At 57-86.

<sup>279</sup> At 87-88.

<sup>280</sup> At 89.

natural resource management and climate change adaptation.<sup>281</sup> The SNC is a comprehensive document and significantly identifies climate change adaptation as a priority area and significant.

#### 4.2.5 The National Climate Change Policy

The 2011 National Policy on Climate Change (NCCP) for Namibia<sup>282</sup> is the main policy the state has formulated so far on climate change reflecting a climate change legal framework. The NCCP pursues constitutional obligations of the Government of the Republic of Namibia, namely for '*the state to promote the welfare of its people and protection of Namibia's environment for both present and future generation*'.<sup>283</sup> The policy seeks to outline a coherent, transparent and inclusive framework on climate risk management in accordance with Namibia's national development agenda, legal framework, and in recognition of environmental constraints and vulnerability.

This policy aims to manage climate change response in a way that recognises the national developmental goals and promotes integration and coordination of programmes of various sector organizations, so that benefits to the country as a whole are maximized, and negative impacts minimized.<sup>284</sup> In order to achieve this, the government will implement adaptation measures to reduce the vulnerability of the population to impacts of climate change by enhancing their adaptive capacity whilst pursuing sustainable development.<sup>285</sup> Namibia aims and strives for excellence to address climate change as a challenge by responding in a timely, effective and appropriate manner via exploring adaptation and mitigation approaches relevant to different sectors at local, regional and national level in order to improve the quality of life of its citizens.<sup>286</sup>

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<sup>281</sup> At 107.

<sup>282</sup> National Policy on Climate Change for Namibia, 2011, available at [http://www.undp-alm.org/sites/default/files/downloads/namibia\\_nationalclimatechangepolicyfornamib.pdf](http://www.undp-alm.org/sites/default/files/downloads/namibia_nationalclimatechangepolicyfornamib.pdf), accessed 20 June 2014.

<sup>283</sup> Article 95(I); see also The Environmental Management Act 7 of 2007.

<sup>284</sup> National Policy on Climate Change for Namibia op cit (n282) at 8.

<sup>285</sup> Ibid.

<sup>286</sup> At 8.

In its guiding principles, the policy includes matters of a human-rights based development, promotion and addressing of adaptation and mitigation as key approaches.<sup>287</sup> The policy also identifies strategies<sup>288</sup> for the various sectors affected and cross-cutting issues for adaptation as well as mitigation. These include inter alia capacity building and institutional strengthening, research and information needs, public awareness and participation, disaster reduction and risk reduction, financial resource mobilisation, technology transfer, international cooperation, policy and legislative development<sup>289</sup>, gender issues and child welfare<sup>290</sup>, and vulnerable groups.<sup>291</sup>

This indicates that the policy is wide enough covering a wide range of sectors, issues and activities associated with the impacts of climate change. The policy framework in this regard is clearly laid down; it is up to the institutions tasked with the implementation and enforcement thereof to combat climate change. However, the SNC to the UNFCCC indicates that although some efforts are underway to test adaptation approaches and better understand the impacts of climate change, Namibia has lacked a framework that has defined the country's response in a systematic approach based on priorities for both the short, medium and long term.<sup>292</sup> This situation prompts the enactment of climate legislation to ensure a systematic approach that includes current and future trends, and effects of climate change in Namibia,<sup>293</sup> especially on adaptation.

#### 4.2.6 Proposed Climate Change Strategy and Action Plan

In 2009, a Proposed Climate Change Strategy and Action Plan for Namibia was compiled and published under the auspices of MET.<sup>294</sup> The need for a

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<sup>287</sup> At 12.

<sup>288</sup> At 13-24.

<sup>289</sup> At 25.

<sup>290</sup> At 26.

<sup>291</sup> Ibid.

<sup>292</sup> Namibia Second National Communication to the UNFCCC op cit (n277) 101.

<sup>293</sup> LE Libebe *Climate Change in Perspective: Is Namibia Doing Enough?* (UNAM) (2013) 36.

<sup>294</sup> Proposed Climate Change Strategy and Action Plan for Namibia, available at <http://www.met.gov.na/Documents/Proposed%20Climate%20Change%20Policy.pdf>, accessed 20 June 2014.

Namibia specific climate change strategy and action plan is justified by many pertinent issues, including the facilitation of adaptation.<sup>295</sup> It incorporates adaptation in its policy guiding principles,<sup>296</sup> and adaptation is identified as a key strategic aim for the strategy, addressed through four themes namely food security and sustainable resource base, sustainable water resources, human health and wellbeing, and infrastructure.<sup>297</sup> Like the NCCP the strategy and action plan also identifies cross-cutting issues for adaptation as well as mitigation, including inter alia capacity building and institutional strengthening, research and information needs, public awareness and participation, disaster reduction and risk reduction, financial resource mobilisation, technology transfer, international cooperation and legislative development.<sup>298</sup>

#### 4.2.7 Conclusion on Namibia

Given the vulnerability of Namibia to climate change and the effects this may have on the environment, the economy and human livelihoods, it is important for the country to take steps and further honour its obligations under the UNFCCC and Kyoto. So do all SADC members.

The 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, and food insecurity.<sup>299</sup> Therefore, measures that are put in place must take cognisance of these interactive effects and approach them in a holistic manner,<sup>300</sup> mostly through adaptation. 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.<sup>301</sup>

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<sup>295</sup> At 8.

<sup>296</sup> At 8-10.

<sup>297</sup> At 27-30.

<sup>298</sup> At 32-5.

<sup>299</sup> Mapaire op cit (n6) 262.

<sup>300</sup> Ibid.

<sup>301</sup> Ibid at 264.

Namibia's greenhouse gas emissions is insignificant, hence efforts should be less on cutting down emissions and more on adaptation, coping strategies, and disaster management.<sup>302</sup> Furthermore, co-operative environmental governance within the Namibian context is vital, through integration of governance structures at international, intra-regional and national level.<sup>303</sup> Improved co-operative governance and co-operative environmental governance will also allow environmental interests to enjoy enhanced levels of consideration by authorities during decision-making so as to strike a balance between social, economic and environmental interests.<sup>304</sup> This is imperative in light of climate change too, particularly the adaptation solution. Lastly, in order for Namibia to realise and attain the objectives and goals outlined in its vision 2030 and national development plans, climate change adaptation efforts should play a fundamental role.

### 4.3 The Case of South Africa

#### 4.3.1 Introduction

South Africa is a member of the SADC. It signed and ratified to the UNFCCC and acceded to the Kyoto Protocol. South Africa has an extraordinary rich natural resource base, including robust ecological infrastructure and high levels of biodiversity – both of which are critical to adaptation planning in a changing world, where expensive technologies and built solutions are seldom affordable for the vast majority of the people.<sup>305</sup> There are various major environmental concerns in South Africa and she is particularly vulnerable to the adverse impacts of climate change. Issues of particular concern include the effect of changing rainfall patterns on water resources, crop production and livestock; possible increases in insect-borne diseases such as malaria;

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<sup>302</sup> Ibid.

<sup>303</sup> A Louw *The Balancing of Interests in Environmental Law in Namibia*, in Michael Faure & Willemien du Plessis (eds) *The Balancing of Interests in Environmental Law in Africa* (2011) 372.

<sup>304</sup> Ibid.

<sup>305</sup> SANBI Climate Change Adaptation in South Africa, available at <http://www.sanbi.org/biodiversity-science/state-biodiversity/climate-change-and-bioadaptation-division/national-impleme-1>, accessed 25 June 2014.

and reduced forestry plantations.<sup>306</sup> In addition, rising sea-levels pose a threat to coastal zones, and similarly, changes in oceanic conditions may have significant implications for fishery resources as well as for biodiversity.<sup>307</sup> South Africa is very involved in international and regional climate change negotiations; one example is the UNFCCC 2011 COP in Durban. The following sub-headings analyse South Africa's position on adaptation in its various efforts, laws and policies aimed at responding to climate change in its official capacity as SADC member.

#### 4.3.2 The Constitution

The South African Constitution<sup>308</sup> incorporates an environmental right as a fundamental right in its section 24. Section 24(1) provides that everyone has the right: '(a) to an environment that is not harmful to their health or well-being; and (b) to 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'. South Africa has a plethora of statutes and regulations relevant in the context of climate change.<sup>309</sup> Some of these legal instruments are not discussed in this work however they contain some direct and indirect reference to aspects of climate change.

The Constitution is the supreme law and an adaptation approach envisaged in this study is highly necessary for the fulfilment and satisfaction of fundamental rights flowing from the Constitution and natural law. These values and norms expressed in our Constitutions must be reflected in policy formulations and

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<sup>306</sup> Glazewski & Du Toit op cit (n7) 3-4.

<sup>307</sup> Ibid at 3-5.

<sup>308</sup> The Constitution of the Republic of South Africa, Act 108 of 1996.

<sup>309</sup> This includes inter alia the following statutes: National Environmental Management Act 107 of 1998; National Water Act 36 of 1998; Marine Living Resources Act 18 of 1998; Disaster Management Act 57 of 2002; National Environmental Management: Biodiversity Act 10 of 2004; National Environmental Management: Air Quality Act 39 of 2004; Mineral and Petroleum Resources Development Act 28 of 2002; Conservation of Agricultural Resources Act 43 of 1983.

implementation for the benefit of the ordinary citizen and natural systems. Climate change threaten various other rights including the right to water, food, and life in South Africa's Bills of rights, that's why taking a human rights approach not just an environment approach<sup>310</sup> is fundamental particularly through adaptation dimensions and pathways.

### 4.3.3 Institutions

At the National level, the Department of Water and Environmental Affairs (DWEA) (now two separate departments) has been designated as lead department responsible for the coordination of and implantation of South Africa's commitments under the UNFCCC.<sup>311</sup> The responsibility to ensure South Africa comply with its obligations lie within the sub-directorate for Global Climate Change, which itself lies within the Directorate for Air Quality.<sup>312</sup> The sub-directorates manage and coordinate South Africa's climate change initiatives and responses. Several other institutions such as the National Committee on Climate Change (NCCC), the Government Committee on Climate Change (GCCC), the National Committee for Ozone Layer Protection (NCOLP), the Inter-Ministerial Committee on Climate Change, the Inter-Governmental Committee on Climate Change, and the Department of International Relations and Co-operation have been established.<sup>313</sup>

In the light of adaptation, it is important for these institutions to emphasize, take into account and ensure that adaptation pathways are influenced, identified and effectively implemented to reduce vulnerability through integrated approaches. These approaches are significantly vital given South Africa's vulnerability to climate change, large populations burdened with poverty and its geographical location.

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<sup>310</sup> Glazewski & Du Toit op cit (n7) 3-19.

<sup>311</sup> Ibid at 3-20.

<sup>312</sup> Ibid.

<sup>313</sup> Ibid.

#### 4.3.4 Communications under the UNFCCC

Pursuant to the UNFCCC, in 2003 South Africa has submitted the Initial National Communication (INC), a broad document which inter alia considers South Africa's national circumstances, including its climatic, economic, energy profiles and its vulnerability, as well as mitigation and adaptation strategies in regard to various sectors such as agriculture, transport and electricity.<sup>314</sup> Given South Africa's relatively high demand for energy, the INC identified various mitigation and adaptation measures that would be implemented in various sectors including fuel switching, a fuel tax and energy efficiency.<sup>315</sup>

In 2011 South Africa's Second National Communication (SNC)<sup>316</sup> was published expanding considerably on the INC. The SNC highlights South Africa's main climate change response objectives, including 'effectively adapting to already unavoidable and potential projected climate change impacts through interventions that build and sustain South Africa's social, economic, and environmental resilience and emergency response capacity'.<sup>317</sup>

The SNC notes that there is more policy developments with regard to mitigation compared to adaptation.<sup>318</sup> However, progress has been made since the INC in better understanding the human dimensions of adaptation to climate change stresses in the shorter and longer term.<sup>319</sup> Most of the SNC is devoted to considering measures for facilitating adequate adaptation to climate change taking into account current vulnerabilities and projected future risks. The various areas of adaptation identified by the SNC includes climate, water resources, agriculture, terrestrial biodiversity, rangelands and forests, coastal and marine environment, invasive alien species, human health,

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<sup>314</sup> South Africa's Initial National Communication under the UNFCCC, available at [https://unfccc.int/files/meetings/seminar/application/pdf/sem\\_sup4\\_south\\_africa.pdf](https://unfccc.int/files/meetings/seminar/application/pdf/sem_sup4_south_africa.pdf), accessed 20 June 2014.

<sup>315</sup> Glazewski and Du Toit op cit (n7) 3-21.

<sup>316</sup> South Africa's Second National Communication under the UNFCCC, available at <http://unfccc.int/resource/docs/natc/zafnc02.pdf>, accessed 20 June 2014.

<sup>317</sup> At 59.

<sup>318</sup> At 46.

<sup>319</sup> At 180.



human livelihoods and social aspects.<sup>320</sup> The SNC reflects that adaptation is crucial for South Africa, especially the water sector which will be greatly impacted by climate change which will in turn have significant implications for human health and the natural environment.<sup>321</sup>

#### 4.3.5 The National Climate Change Response Strategy

The National Climate Change Response Strategy (NCCRS) developed in 2004 provides an overall policy framework for climate change adaptation and mitigation at the national level and highlights these as key issues and problems.<sup>322</sup> It acknowledges the overall vulnerability of South Africa to climate change impacts, and it states that it will thus be necessary to carry out adaptation measures.<sup>323</sup>

The strategy was intended to provide broad support to the policies and principles in other government policies including those relating to energy, water and agriculture. Following a sectorial approach taken in the vulnerability and adaptation studies the NCCRS identified a number of adaptation responses to climate change vulnerability.<sup>324</sup> The South African Country Studies Programme identified the health sector, plant and animal diversity, maize production, water resources and rangelands as areas of highest vulnerability to climate change. These areas are those areas that need to be targeted for adaptation measures.<sup>325</sup> This prompts comprehensive and integrated approaches and progress in policy formulation and implementation.

According to the NCCRS adaptation is essential for South Africa, and notes that climate change adaptation could be a mainstay of sustainable development and suitable donor funding should be secured for such work.<sup>326</sup>

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<sup>320</sup> At 160-80.

<sup>321</sup> South Africa's Second National Communication under the UNFCCC op cit (n316).

<sup>322</sup> National Climate Change Response Strategy, available at [https://unfccc.int/files/meetings/seminar/application/pdf/sem\\_sup3\\_south\\_africa.pdf](https://unfccc.int/files/meetings/seminar/application/pdf/sem_sup3_south_africa.pdf), accessed 20 June 2014.

<sup>323</sup> At 8.

<sup>324</sup> M Madzwamuse *Climate Change Vulnerability and Adaptation Preparedness in South Africa* (2010) 16.

<sup>325</sup> NCCRS at 8.

<sup>326</sup> At 17.

Hence, the objective is to offset South Africa's vulnerability to climate change which is inevitable regardless of greenhouse gas reductions. However, on the issue of adaptation, the NCCRS does little more than state the problem and suggest that interventions should be developed for agriculture, rangelands, and forestry practices, and for protecting biodiversity.<sup>327</sup>

#### 4.3.6 The National Climate Change Response White Paper

Shortly before South Africa hosted the UNFCCC COP 17 in Durban, she swiftly published its comprehensive National Climate Change Response White Paper in October 2011.<sup>328</sup> One of the main objectives is that South Africa should build the climate resilience of the country guided by principles set out in the Constitution, the Bill of Rights, National Environmental Management Act (NEMA), the MDGs, and the UNFCCC.<sup>329</sup> In its overall approach, the White Paper acknowledges the need to adapt to the inevitable impacts to climate change while simultaneously building and maintaining the country's international competitiveness, social, economic and environmental resilience to the adverse effects of the global climate change.<sup>330</sup> While mitigation and adaptation responses are dealt separately, the white Paper aims to integrate these elements into a 'climate change resilient development approach'.<sup>331</sup>

The White Paper notes the risks posed by climate change and identifies the challenges posed to various sectors including water, health, human settlements, agriculture, the ecosystems, and disaster risk reduction and management.<sup>332</sup> Adaptation measures are intended to be integrated into sectorial plans and are set out for these various sectors. Some of the adaptation responses include inter alia implementing best catchment and water management practices, developing climate-smart agriculture, strengthening biodiversity management, empowering local communities, and

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<sup>327</sup> AB Rumsey & ND King *Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities*, in HA Strydom & ND King *Environmental Law in South Africa* 2ed (2009) 1069.

<sup>328</sup> National Climate Change Response White Paper GN 757/Government Gazette No 34695.

<sup>329</sup> At 11-12.

<sup>330</sup> At 13.

<sup>331</sup> At 15.

<sup>332</sup> At 17-29.

developing disaster risk management plans.<sup>333</sup> The White Paper acknowledges the importance of adaptation and that failing to implement adaptation measures could threaten and even reverse many development gains made in South Africa.<sup>334</sup> Monitoring and evaluation are crucial to ensure that adaptation responses remain up-to-date and effective<sup>335</sup> and contribute significantly to sustainable development goals.

Furthermore, the White Paper acknowledges that a key feature of adaptation responses is that they have a much stronger local context than do mitigation responses and their benefits appear faster and often more tangible.<sup>336</sup> Further, that effective adaptation responses can also potentially create many jobs, particularly 'green jobs' and contribute significantly to sustainable development goals.<sup>337</sup> Lastly, the White Paper recognises that although the countries of the sub-region have different developmental priorities, they face similar risks due to climate change and may also have similar adaptation needs.<sup>338</sup> It stresses that South Africa will therefore strive to develop climate change adaptation strategies based on risk and vulnerability reduction, in collaboration with its neighbours, and seek to share resources, technology and learning to coordinate a regional response.<sup>339</sup> A regional approach that achieves climate resilience will have significant socio-economic benefits for South Africa, including a smaller risk of unmanaged regional migration.<sup>340</sup>

The analysis shows that, while 'poverty' appears a lot in the text, in the White Paper the legal rights of the poor are hardly given any place in the argumentation, with the government framing the fight against poverty in terms of intentions rather than duties.<sup>341</sup> And, despite many voices indicating a complex plot in which the South African government is both the victim and the

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<sup>333</sup> At 20-25.

<sup>334</sup> At 17.

<sup>335</sup> At 17-18.

<sup>336</sup> At 16.

<sup>337</sup> Ibid.

<sup>338</sup> At 16.

<sup>339</sup> Ibid.

<sup>340</sup> Ibid.

<sup>341</sup> See generally K Flottum & O Gjerstad *The Role of Social Justice and Poverty in South Africa's National Climate Change Response White Paper*, in J Dugard, AL St. Clair & S Gloppen *Climate Talk: Rights, Poverty and Justice* (eds) (2013).

villain in terms of global emissions, a conclusive engagement with South Africa's industrial policy and its impacts on climate change, especially from the perspective of the poor, is absent from the White Paper.<sup>342</sup>

#### 4.3.7 The National Development Plan

The 2011 National Development Plan (NDP) for vision 2030 points out South Africa has taken major steps to formulate and implement measures both to adapt and mitigate climate change, and require the design of a more sustainable path.<sup>343</sup>

With regards to adaptation, the NDP echoes an important statement that: 'South Africa's primary approach to adapting to the impact of climate change is to strengthen the nation's resilience. This involves decreasing poverty and inequality, increasing levels of education, improving health care, creating employment, promoting skills development and enhancing the integrity of ecosystems. This strategy requires ensuring that local, provisional and national government embrace climate adaptation by identifying and putting into effort appropriate policies and measures.

Adaptation policies and measures include: adequate support for the vulnerable, equitable disbursement of financial assistance; significant investments in new adaptive technologies and techniques in the water, biodiversity, fisheries, forestry and agricultural sectors; early warning systems for adverse weather, pest and disease occurrence; disaster relief preparedness; and significant investment in conserving, rehabilitating and storing natural ecosystems to improve resilience. Gene banks should also be expanded to conserve critically endangered species that are increasingly vulnerable to climate change.'<sup>344</sup>

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<sup>342</sup> Ibid.

<sup>343</sup> National Planning Commission: National Development Plan (2011) 179, available at <http://www.npconline.co.za/medialib/downloads/home/NPC%20National%20Development%20Plan%20Vision%202030%20-lo-res.pdf>, accessed 25 June 2014.

<sup>344</sup> Ibid at 179-180.

#### 4.3.8 Conclusion on South Africa

To retain and expand gains in improved livelihoods across South Africa, adaptation to the impacts of climate change must be developed and implemented.<sup>345</sup> At the national level, there are scattered efforts to analyse and implement adaptation measures but a more comprehensive and co-ordinated efforts towards adapting to climate change is crucial, especially as the poor are most vulnerable.<sup>346</sup> An urgent and ongoing review of the legal regime in South Africa is required to adapt to change, and indeed to pre-empt the coming catastrophes, and equally important and challenging, to pursue the opportunities for economic development, job creation and a move away from highly polluting and unhealthy coal by strong leadership and decisive decision-making.<sup>347</sup> It is also time to craft and put into place the so-called long-term scenarios on adaptation.

Lastly, as South Africa, Namibia and Botswana among others, are the fastest growing economies in SADC, they should take lead by example in the formulation of policies in issues envisaged in this study. South Africa in particular has an important role to play, as the biggest economy, a member of the BRICS group of countries and the most influential among SADC members.

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<sup>345</sup> Rumsey & King op cit (n327) 1076-7.

<sup>346</sup> Ibid at 1077.

<sup>347</sup> Ibid.

## CHAPTER 5: CLIMATE CHANGE ADAPTATION IN SADC: GOVERNANCE ASPECTS AND INSTITUTIONAL FRAMEWORKS

### 5.1 Introduction

Adapting to climate change involves cascading decisions across a landscape made up of agents from individuals, firms and civil society, to public bodies and governments at local, regional and national scales, and international agencies.<sup>348</sup> Adaptation can involve both building adaptive capacity by increasing the ability of individuals, groups, or organisations to adapt to changes, and implementing adaptation decisions by transforming that capacity into action.<sup>349</sup>

Governance and institutions powerfully shape adaptive capacity and foster implementation at both national and regional levels. The need to expand our conception of adaptation is a perspective widely held by sustainable development and disaster management practitioners, and some have suggested that responding to climate change is a question of following sustainable trajectories.<sup>350</sup> But, currently, climate change and not sustainable development is the topic on the world stage, even driving international policy, generating large sums of research monies, and the United Kingdom now has a Minister of Energy and Climate Change.<sup>351</sup> 'Too frequently adaptation still reflects a narrow framing, which assumes that climate change is an ultimate, rather than proximate driver of change'.<sup>352</sup>

It is therefore time for the SADC governments, institutions, stakeholders and interested civil society to deeply engage in adaptation activities and concerns to change and cope with the situation. This chapter looks into these issues, particularly the governance aspects and institutional frameworks to strengthen

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<sup>348</sup> W Neil Adger et al 'Successful Adaptation to Climate Change Across Scales' (2005) 15 *Global Environmental Change* 79.

<sup>349</sup> Ibid at 78.

<sup>350</sup> DR Nelson *Transforming the World*, in WN Adger, I Lorenzoni & KL O'Brien *Adapting to Climate Change: Thresholds, Values and Governance* (2009) 496.

<sup>351</sup> Ibid; unlike South Africa and Namibia it is worth noting that Malawi has a Ministry of Environment and Climate Change Management and Mauritius a climate change law.

<sup>352</sup> Ibid.

and influence adaptation trajectories as crucial and the way forward. The chapter will focus on discussing existing SADC climate change governance initiatives or instruments.

## 5.2 The raison d'être of governance and institutions

A key factor in the design and successful functioning of any solutions to climate change – both to create incentives for mitigation and to regulate adaptation – is the availability of suitable governance structures.<sup>353</sup> Governance is broadly conceived as the set of decisions, actors, processes, institutional structures and mechanisms, including division of authority and underlying norms, involved in determining a course of action.<sup>354</sup> For example, environmental governance instruments include the traditional command and control tools, market-based tools, agreement-based tools and civil-based tools.<sup>355</sup> Climate change is generally a fundamental and integral branch of environmental law. Integrating, adopting and implementing hybrid environmental governance tools in an attempt to establish a sound environmental effort can be crucial.<sup>356</sup> Acknowledging and acting upon well established tools and practices can assist SADC's route in formulating and developing its climate change law and policy adequately.

Inadequacies in governance can lead to not just to poor of the existing adaptive capacity, but also to inadequate furthering or even diminishment of adaptive capacity, leaving us less well prepared for future adaptation to climate change.<sup>357</sup> Given the key relationship between governance and successful adaptive management, it appears logical that the support of

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<sup>353</sup> S Gloppen & AL St. Clair *Climate Change Lawfare*, in OC Ruppel, C Roschmann & K Ruppel-Schlichting (Eds) *Climate Change: International Law and Global Governance, Volume II: Policy, Diplomacy and Governance in a Changing Environment* (2013) 175.

<sup>354</sup> SC Moser *Whether our levers are long enough and the fulcrum strong? Exploring the soft underbelly of adaptation decisions and actions*, in WN Adger, I Lorenzoni & KL O'Brien *Adapting to Climate Change: Thresholds, Values and Governance* (2009) 315.

<sup>355</sup> Louw op cit (n303) 366.

<sup>356</sup> Ibid at 367.

<sup>357</sup> Moser op cit (n354) 329.

appropriate governance institutions would constitute a priority element in an overall adaptation strategy.<sup>358</sup>

Strengthening good governance for natural resources management builds the resilience of fragile state governments and supports improved economic performance.<sup>359</sup> Governance includes both formal and informal institutions for decision making, including bodies that perform legislative, executive, judicial and administrative functions.<sup>360</sup> The needs and challenges of fragility demand attention to collecting and managing data relating to natural resources, engaging vulnerable populations in government decision-making, and combating corruption.<sup>361</sup> These are factors to be taken into account towards adaptation framing and approaches.

Regional institutions can both address the trans-boundary dynamics of fragility and provide support to build state resilience by building norms for shared resources, providing technical support for the development and harmonisation of national laws, and developing cooperative efforts and trust between countries.<sup>362</sup> For SADC countries, adaptation governance should also be integrated within existing poverty reduction and development frameworks and policies.

### 5.3 The SADC Climate Services Centre

The SADC Climate Services Centre (CSC) is a SADC institution and falls under the auspices of the SADC Secretariat in Gaborone, Botswana.<sup>363</sup> The

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<sup>358</sup> TJ Finan & DR Nelson *Decentralised planning and climate adaptation: towards transparent governance*, in WN Adger, I Lorenzoni & KL O'Brien *Adapting to Climate Change: Thresholds, Values and Governance* (2009) 337.

<sup>359</sup> From *Fragility to Resilience: Managing Natural Resources in Fragile States in Africa* (2014) 16, available at [http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/From\\_Fragility\\_to\\_Resilience\\_-\\_Managing\\_Natural\\_Resources\\_in\\_Fragile\\_States\\_in\\_Africa\\_-\\_Summary\\_Report.pdf](http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/From_Fragility_to_Resilience_-_Managing_Natural_Resources_in_Fragile_States_in_Africa_-_Summary_Report.pdf), accessed 21 July 2014.

<sup>360</sup> *Ibid.*

<sup>361</sup> *Ibid.*

<sup>362</sup> *Ibid* at 21.

<sup>363</sup> SADC Climate Services Centre, available at <http://www.sadc.int/sadc-secretariat/services-centres/climate-services-centre/>, accessed 10 June 2014.



CSC has been established in reaction to the realisation that SADC countries experience recurrent climatic extremes such as droughts, floods and it's susceptible to epidemiological diseases like malaria influenced by climate factors that result in negative impacts on socio-economic development.<sup>364</sup> The central objective of the CSC is to have regional approaches in mitigating adverse climate impacts on socio-economic development.

Through the CSC, SADC organised the Fifteenth Southern Africa Regional Climate Outlook Forum (SARCOF-15) in Windhoek, Namibia in 2011<sup>365</sup>, the SARCOF-16 held in Lusaka in 2012<sup>366</sup>, and SARCOF-17 held in Harare Zimbabwe in 2013.<sup>367</sup> The SARCOF process continues to evolve into an effective and reliable of climate information and prediction services in order to fully exploit their potential for enhancing multi-sectoral, social and economic development.<sup>368</sup> SADC countries must embrace these resources, services and information in particular available through the CSC and SARCOFs to enhance on adaptation in a systematic and timely manner.

#### 5.4 The SADC Drought Monitoring Centre

The SADC Drought Monitoring Centre (DMC) was established in 1991 as a specialised institution in climate diagnosis, in order to enable strategic planners within the region to adopt developmental plans which take into account anticipated climatic changes.<sup>369</sup> The DMC monitors changing weather patterns to generate long-range climate forecasting abilities in order to meet SADC's general objective of contributing towards the mitigation of adverse impacts of extreme climate variations on sustainable socio-economic

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<sup>364</sup> SADC Climate Services Centre 2011: Drought Risk Management in Southern Africa: Africa-Asia Drought Adaptation Forum, available at

<http://web.undp.org/drylands/docs/drought/AADAF1/1.7.Garanganga.pdf>, accessed 14 June 2014.

<sup>365</sup> Fifteenth Southern Africa Regional Climate Outlook Forum, available at

[https://www.wmo.int/pages/mediacentre/news/documents/sadc\\_en.pdf](https://www.wmo.int/pages/mediacentre/news/documents/sadc_en.pdf), accessed 14 June 2014.

<sup>366</sup> Sixteenth Southern Africa Regional Climate Outlook Forum, available at

<http://www.sadc.int/documents-publications/show/1306>, accessed 14 June 2014.

<sup>367</sup> Statement from SARCOF-17, available at

[http://www.sadc.int/files/5913/7846/2156/SARCOF\\_17\\_Statement\\_Final300813.pdf](http://www.sadc.int/files/5913/7846/2156/SARCOF_17_Statement_Final300813.pdf), accessed 14 June 2014.

<sup>368</sup> Ruppel op cit (n218) 262.

<sup>369</sup> Richards op cit (n217) 12.

development. The aim of the DMC is to provide early warning systems of climate risks to assist in mitigating the adverse impacts of extreme climate events on agricultural production, food security, water resources, health and other socio-economic sectors. The activities of the DMC include development and archiving of regional and national quality controlled climate databanks.<sup>370</sup>

## 5.5 The SADC Tribunal

The SADC Tribunal was established in 1992 in terms of Article 9(f) of the SADC Treaty as one of the institutions of SADC.<sup>371</sup> The Tribunal is the supreme institution of SADC with an important mandate. The Tribunal shall be constituted to ensure adherence to and the proper interpretation of the provisions of the SADC Treaty and subsidiary instruments and to adjudicate upon such disputes as may be referred to it.<sup>372</sup>

Unfortunately, Robert Mugabe of Zimbabwe rejected the Tribunal's rulings and jurisdiction and had raised objections at SADC summits<sup>373</sup>. As a result of these the SADC Tribunal is currently not operational and under review of its mandate. A resurrection and operation of the tribunal is essential and necessary for various reasons for the SADC member States.

The tribunal is potentially a fundamental pillar of SADC's judiciary and contributes significantly to regional integration and respect of community law.<sup>374</sup> The tribunal should have jurisdiction over any dispute arising from the interpretation or application of Protocols relevant to climate change<sup>375</sup>, and especially to keep in mind the fundamentality of adaptation issues and respect for human rights.

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<sup>370</sup> SADC Drought Monitoring Centre, available at <http://www.eldis.org/go/home&id=6727&type=Organisation#.U7v2gCfMuW8>, accessed 14 June 2014.

<sup>371</sup> Treaty of the Southern African Development Community, available at <http://www.sadc-tribunal.org/>, accessed 20 July 2014.

<sup>372</sup> Article 16 of the SADC Treaty.

<sup>373</sup> See *Mike Campbell (PVT) Limited and Another v Republic of Zimbabwe* SADC (T) 02/2007.

<sup>374</sup> L Knott 'How to Reboot the SADC Tribunal: A European Perspective' (2012) 2(2) *SADCLJ* 304-318.

<sup>375</sup> Ruppel op cit (n168) 28.

Contemporary and growing trends in climate change, will give rise to developments in both procedural and substantive dimensions of climate change law. Some of the procedural issues will involve the right to information or right to participate in decision-making, while the substantive dimensions would involve constitutional, administrative, environmental, criminal, insurance, nuisance and liability issues among others. A Tribunal is needed, competent and capable of handling these types of issues now and in future.

Hall and Weiss's equitable view on climate change adaptation and human rights notes that Tribunals presented with adaptation-related human rights claims might also have flexibility to fashion creative remedies.<sup>376</sup> If causal links and liability are connected to narrower geographic, governmental and temporal ranges in the context of adaptation, perhaps national level litigation is not mostly useless, like in South Africa whose constitution include environmental, cultural and socio-economic rights.<sup>377</sup> Developments in socio-economic rights may also facilitate adaptation-based human rights on the international level and tribunals in adjudicating individual human rights complaints can develop a common law regarding environmental protection and adaptation.<sup>378</sup> These are some of the crucial aspects and challenges that have to be taken into account for effective environmental and climate change governance and responsiveness.

## 5.6 SADC Climate Change Inter-Sectorial Technical Working Group

The SADC Climate Change Inter-sectorial Technical Working Group (CTWG) notes lack of coordination across SADC sectors, with no framework for developing work-plans cross-sectorally to ensure harmonisation of all SADC climate change activities.<sup>379</sup> This is central to the work of the CTWG and facilitation of implementation in the various sectors and within member

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<sup>376</sup> Hall & Weiss op cit (n135) 286.

<sup>377</sup> Ibid; see *Khosa v Minister of Social Development* 2004 (6) BCLR 569 (CC).

<sup>378</sup> Ibid.

<sup>379</sup> Urquhart et al. op cit (n183) 94.

states.<sup>380</sup> The 2011 Climate Change Strategy featuring in the previous chapter is the work or a production of the CTWG. The CTWG is keen to incorporate other climate change initiatives in the region, which should also target adaptation as a priority area.

The CTWG is a key institution as very few inter-sectorial collaborative initiatives are available.<sup>381</sup> The CTWG work plan will be aligned with other institutions such as the COMESA/EAC/SADC Tripartite Programme on Climate Change, SADC Education and Skills Development Programme, and provides opportunity for the SARUA CCD initiative to be located within SADC level policy frameworks.<sup>382</sup>

In addition, these institutions can collaborate with institutions such as the SADC Regional Vulnerability Assessment Committee, National Vulnerability Committees and the SADC Secretariat's Regional Vulnerability Assessment and Analysis Programme<sup>383</sup> to enhance and promote adaptation as well as identify efficient comprehensive pathways.

## 5.7 Adaptation Finance

Key questions in the context of adaptation governance include the following: What are the financial resources available for adaptation planning and implementation? Climate finance provides effectiveness and efficiency in actions to adapt to climate change. Climate finance refers to local, national and transnational financing, which may be drawn from public, private and alternative sources of financing.<sup>384</sup> Flows of climate finance, both fiscal transfers and market transactions, from developed to developing countries represent the principal way to reconcile equity with effectiveness and

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<sup>380</sup> Ibid.

<sup>381</sup> Ibid.

<sup>382</sup> Ibid.

<sup>383</sup> Regional Vulnerability Assessment and Analysis Programme, available at <http://www.sadc.int/sadc-secretariat/directorates/office-deputy-executive-secretary-regional-integration/food-agriculture-natural-resources/regional-vulnerability-assessment-analysis-programme-rvaa/>, accessed 22 July 2014.

<sup>384</sup> FOCUS: Climate Finance, available at [https://unfccc.int/focus/climate\\_finance/items/7001.php](https://unfccc.int/focus/climate_finance/items/7001.php), accessed 20 July 2014.

efficiency in dealing with the climate problem.<sup>385</sup> The financial needs also relates to the development, availability and distribution of new technologies to help and allow developing countries to continue their growth and reduce poverty through adaptation.

SADC needs to put in place strategies to attract technical and financial resources necessary to support development of policies, strategies, projects and programmes for urgent adaptation needs to enable the region to cope with climate change and address issues such as food security which are likely to be exacerbated by the impacts of climate change.<sup>386</sup>

Under the UNFCCC, Article 4.4 provides one of the developed country commitments is to assist developing countries in meeting costs of adaptation to the adverse effects of climate change. The UNFCCC provides this system for global financial support for adaptation to climate change in developing countries including SADC. Under the UNFCCC the CDM should also continue to strive to increase the injection of sufficient funds aimed at climate change adaptation, and so is the Global Environmental Facility (GEF).

The GEF is an entity entrusted with the operation of the financial mechanism of the UNFCCC, and manages the instruments for the transfer of financial resources from developed to developing countries. During negotiations SADC countries should express their needs and concerns, and pursue their interests in adaptation funding and further negotiate operational modalities at meetings of the GEF Council.<sup>387</sup> Relevant activities funded under the GEF Trust Fund include vulnerability and adaptation assessments in the context of National Communications, and in 2001 it extended its adaptation-related activities by

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<sup>385</sup> World Development Report (2010), available at <http://siteresources.worldbank.org/INTWDRS/Resources/477365-1327504426766/8389626-1327510418796/Chapter-6.pdf>, accessed 20 July 2014.

<sup>386</sup> Lisolle op cit (n248) 18.

<sup>387</sup> RJT Klein and A Mohner *Governance limits to effective global financial support for adaptation*, in WN Adger, I Lorenzoni & KL O'Brien *Adapting to Climate Change: Thresholds, Values and Governance* (2009) 466.

establishing the Strategic Priority ‘Piloting an Operational Approach to Adaptation’.<sup>388</sup>

In addition to providing guidance to the GEF, in 2001 COP in Marrakesh Parties established four additional funds for adaptation, namely the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) under the GEF, the Adaptation Fund (AF) under the Kyoto Protocol, and the Green Climate Fund (GCF) in accordance with Article 11 of the UNFCCC.<sup>389</sup>

The AF was established to finance concrete adaptation projects and programmes in developing country parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change.<sup>390</sup> The GCF recognises the urgency and seriousness of climate change and call for ambition to financing mitigation and adaptation. The GCF affirms contribution to the ultimate objective of the UNFCCC and promotion of a paradigm shift towards climate-resilient development pathways by providing support to developing countries to adapt to impacts of climate change particularly the most vulnerable.<sup>391</sup> The differences in national circumstances, scales of financial gaps and the diversity of needs require a consolidated and holistic approach for successful adaptation to climate change.

Furthermore, the African Development Bank (AfDB) established the 2011-2012 Climate Change Action Plan which articulates the Bank’s climate change objectives, principles, areas of focus, major activities, and investment plan.<sup>392</sup> It supports the Bank in increasing its effectiveness and smooth

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<sup>388</sup> Ibid at 467.

<sup>389</sup> Climate Finance, available at [https://unfccc.int/cooperation\\_and\\_support/financial\\_mechanism/items/2807.php](https://unfccc.int/cooperation_and_support/financial_mechanism/items/2807.php), accessed 20 July 2014.

<sup>390</sup> Adaptation Fund, available at [https://unfccc.int/cooperation\\_and\\_support/financial\\_mechanism/adaptation\\_fund/items/3659.php](https://unfccc.int/cooperation_and_support/financial_mechanism/adaptation_fund/items/3659.php), accessed 20 July 2014.

<sup>391</sup> Green Climate Fund, available at <http://www.gcfund.org/about-the-fund/mandate-and-governance.html>, accessed 20 July 2014.

<sup>392</sup> African Development Bank Group: Climate Change Action Plan 2011-2015, available at <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy->

delivering on poverty reduction and economic growth, while recognising risks and opportunities to address the challenges of climate change. The action plan rests on three pillars including climate change adaptation, and it's informed by and guides the implementation of the Bank's Climate Risk Management and Adaptation Strategy<sup>393</sup> and the Clean Energy Investment Framework<sup>394</sup>, which address the broader issues of climate change mitigation and adaptation respectively.

Between 2011 and 2015, the AfDB plans to commit US\$10 billion to climate-smart development in Africa, and provide technical support to attract private and institutional investors and facilitate the transition to a more sustainable path.<sup>395</sup> With support of the AfDB, the Malagasy government launched a national dialogue on green growth, and provided loans to help finance the construction of a concentrated solar power plant to increase share of clean energy and reduce production costs in South Africa.<sup>396</sup>

The lack of appropriate climate information is one of the major obstacles to address the issues of climate change in Africa, including SADC and this has led the call on African leaders and development partners to improve the provision and use of appropriate climate information.<sup>397</sup> As a result, the ClimDev-Africa was designed as a joint initiative of the AfDB and the United

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*Documents/Climate%20Change%20Action%20Plan%20%28CCAP%29%202011-2015.pdf*, accessed 21 July 2014.

<sup>393</sup> Bank Group Climate Risk Management and Adaptation Strategy, available at [http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Climate%20Risk%20Management%20and%20Adaptation%20Strategy%20\\_CRMA\\_%20%282%29.pdf](http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Climate%20Risk%20Management%20and%20Adaptation%20Strategy%20_CRMA_%20%282%29.pdf), accessed 21 July 2014.

<sup>394</sup> Proposals for a Clean Energy Investment Framework for Africa: Role of the African Development Bank Group, Final version, available at <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/10000025-EN-PROPOSALS-FOR-A-CLEAN-ENERGY-INVESTMENT-FRAMEWORK-FOR-AFRICA.PDF>, accessed 21 July 2014.

<sup>395</sup> Climate Finance: Nurturing Africa's Green Growth, available at [http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Climate\\_Finance\\_Bimonthly\\_Newsletter\\_-\\_Issue\\_N\\_26\\_-\\_May-July\\_2014.pdf](http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Climate_Finance_Bimonthly_Newsletter_-_Issue_N_26_-_May-July_2014.pdf), accessed 21 July 2014.

<sup>396</sup> Ibid.

<sup>397</sup> Climate for Development in Africa Initiative, available at <http://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/climate-for-development-in-africa-climdev-africa-initiative/climate-change/>, accessed 21 July 2014.

Nations Economic Commission for Africa (UNECA) and the Commission of the African Union (AUC).<sup>398</sup>

The program has been endorsed at regional meetings of African governments and Heads of State through Ministers of Finance, Planning, Economic Development, and the Environment. The AfDB accepted the request from the AUC and UNECA to establish ClimDev-Africa Special Fund as one of the three elements of the ClimDev-Africa, including the African Climate Centre at UNECA and the Climate Change and Desertification Control Unit.<sup>399</sup> The goal of the Fund is to pool resources to contribute to sustainable development, and poverty reduction by preparing and implementing climate-resilient development programs that mainstream climate change information at all levels in Africa. The objective is to strengthen institutional capacities of national and sub-regional bodies to formulate and implement effective climate-sensitive policies. One of its focus areas includes implementation of pilot adaptation practices that demonstrate the value of mainstreaming climate information into development.

The newly established South Africa's Green Fund is an appraisable initiative as it seeks to support green initiatives and assist the country's transition to a climate resilient development path.<sup>400</sup> SADC must ensure full utilisation of both regional and international funding mechanisms in place, and put in place or initiate its own adaptation fund now or in future. This is the responsibility of policy makers, and benefits the most vulnerable segments of the population through enhancement of adaptation prioritisation.

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<sup>398</sup> Ibid.

<sup>399</sup> Ibid.

<sup>400</sup> Department of Environmental Affairs: Green Fund, available at <http://www.sagreenfund.org.za/Pages/default.aspx>, accessed 22 July 2014.



## 5.8 Cooperative regional climate governance

The minimal definition of cooperation means that states are to enter into contact with each other.<sup>401</sup> Under general international law, states are under an obligation to cooperate, an effort for instance to accomplish an object by joint action, where the activity of a single state cannot achieve the same result.<sup>402</sup> Under the SADC Treaty, members' states make general undertakings including inter alia cooperate with and assist institutions of SADC in the performance of their duties.<sup>403</sup> Article 21 calls for cooperation of SADC members in a wide range of areas which are relevant in the context of climate change, and whose vulnerability necessitates adaptation.

According to Ruppel, albeit the problem of climate change is rather clear, political solutions are often far and unfair, and the international community seems unable to come up with agreements that both remedy the substantive causes of climate change and the damage caused by it.<sup>404</sup> The world that we live in is interconnected and interdependent. It is a world bound together, not just by state interests but also by an interest in more global cooperation especially in the context of climate change.<sup>405</sup> More coherence in the intersections of law and increased cooperative global climate governance should lead the way to cope with the challenges ahead or in the anthropocene<sup>406</sup>, particularly through adaptation interventions.

The UN has also stressed about international cooperation in a number of issues affecting the entire global community. For example, the UN Human Rights Council adopted a Resolution urging States to take necessary measures to enhance bilateral, regional and international cooperation aimed

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<sup>401</sup> OC Ruppel *Intersections of Law and Cooperative Global Climate Governance – Challenges in the Anthropocene*, in OC Ruppel, C Roschmann & K Ruppel-Schlichting (Eds) *Climate Change: International Law and Global Governance, Volume I: Legal Responses and Global Responsibility* (2013) 78.

<sup>402</sup> *Ibid.*

<sup>403</sup> Article 6(6).

<sup>404</sup> Ruppel *op cit* (n401) 77.

<sup>405</sup> *Ibid* at 78.

<sup>406</sup> *Ibid* at 30.

at addressing the adverse impacts of consecutive and compounded global crises such as climate change, on the full enjoyment of human rights.<sup>407</sup> Cooperative governance is one of the most important strategies for addressing fragmentation<sup>408</sup>, and is fortunately an indispensable part of SADC's climate change regime.

## 5.9 Technological innovation

Technology holds a distinctly privileged position in the search for adaptation options, but of course is not necessarily available, accessible, affordable, advisable on environmental grounds, or socially acceptable to all stakeholders.<sup>409</sup> For example, the poorer countries, poor people and other vulnerable groups will be unable to access adequate technologies to adjust and cope with the inevitable impacts of climate change. The issues of intellectual property rights may also constitute implications and barriers to adaptation methods and technologies. Therefore, issues such as traditional knowledge and technology transfer and innovation should be taken into account and integrated into the SADC adaptation frameworks. Technological innovation is directly relevant for SADC as a host of some poorer countries burdened by poverty which makes it difficult for the majority to access adequate technologies to adapt to climate impacts.

## 5.10 Engagement of the most vulnerable groups

The capacity to respond or adapt to changing weather patterns and events such as droughts, floods and storms are determined by the socio-economic and political conditions of the regions and communities affected.<sup>410</sup> SADC consists of LDCs with poorer masses and many disadvantaged groups of people who stand to benefit from climate change adaptation responses.

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<sup>407</sup> UN Human Rights Council Resolution 19/33 2012.

<sup>408</sup> LJ Kotze *Environmental Governance*, in A Paterson & LJ Kotze (eds) *Environmental Compliance and Enforcement in South Africa: Legal Perspectives* (2009) 121.

<sup>409</sup> Moser op cit (n354) 326.

<sup>410</sup> J Dugard, AL St. Clair & S Gloppen *Climate Talk: Rights, Poverty and Justice – Introduction*, in J Dugard, AL St. Clair & S Gloppen *Climate Talk: Rights, Poverty and Justice* (eds) (2013) 2.

‘Thus it is clear that the groups that will suffer the most from the challenges posed by climate change are those that are already suffering the negative impacts of other global challenges, such as the financial/economic crises, ongoing conflicts, environmental degradation and loss of biodiversity; those without voice or power, assets or access to energy, lacking insurance for flooding or for destruction caused by severe weather events, those with poor or no access to health, education, clean water and under conditions of food and labour insecurity; and those whose agricultural systems have already been negatively affected by global trade and patent regulations’.<sup>411</sup> These are among the social and economic issues also faced by the southern African states, particularly its most vulnerable population.

‘To make matters worse, these are the same groups that have contributed the least to the climate change problem in the first place and who have benefited the least from modernisation and industrialisation and have a relatively small carbon print. This is a double injustice’.<sup>412</sup> SADC countries are LDCs, developing and only contribute a small amount of greenhouse gases, despite South Africa’s economy that has grown and its reliance on coal as an energy source.

Among the most vulnerable groups and the ones with less adaptive capacity to climate change include the poor masses, women, climate refugees, youth, children, the disabled, indigenous and island communities. These groups of people form part of the SADC community as well. Where forms of governance preclude effective community participation and discourage co-management practices, local resilience tends to be low and adaptive capacity low.<sup>413</sup> Involvement and participation of these groups will reduce their vulnerability, and should therefore be catered for in the integration and framing of adaptation in SADC.

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<sup>411</sup> Ibid.

<sup>412</sup> Ibid.

<sup>413</sup> Finan & Nelson op cit (n358) 337.

Seen through a more political lens, adaptation requires people to be empowered, their livelihoods to be secured, and their resilience to be strengthened by building appropriate institutions.<sup>414</sup> Adaptation require both effective local activities and national and regional coordination for the design and implementation of appropriate action. A coherent implementation of adaptation measures is likely to be facilitated by institutionalisation of responsibilities, and without appropriate national authorities the integration of adaptation measures into development processes is jeopardised.<sup>415</sup>

Furthermore, there is need to focus on promoting opportunities for livelihood diversification, building strong social capital and incorporating local knowledge into adaptation planning and also to remove barriers to the accessibility and success of these adaptations within structures of governance.<sup>416</sup> Where policies and institutions can reduce vulnerability to climate change; it is necessary to ensure that access is not differential, for example, based on gender, race, age or wealth.<sup>417</sup> These can be vital factors for SADC members to take into account in the formulation of their national climate change adaptation strategies.

The World Bank study on economics of climate change notes that development alone will not be enough to equip all countries and regions to adapt to climate change neither do all individuals or households within a country or region enjoy the same levels of adaptive capacity.<sup>418</sup> Drivers of social, economic and physical vulnerability act as multipliers of climate risk for poor households.<sup>419</sup> Social variables should interact with institutional

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<sup>414</sup> D Tanzler & A Carius *Beyond International Climate Negotiations: Climate Diplomacy from a Foreign Perspective*, in OC Ruppel, C Roschmann & K Ruppel-Schlichting (eds) *Climate Change: International Law and Global Governance, Volume II: Policy, Diplomacy and Governance in a Changing Environment* (2013) 269.

<sup>415</sup> *Ibid* at 270.

<sup>416</sup> M Goulden et al. *Assessing diversification, networks and traditional resource management as adaptations to climate extremes*, in WN Adger, I Lorenzoni & KL O'Brien (eds) *Adapting to Climate Change: Thresholds, Values and Governance* (2009) 462.

<sup>417</sup> *Ibid*.

<sup>418</sup> See R Mearns & A Norton (eds) *Social Dimensions of Climate Change: Equity and Vulnerability in A Warming World* (2010) World Bank.

<sup>419</sup> The Costs to Developing Countries of Adapting to Climate Change: New Methods and Estimates, The Global Report of the Economics of Adaptation to Climate Change Study, available at

arrangements that are crucial in promoting adaptive capacity, including those that increase access to information, voice, and civic representation in setting priorities in climate policy and action.<sup>420</sup> These can serve as crucial guidelines and principles for SADC climate change adaptation policy-making.

For SADC, adaptation policymakers and planners should collect more information on individuals and communities; as such information sharing can ensure good governance and transparency in decisions about the distribution and use of adaptation funding.<sup>421</sup> SADC should initiate strategies to encourage the participation, involvement, and leadership of vulnerable groups in decision making for successful equitable adaptation.

## 5.11 Conclusion

Both at regional and international stages, there are developments on governance and institutional settings aimed at overcoming climate change. Despite these steps, SADC has not designed a comprehensive climate change adaptation framework nor a designated agency or governing body to implement comprehensive adaptation measures. The process of adaptation should be designed to make our societies more resilient to a range of influences including climate change as primary. Adaptation must be encouraged, enabled, supported and facilitated by those individuals and organisations in positions to do so as people recognise the value of proactive adaptation, taking action now to avoid unnecessary losses and expenses in the future.<sup>422</sup> It is essential for SADC to ensure good or proper governance and institutionalisation of matters concerning climate change adaptation as the most appropriate response and strategy against the impacts of climatic changes. Ultimately it is suggested that a climate change adaptation protocol

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<http://siteresources.worldbank.org/INTCC/Resources/EACCRReport0928Final.pdf>, accessed 20 July 2014.

<sup>420</sup> Ibid.

<sup>421</sup> Hall & Weiss op cit (n135) 278.

<sup>422</sup> G Ziervogel & A Taylor *Integrating Climate Change Information within Development and Disaster Management Planning: Lessons from Malawi, Mozambique and Zambia*, in R Fujikura & M Kawanishi (eds) *Climate Change Adaptation and International Development: Making Development Cooperation More Effective* (2011) 130.

will go a long way to meet these aspirations as suggested in the concluding chapter.

## CHAPTER 6: CONCLUSIONS AND RECOMENDATIONS

### 6.1 Findings and Conclusions

This study explored and assessed the governance of climate change in SADC and argued for appropriate policies and measures that promote adaptation as a crucial response to climate risks. It has provided a conceptual analysis of adaptation, presenting the socio-economic implications of climate change in SADC. This has led to demonstrate why adaptation should be prioritised as the most appropriate measure for tackling climate change. The research also examined the international and regional (African) dimensions of the legal and institutional frameworks that are necessary to address climate change through adaptation. After an assessment of these aspects, the study has identified some essential findings and conclusions.

Global consensus on climate change governance has proved to be challenging, and there is a tendency of much focus on mitigation than on adaptation. A new thinking is beginning to emerge in the developing countries that regional actions would meet the exigency of climate change adaptation particularly in sub-Saharan Africa.<sup>423</sup>

Climate change is a complex challenge that will determine the future of human civilisation and its place in the broader evolution of life on planet earth. The African continent, SADC in particular, is one of the poorest in the world despite being richly endowed with natural resources,<sup>424</sup> and remains highly vulnerable to climate change.

The impacts of climate change in the SADC zone vary across sectors affecting inter alia health, human security, agriculture, trade, and the full enjoyment of fundamental human rights in general.

The SADC region currently does not have an integrated or comprehensive framework policy or protocol on adaptation to climate change, with the

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<sup>423</sup> Oke op cit (n192) 139.

<sup>424</sup> Ruppel op cit (n8) 280.

exception of the indirectly relevant SADC Strategy for the Water Sector; neither does the region have a climate change specific strategy or protocol. Although SADC has endorsed climate change related provisions in its various policies and initiatives, the current platforms are still lacking in terms of adaptation. Therefore, though SADC is responding to climate change, it is doing less to adapt to climate change and it is necessary to put in place a process towards developing a protocol on climate change adaptation.

In addition, SADC has successfully formulated various protocols for various sectors outlined in Chapter 3. They cover sectors such as inter alia energy, health, watercourses, trade, meteorology, wildlife conservation and law enforcement. Although these protocols are relevant to the environment they hardly directly incorporate provisions on climate change adaptation. However, the integration and facilitation of adaptation strategies in these sectors is crucial.

Some member states of SADC such as Namibia and South Africa have taken significant steps to develop and implement measures to deal with climate change within their domestic spheres as outlined in chapter 4 of this study. This includes the aspirations and commitments derived from the international processes and policies, particularly on mitigation and adaptation responses. Although both mitigation and adaptation are pursued, it is stressed that the latter should prevail and be prioritised.

Furthermore, adaptation to climate change enables us to adjust and cope with climatic changes and requires and drives transformation of a society. Social innovation, technological innovation, and the moving towards good adaptive governance are critical for climate change adaptation in initiating negotiations or processes in interactions with organisations, institutional structures, civil society and regionally. This includes facilitating assistance to the poor and most vulnerable with social, technological and financial resources for adaptation.

Furthermore, since climate change is a wicked problem and complex issue - beset with uncertainties and sheer ignorance, complexity theorists might also



inform the debate especially those studying coupled natural and human systems or social ecological systems can bring insights in informing adaptation policy discourse. Urgent and strong action is prompt and warranted.

Substantial research on adaptation provides essential insights into how the process of change occurs. It provides us with tools and frameworks within which to evaluate and measure outcomes and actions. While they certainly incorporate research from other areas, the concept of vulnerability, multi-level governance, fairness and equity, social learning and the role of adaptive capacity all contribute to our understanding of how we can prepare for change and how it can be strengthened and directed.<sup>425</sup>

In addition, legal institutions and instruments, along with technological, managerial and behavioural strategies, play an important role in climate change adaptation. Law can facilitate adaptation through using regulation to reduce exposure or sensitivity to climate hazards, establishing the legal architecture for new market mechanisms, and funding arrangements for adaptation costs and potential liability for climate impacts through the courts<sup>426</sup>. It can also ensure the accountability of adaptation decision-making and can address some of the social justice dimensions of adaptation. At the same time, law itself needs to evolve in order to embrace more robust and systemic predictive capacity in areas such as planning law and environmental impact assessment and for more resilient adaptive capacity in its monitoring and compliance.<sup>427</sup>

Lastly, the international and regional dimension or framework on climate change provides opportunities for policy making and institutional support such as climate information and finance particularly for developing countries in curbing climate change. These mechanisms provide lessons and principles for pursuing adequate and successful adaptation approaches.

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<sup>425</sup> Nelson op cit (n350) 496.

<sup>426</sup> J McDonald 'The Role of Law in Adapting to Climate Change' (2011) 2(2) *Wiley Interdisciplinary Reviews: Climate Change* 283-295, available at <http://onlinelibrary.wiley.com/doi/10.1002/wcc.96/pdf>, accessed 8 July 2014.

<sup>427</sup> A Zahar, J Peel & L Godden *Australian Climate Law in Global Context* (2013) 409.

## 6.2 Recommendations

In formulating the policy framework on climate change adaptation various factors and indicators should be noted and taken into account. The following recommendations are useful and guiding in this regard:

- Given the cross-cutting nature of climate change, adaptations in the SADC require actions at different levels to be successful. The growing scientific, economic, political and social consensus is that adaptation measures will require long-term thinking, explicit considerations of climate change at regional (cross-national), national, sub-national, and local levels.<sup>428</sup> It is vital for SADC policymakers to understand adaptation as a process and apply their minds as to how it is implemented.
- A broader set of measures is required than that which has been the focus of adaptation efforts so far, and comprehensive adaptation entail focusing on measures that target the interface between poverty and vulnerability.<sup>429</sup> There may be no one-size-fits all response to climate change vulnerability, but addressing vulnerability and climate change requires new holistic institutional and innovative approaches as well as good governance strategies.
- The prioritizations of adaptation to climate change at both the global, regional and national levels are essential. The implementation of integrated and comprehensive adaptation policies and measures are critical for human and natural systems to successfully cope with climate changes. The SADC should strive to interact and integrate climate change adaptation, together with mitigation and disaster risk management holistically in both national and regional climate change frameworks, and evaluate the success and weakness of initiatives and policies for reinforcement.

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<sup>428</sup> Capoco op cit (n114) 6.

<sup>429</sup> Ibid.

- SADC countries or governments must establish climate change ministries or significant institutions which should prioritise and place adaptation at the core of activities, as well as mainstreaming and integrating adaptation actions across sectors and relevant stakeholders. Facilitating research and knowledge co-production to enhance resilience, international expertise and hybrid knowledge in Southern Africa<sup>430</sup> is vital for successful adaptation measures.
- Based on collective consensus or a collaborative approach, SADC should formulate a long-term comprehensive and dynamic integrated framework policy on adaptation to climate change. This would shape SADC's direction on climate change vulnerability and provide guiding or directive principles on member states in pursuing adaptation interventions across sectors.
- Despite the principle of common but differentiated responsibilities, southern Africa and other developing countries should also make specific policy commitments, mostly targeting adaptation to climate change as a cornerstone for resilience and transformation.
- Adaptation measures should be integrated into development agendas and policies, as well as in SADC's major institutions dealing with climate change, in order to reduce vulnerability and ensure full enjoyment of human rights. It is the age of adaptation. Adaptation is indispensable to contemporary society, as it begets transformation and reduces the negative impacts of climate change.
- The prominent SADC climate change centres or services, institutions and policymakers should be convinced and tasked to address climate change through a holistic effective approach to eliminate climate casualties via adaptation pathways. This includes strengthening climate change governance through regional initiatives.

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<sup>430</sup> AJ Newsham & DSG Thomas *Knowing, Farming and Climate Change Adaptation in North-Central Namibia* (2011) 21 *Global Environmental Change* 768.

- The formulation of protocols for the various sectors in SADC is plausible. As examined under chapter 3, SADC has numerous protocols covering areas such as inter alia energy, health, watercourses, trade, meteorology, and wildlife conservation. Although these protocols are so relevant to the environment neither of them directly incorporate provisions on climate change adaptation. This study suggests and recommends that, in the light of these existing protocols and the principles articulated therein, the SADC body should begin to facilitate a process for the development of an integrated and a comprehensive protocol on climate change adaptation.

In formulating the proposed protocol on climate change adaptation, various actors and provisions has to be envisaged and taken into consideration. It is vital therefore that the protocol would incorporate essential elements or provisions on inter alia the following:

- Acknowledging climate change as a wicked problem and adaptation to climate change as the most appropriate remedy to the adverse effects of climate change in the SADC region;
- Defining the terminology or concepts associated with and essential for understanding adaptation to climate change;
- Elaborating the objectives and guiding principles central and critical to climate change adaptation interventions, as well as preamble adaptation in a unique way;
- Establishing appropriate institutional and financial arrangements, and national policies and programmes of action to effectively combat climate change through adaptation;
- Duties to undertake environmental and vulnerability assessments and a regional data base on climate change adaptation initiatives;
- Providing for the involvement and participation of various stakeholders mostly including all the vulnerable groups;

- Encouraging cooperation with other States, Member States, organisations and individuals, and the settlement of disputes;
- Incorporating provisions on climate risk management, disaster risk reduction and management, and desertification;
- Echoing Human rights and development;
- Integrating of all the various sectors, including the water sector, affected by climate change in SADC to which adaptation responses remains critical comprehensively;
- Recognising the guiding principles, norms and values or provisions found in existing regional and international instruments;
- Taking cognisance of the protection and health of environment or Mother Earth and the SADC zone in particular, research, capacity-building, information exchange and public awareness;
- Identifying pathways, opportunities and challenges;
- Reducing the risk of maladaptation and adaptation deficit, and building climate resilience;
- Providing for equity, social justice and human security, the role of science, economics of climate change and policy responses for adaptation.

## BIBLIOGRAPHY

### Primary sources

#### **CASE LAW**

*Government of the Republic of South Africa v Grootboom* 2000 (1) SA 46 (CC)

*Khosa v Minister of Social Development* 2004 (6) BCLR 569 (CC)

*Mike Campbell (PVT) Limited and Another v Republic of Zimbabwe* SADC (T) 02/2007

#### **NATIONAL LEGISLATIONS & POLICIES**

The Conservation of Agricultural Resources Act 43 of 1983

The Constitution of the Republic of Namibia Act 1 of 1990

The Constitution of the Republic of South Africa Act 108 of 1996

The Disaster Management Act 57 of 2002

The Environmental Management Act 7 of 2007

The Marine Living Resources Act 18 of 1998

The Mineral and Petroleum Resources Development Act 28 of 2002

The National Climate Change Policy

The National Climate Change Response Strategy

The National Climate Change Response White Paper

The National Development Plan

The National Environmental Management Act 107 of 1998

The National Environmental Management: Air Quality Act 39 of 2004

The National Environmental Management: Biodiversity Act 10 of 2004

The National Water Act 36 of 1998

## **REGIONAL INSTRUMENTS**

AU Convention for the Protection and Assistance of Internally Displaced Persons in Africa

Constitutive Act of the African Union

SADC Protocol on Forestry

SADC Protocol on Health

SADC Protocol on Mining

SADC Protocol on Shared Watercourse Systems

SADC Protocol on Tourism

SADC Protocol on Trade

SADC Protocol on Transport, Communications and Meteorology

SADC Protocol on Wildlife Conservation and Law Enforcement

SADC Regional Indicative Strategic Development Plan

SADC Revised Protocol on Shared Watercourses

The African Commission on Human and Peoples' Rights Resolution 153(XLVI) 09

## **INTERNATIONAL INSTRUMENTS**

Kyoto Protocol to the United Nations Framework Convention on Climate Change

The Cancun Agreements

The Copenhagen Accord

The Sirte Declaration

United Nations Convention on Biodiversity (UNCBD)

United Nations Convention to Combat Desertification (UNCCD)

United Nations Framework Convention on Climate Change (UNFCCC)

United Nations Human Rights Council Resolution

### Secondary sources

#### **PUBLICATIONS & PAPER SERIES**

Arctic Council, 2013: *Glossary of terms*, In: *Arctic Resilience Interim Report 2013*, Stockholm Environment Institute and Stockholm Resilience Centre, Stockholm, Sweden

D Lisolle *SADC Policy Paper on Climate Change: Assessing the Policy Options for SADC Member States*, SADC Research and Policy Paper Series (01/2012) 18, SADC Policy Analysis and Dialogue Programme

GL Jonas Capoco *Trade and Climate Change: The Environment from Developmental and Economic Perspective in Southern African Development Community (SADC)*, Working Paper Series (2010-01), Trade & Industrial Policy Strategies (TIPS)

Intergovernmental Panel on Climate Change Working Group II Assessment Report 5: *Climate Change: Impacts, Adaptation and Vulnerability, Summary for Policymakers*, 31 March 2014

IPCC 2012: *Managing the risks of Extreme Events and Disasters to Advance Climate Change adaptation Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change* [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Ignore, and P.M. Midgley (eds.)], Cambridge University Press, Cambridge, UK and New York, USA

Lizazi Eugene Libebe *Climate Change in Perspective: Is Namibia Doing Enough?* (2013) *Dissertation submitted in partial fulfilment of the requirements for the Degree of Bachelors of Laws of University of Namibia* (Unpublished)



Masego Madzwamuse *Climate Change Vulnerability and Adaptation Preparedness in South Africa* (2010), Heinrich Boll Stiftung Southern Africa

Penny, Urquhart et al. *SARUA Climate Change Counts Mapping Study: Strengthening University Contributions to Climate Compatible Development in Southern Africa, Volume 1: Knowledge Co-production Framework* (May 2014) Southern African Regional Universities Association (SARUA)

R Richards 'Assessing Progress on Climate Change Policy and Practice: Observations for South Africa and SADC' (2008) *Policy: Issues and Actors* 21(Issue:1) 12

Robin Mearns & Andrew Norton (eds) *Social Dimensions of Climate Change: Equity and Vulnerability in A Warming World* (2010) World Bank, Washington DC

T Young et al *Climate Change and Health in the SADC Region: Review of the current state of knowledge* (2010) 7 Southern Africa Regional Climate change Programme, Centre for Occupational and Environmental Health Research

Williams R. Travis *Extreme Events as a Pacemaker of Adaptation to Climate Change, Adaptation Futures: 2012 International Conference on Climate Adaptation*, (2012) Department of Geography and Centre for Science and Technology Policy Research, Cooperative Institute for Research in Environmental Sciences, University of Colorado at Boulder, Tucson, AZ

## **BOOKS**

A Zahar, J Peel & L Godden *Australian Climate Law in Global Context* (2013) Cambridge University Press, Cambridge

A Zia *Post-Kyoto Climate Governance: Confronting the politics of scale, ideology, and knowledge* (2013) Routledge Taylor & Francis Group, London and New York

AE Boyce & MR Anderson (eds) *Human Rights Approaches to Environmental Protection* (1996) Oxford University Press, Oxford

CP Carlarne *Climate Change Law and Policy: EU and US Approaches* (2010) Oxford University Press, Oxford New York

JF Feenstra et al (eds) *A Handbook for Climate Change Impact Assessment and Adaptation Strategies* (1998), Institute for Environmental Studies, United Nations Environment Programme, Vrije Universiteit Amsterdam

M Pelling *Adaptation to Climate Change: From Resilience to Transformation* (2010) Routledge, Oxford, UK

MR Redclift & M Grasso (eds) *Handbook on Climate Change and Human Security* (2013) Edward Elgar Publishing Inc, UK

R Richards *Assessing Progress on Climate Change Policy and Practice: Observations for South Africa and SADC* (2008) 21(1) Policy: Issues and Actors, Centre for Policy Studies, Johannesburg

RW Hahn and A Ulph (eds) *Climate Change and Common Sense: Essays in Honour of Tom Schelling* (2012) Oxford University Press, New York

S Humphreys (ed) *Human Rights and Climate Change* (2010) Cambridge University Press, UK

Siobhan McInerney-Lankford, Mac Darrow & Lavanya Rajamani *Human Rights and Climate change: A Review of the International Legal Dimensions* (2011), A World Bank Study, World Bank, Washington D.C

Thomas Daniels, Cousins *A Climate of Trust: Exploring Adaptation Policy* (2003), *Research Paper submitted in partial fulfillment of the requirements of the Degree of Master of Philosophy in Environmental Management, University of Cape Town*

## CHAPTERS IN BOOKS

AB Rumsey & ND King *Climate Change: Impacts, Adaptation, and Mitigation; Threats and Opportunities*, in H A Strydom & N D King *Environmental Law in South Africa Second Edition* (2009) Juta Law, Cape Town

Alet, Louw *The Balancing of Interests in Environmental Law in Namibia*, in Michael Faure & Willemien du Plessis (eds) *The Balancing of Interests in Environmental Law in Africa* (2011) Pretoria University Law Press Cape Town

Ariranga G. Pillay *Economic, Social and Cultural Rights and Climate Change*, in Oliver C. Ruppel, Christian Roschmann & Katharina Ruppel-Schlichting (eds) *Climate Change: International Law and Global Governance, Volume I: Legal Responses and Global Responsibility* (2013), NomosVerlagsgesellschaft, Germany

David, Anthoff & Richard JS Tol *Schelling's Conjecture on Climate and Development*, in RW Hahn and A Ulph (eds) *Climate Change and Common Sense: Essays in Honour of Tom Schelling* (2012) Oxford University Press, New York

Dennis, Tanzler & Alexander, Carius *Beyond International Climate Negotiations: Climate Diplomacy from a Foreign Perspective*, in Oliver C. Ruppel, Christian Roschmann & Katharina Ruppel-Schlichting (eds) *Climate Change: International Law and Global Governance, Volume II: Policy, Diplomacy and Governance in a Changing Environment* (2013) NomosVerlagsgesellschaft, Germany

Donald R. Nelson 'Transforming the world', in WN Adger, I Lorenzoni & KL O'Brien (eds) *Adapting to Climate Change: Thresholds, Values and Governance* (2009) Cambridge University Press, Cambridge New York

Gina, Ziervogel & Anna, Taylor *Integrating Climate Change Information within Development and Disaster Management Planning: Lessons from Malawi, Mozambique and Zambia*, in Ryo Fujikura and Masato Kawanishi (eds) *Climate Change Adaptation and International Development: Making Development*

*Cooperation More Effective* (2011) JICA Research Institute earthscan London Washington, DC

Isaac, Mapaire *Climate Change: Review of Climate Change in Namibia: Projected Trends, Vulnerability and Effects*, in OC Ruppel & K Ruppel-Schlichting (eds) *Environmental Law and Policy in Namibia: Towards Making Africa the Tree of Life* Fully Revised 2ed (2013) Orumbonde Press, Windhoek

Ian, Burton, Joel B. Smith, & Stephanie, Lenhart *Adaptation to Climate Change: Theory and Assessment*, in Jan F. Feenstra, Ian Burton, Joel B. Smith, & Richard S.J. Tol (eds) *Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies* (1998), United Nations Environmental Programme Institute of Environmental Studies, Vrije Universiteit Amsterdam

J Brunnee *Climate Change and Compliance and Enforcement Processes*, in R Rayfuse & SV Scott (eds) *International Law in the Era of Climate Change* (2012) Edward Elgar Publishing Ltd, Cheltenham

J Dugard, AL St. Clair & S Gloppen *Climate Talk: Rights, Poverty and Justice – Introduction*, in J Dugard, AL St. Clair & S Gloppen *Climate Talk: Rights, Poverty and Justice* (eds) (2013) Juta & Co. Ltd, Cape Town

Jan, Glazewski & Oliver C. Ruppel *International Environmental Law*, in J Glazewski and L du Toit (eds) *Environmental Law in South Africa* Loose-Leaf Edition (Issue 1) (2013) LexisNexis, Cape Town

Jan, Glazewski & Louise, du Toit *International Climate Change Law*, in Jan Glazewski and Louise du Toit (eds) *Environmental Law in South Africa* Loose-Leaf Edition (Issue 1) (2013) LexisNexis, Cape Town

K Flottum & O Gjerstad *The Role of Social Justice and Poverty in South Africa's National Climate Change Response White Paper*, in J Dugard, AL St. Clair & S Gloppen *Climate Talk: Rights, Poverty and Justice* (eds) (2013) Juta & Co. Ltd, Cape Town

Kristie L. Ebi & Ian, Burton '*Dangerous Anthropogenic Climate Change from the Perspective of Adaptation*' (2013) 734, in Oliver C. Ruppel, Christian Roschmann & Katharina Ruppel-Schlichting (eds) *Climate Change: International Law and Global Governance, Volume II: Policy, Diplomacy and Governance in a Changing Environment* (2013), NomosVerlagsgesellschaft, Germany

L Kandjinga, J Smith & J Zeidler *Economic and Trade Barriers to Climate Change Adaptation: Namibia Country Study*, in Lesley Masters & Lyndsey Duff (eds) *Overcoming Barriers to Climate Change Adaptation Implementation in Southern Africa* (2011), African Books Collective, South Africa

Louis J. Kotze *Environmental Governance*, in Alexander Paterson & Louis J. Kotze (eds) *Environmental Compliance and Enforcement in South Africa: Legal Perspectives* (2009) JUTA Law, Cape Town

M Goulden et al. *Assessing diversification, networks and traditional resource management as adaptations to climate extremes*, in WN Adger, I Lorenzoni & KL O'Brien (eds) *Adapting to Climate Change: Thresholds, Values and Governance* (2009) Cambridge University Press, Cambridge New York

Margaux J. Hall & David C. Weiss *Climate Change Adaptation and Human Rights: An Equitable View*, in Oliver C. Ruppel, Christian Roschmann & Katharina Ruppel-Schlichting (Eds) *Climate Change: International Law and Global Governance, Volume I: Legal Responses and Global Responsibility* (2013), NomosVerlagsgesellschaft, Germany

Margaux J. Hall & David C. Weiss *Climate Change Adaptation and Human Rights: An Equitable View*, in Oliver C. Ruppel, Christian Roschmann & Katharina Ruppel-Schlichting (eds) *Climate Change: International Law and Global Governance, Volume I: Legal Responses and Global Responsibility* (2013) NomosVerlagsgesellschaft, Germany

MB Gerrard *Introduction and Overview*, in MB Gerrard & KF Kuh (eds) *The Law of Adaptation to Climate Change: U.S. and international Aspects* (2012) ABA Publishing, Chicago

Nadia, von Bassewitz *International Climate Change Policy and Legislation; Where Do We Stand?*, in OC Ruppel & K Ruppel-Schlichting (eds) *Environmental Law and Policy in Namibia: Towards Making Africa the Tree of Life Fully Revised 2ed* (2013) Orumbonde Press, Windhoek

OC Ruppel *Climate Change and Human Vulnerability in Africa*, in OC Ruppel & K Ruppel-Schlichting (eds) *Environmental Law and Policy in Namibia: Towards Making Africa the Tree of Life Fully Revised 2ed* (2013) Orumbonde Press, Windhoek

OC Ruppel *International Legal Climate Change Regimes and Climate Finance from a Southern African Perspective*, in OC Ruppel & K Ruppel-Schlichting (eds) *Environmental Law and Policy in Namibia: Towards Making Africa the Tree of Life Fully Revised 2ed* (2013) Orumbonde Press, Windhoek

Oliver C. Ruppel *Intersections of Law and Cooperative Global Climate Governance – Challenges in the Anthropocene*, in OC Ruppel, C Roschmann & K Ruppel-Schlichting (eds) *Climate Change: International Law and Global Governance, Volume I: Legal Responses and Global Responsibility* (2013) NomosVerlagsgesellschaft, Germany

Oliver C. Ruppel & Katharina Ruppel-Schlichting *Climate Change, Human Security and Regional Integration in SADC*, in OC Ruppel, C Roschmann & K Ruppel-Schlichting (eds) *Climate Change: International Law and Global Governance, Volume I: Legal Responses and Global Responsibility* (2013), NomosVerlagsgesellschaft, Germany

Oliver C. Ruppel *Climate Change Law and Policy Positions in the African Union and Related Developments in Selected African Countries*, in Oliver C. Ruppel, Christian Roschmann & Katharina Ruppel-Schlichting (eds) *Climate Change: International*

*Law and Global Governance, Volume II: Policy, Diplomacy and Governance in a Changing Environment* (2013), NomosVerlagsgesellschaft, Germany

P Chynoweth *Legal Research*, in A Knight & L Ruddock (eds) *Advanced Research Methods in the Built Environment* (2008), Blackwell Publishing Ltd, United Kingdom

P Romina & JD Taillant (eds) *Linking Human Rights and the Environment* (2003), University of Arizona Press, Tucson

Richard JT. Klein & Annett, Mohner *Governance limits to effective global financial support for adaptation*, in WN Adger, I Lorenzoni & KL O'Brien (eds) *Adapting to Climate Change: Thresholds, Values and Governance* (2009), Cambridge University Press, Cambridge New York

Robert, Mendelsohn *Development and Climate Adaptation*, in RW Hahn and A Ulph (eds) *Climate Change and Common Sense: Essays in Honour of Tom Schelling* (2012) Oxford University Press, New York

Romy, Chevallier *Political Barriers to Climate Change Adaptation Implementation in SADC*, in Lesley Masters & Lyndsey Duff (eds) *Overcoming Barriers to Climate Change Adaptation Implementation in Southern Africa* (2011), African Books Collective, South Africa

S Humphreys *Climate Change and International Human Rights law*, in R Rayfuse & SV Scott (eds) *International Law in the Era of Climate Change* (2012), Edward Elgar Publishing Ltd, Cheltenham

Sheila, Kiratu *Economic Barriers to Climate Change Adaptation Implementation in SADC*, in Lesley Masters & Lyndsey Duff (eds) *Overcoming Barriers to Climate Change Adaptation Implementation in Southern Africa* (2011), African Books Collective, South Africa

Siri, Gloppen & Asuncion, Lera St. Clair *Climate Change Lawfare*, in Oliver C. Ruppel, Christian Roschmann & Katharina Ruppel-Schlichting (eds) *Climate Change: International Law and Global Governance, Volume II: Policy, Diplomacy*

and *Governance in a Changing Environment* (2013), NomosVerlagsgesellschaft, Germany

Susanne C. Moser *Whether our levers are long enough and the fulcrum strong? Exploring the soft underbelly of adaptation decisions and actions*, in WN Adger, I Lorenzoni & KL O'Brien *Adapting to Climate Change: Thresholds, Values and Governance* (2009) Cambridge University Press, Cambridge New York

T Obokata *Analysis of Climate Change from a Human Rights Perspective*, in S Farrall, T Ahmed and D French (eds) *Criminological and Legal Consequences of Climate Change* (2012), Onati International Series in Law and Society, Hart Publishing, Oxford and Portland Oregon

Timothy J. Finan & Donald R Nelson *Decentralised planning and climate adaptation: toward transparent governance*, in WN Adger, I Lorenzoni & KL O'Brien (eds) *Adapting to Climate Change: Thresholds, Values and Governance* (2009) Cambridge University Press, Cambridge New York

U Cubasch et al *Introduction*, In T Stocker et al (eds) *Climate Change: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (2013), Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

Willemien, Viljoen *Addressing Climate Change Issues in Eastern and Southern Africa: the EAC, COMESA, SADC, and the TFTA*, in Trudi Hartzenberg et al *Cape to Cairo: Exploring the Tripartite FTA Agenda* (2013), Trade Law Centre, Nairobi

## ARTICLES

Andrew, Newsham J & David, Thomas SG 'Knowing Farming and Climate Change Adaptation in North-Central Namibia' (2011) 21 *Global environmental Change* 761-770

Aminzadeh, Sarah 'A moral imperative: The human rights implications of climate change' (2007) 30 *Hastings international and Comparative LJ* 231



Ervin, Jamison '*Integrating Protected Areas into Climate Planning*' (2011)12(1) *Biodiversity* 5

Frumkin H & McMichael AJ '*Climate Change and Public Health: thinking, communicating, acting*' (2008) 5 *American Journal of Preventative Medicine* 35

Jan, McDonald '*The Role of Law in Adapting to Climate Change*' (2011) 2(2) *Wiley Interdisciplinary Reviews: Climate Change* 283-295

Jonas, Obonye '*A human rights approach to climate change in Africa: Challenges and prospects*' (2012) 2(1) *SADCLJ* 82-3

Lazarus, Richard J '*Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*' (2009) 94 *Cornell LR* 1159

Lubbe, Niel and Barnard, Michelle '*Climate change as a common concern: Challenges and opportunities for lawmaking in SADC*' (2012) 2(1) *SADCLJ* 37

Lukas, Knott '*How to Reboot the SADC Tribunal: A European Perspective*' (2012) 2(2) *SADCLJ*

Brooks N, Grist N & Brown K '*Development Futures in the Context of Climate Change; Challenging the present and learning from the past*' (2009) 27 *Development Policy Review*

Neil, Adger W et al '*Cultural Dimensions of Climate Change Impacts and Adaptation*' (2013) 3 *Nature Climate Change* 122

Ruppel OC '*Climate change policy positions and related developments in the AU and SADC*' (2012) 2 (1) *SADCLJ*

Ruppel OC '*SADC Environmental Law and the Promotion of Sustainable Development*' (2012) 2 (2) *SADCLJ*

Richard, Tol SJ, Samuel, Frankhauser & Joel, Smith B 'The Scope for Adaptation to Climate Change: What can we learn from the impact literature?' (1988) 8(2) *Global Environmental Change*, Elsevier Science Ltd

Scholtz, Werner 'The promotion of regional environmental security and Africa's common position on climate change' (2010) 10 *AHRLJ* 1-25

Park SE et al 'Informing Adaptation Responses to Climate Change through Theories of Transformation' (2012) *Global Environmental Change* 115

Neil, Adger W et al 'Successful Adaptation to Climate Change Across Scales' *Global Environmental Change* 15 (2005) 77-86

Lubbe WD 'Straddling borders and Legal Regimes: The case for cooperative transfrontier biodiversity conservation in the Southern African Development Community' (2007) 18(1) *YIEL* 126-152

Yemi, Oke 'Sub-Saharan Africa and Climate Change: Revisiting the "Multiple Stresses" Factor and Adaptation Strategies of ECOWAS and SADC Zones' (2013) 3(1) *SADCLJ*

## WEBSITES

- Adaptation Fund, available at [https://unfccc.int/cooperation\\_and\\_support/financial\\_mechanism/adaptation\\_fund/items/3659.php](https://unfccc.int/cooperation_and_support/financial_mechanism/adaptation_fund/items/3659.php), accessed 20 July 2014
- African Development Bank Group: Climate Change Action Plan 2011-2015, available at <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Climate%20Change%20Action%20Plan%20%28CCAP%29%202011-2015.pdf>, accessed 21 July 2014
- Bank Group Climate Risk Management and Adaptation Strategy, available at <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy->

*Documents/Climate%20Risk%20Management%20and%20Adaptation%20Strategy%20\_CRMA\_%20%282%29.pdf*, accessed 21 July 2014

- Climate Change Adaptation in SADC: A Strategy for the Water Sector (2001) 1, available at [http://www.sadc.int/files/2213/5293/3544/SADC\\_Climate\\_Change\\_Adaptation\\_for\\_the\\_Water\\_Sector\\_booklet.pdf](http://www.sadc.int/files/2213/5293/3544/SADC_Climate_Change_Adaptation_for_the_Water_Sector_booklet.pdf), accessed 5 April 2014
- Climate Change is a Wicked Problem: Responding to wicked problems, Available at <http://chrisriedy.me/2013/05/29/climate-change-is-a-super-wicked-problem/> accessed 22 April 2014
- Climate Finance, available at [https://unfccc.int/cooperation\\_and\\_support/financial\\_mechanism/items/2807.php](https://unfccc.int/cooperation_and_support/financial_mechanism/items/2807.php), accessed 20 July 2014
- Climate Finance: Nurturing Africa's Green Growth, available at [http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Climate\\_Finance\\_Bimonthly\\_Newsletter\\_-\\_Issue\\_N\\_26\\_-\\_May-July\\_2014.pdf](http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Climate_Finance_Bimonthly_Newsletter_-_Issue_N_26_-_May-July_2014.pdf), accessed 21 July 2014
- Climate for Development in Africa Initiative, available at <http://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/climate-for-development-in-africa-climdev-africa-initiative/climate-change/>, accessed 21 July 2014
- *Cultural Dimensions of Climate Change are Underestimated, Overlooked and Misunderstood*, Available at <http://phys.org/news/2012-11-cultural-dimensions-climate-underestimated-overlooked.html>, accessed 30 June 2014
- 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, available at [http://unfccc.int/key\\_steps/cancun\\_agreements/items/6132.php](http://unfccc.int/key_steps/cancun_agreements/items/6132.php), accessed 7 April 2014

- Decision 2/CP.15 Copenhagen Accord (2009) 5-6, available at <http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf>, accessed 30 November 2014
- Decisions adopted by the COPs in Durban 2011, available at <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>, accessed 10 April 2014
- Department of Environmental Affairs: Governance of Climate Change in South Africa, available at [https://www.environment.gov.za/sites/default/files/docs/climate\\_change\\_governance.pdf](https://www.environment.gov.za/sites/default/files/docs/climate_change_governance.pdf), accessed 20 June 2014
- Ervin Jamison 'Integrating Protected Areas into Climate Planning' (2011) 12(1) *Biodiversity* 5, available at <http://www.tandfonline.com/doi/full/10.1080/14888386.2011.564850#.U70NByfMuW8>, accessed 14 June 2014
- Fifteenth Southern Africa Regional Climate Outlook Forum, available at [https://www.wmo.int/pages/mediacentre/news/documents/sadc\\_en.pdf](https://www.wmo.int/pages/mediacentre/news/documents/sadc_en.pdf), accessed 14 June 2014
- FOCUS: Climate Finance, available at [https://unfccc.int/focus/climate\\_finance/items/7001.php](https://unfccc.int/focus/climate_finance/items/7001.php), accessed 20 July 2014
- *From Fragibility to Resilience: Managing Natural Resources in Fragile States in Africa* (2014) 16, available at [http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/From\\_Fragility\\_to\\_Resilience\\_-\\_Managing\\_Natural\\_Resources\\_in\\_Fragile\\_States\\_in\\_Africa\\_-\\_Summary\\_Report.pdf](http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/From_Fragility_to_Resilience_-_Managing_Natural_Resources_in_Fragile_States_in_Africa_-_Summary_Report.pdf), accessed 21 July 2014
- G Manase *Impact of Climate Change on Water in Southern Africa: Documentation of Research on Climate Change and Water Resources in Southern Africa*, Water and Sanitation for Development Council for Scientific

and Industrial Research the Danish Water Forum at 6, available at [http://www.ddrn.dk/filer/forum/File/SADC\\_CC\\_Background\\_report\\_water\\_Feb\\_09.pdf](http://www.ddrn.dk/filer/forum/File/SADC_CC_Background_report_water_Feb_09.pdf), accessed 20 June 2010

- *Government of the Republic of Namibia: National Policy on Climate Change for Namibia*, available at [http://www.met.gov.na/AAP/Downloads/National%20Policy%20on%20Climate%20Change%20for%20Namibia%202011\\_compressed.pdf](http://www.met.gov.na/AAP/Downloads/National%20Policy%20on%20Climate%20Change%20for%20Namibia%202011_compressed.pdf), accessed 20 June 2014
- Green Climate Fund, available at <http://www.gcfund.org/about-the-fund/mandate-and-governance.html>, accessed 20 July 2014
- International Union for the Conservation of Nature, available at [http://www.iucn.org/about/union/commissions/sustainable\\_use\\_and\\_livelihoods\\_specialist\\_group/sulinews/issue\\_8/sn8\\_transfrontierconservation/](http://www.iucn.org/about/union/commissions/sustainable_use_and_livelihoods_specialist_group/sulinews/issue_8/sn8_transfrontierconservation/) accessed, 15 June 2014
- MET Namibia, available at <http://www.met.gov.na/Directorates/EnviroAffairs/Pages/DEAMainPage.aspx>, accessed, 20 June 2014
- Miwa Kato *The Cancun Adaptation Framework Pre-event on Early Warning Third Global Platform for Disaster Risk Reduction Adaptation Subprogramme UNFCCC Secretariat*, (2011), available at [http://www.preventionweb.net/files/globalplatform/entry\\_presentation~microsofftpresentationunfcccpreeventew.pdf](http://www.preventionweb.net/files/globalplatform/entry_presentation~microsofftpresentationunfcccpreeventew.pdf), accessed 10 April 2014
- Namibia Initial National Communication to the UNFCCC, available at <http://unfccc.int/resource/docs/natc/namnc1.pdf>, accessed 20 June 2014
- Namibia Second National Communication to the UNFCCC, available at <http://unfccc.int/resource/docs/natc/namnc2.pdf>, accessed 20 April 2014
- National Climate Change Response Strategy, available at [https://unfccc.int/files/meetings/seminar/application/pdf/sem\\_sup3\\_south\\_africa.pdf](https://unfccc.int/files/meetings/seminar/application/pdf/sem_sup3_south_africa.pdf), accessed 20 June 2014

- National Planning Commission: *National Development Plan* (2011), available at <http://www.npconline.co.za/medialib/downloads/home/NPC%20National%20Development%20Plan%20Vision%202030%20-lo-res.pdf>, accessed 25 June 2014
- National Policy on Climate Change for Namibia, available at [http://www.undp-alm.org/sites/default/files/downloads/namibia\\_nationalclimatechangepolicyfor\\_namib.pdf](http://www.undp-alm.org/sites/default/files/downloads/namibia_nationalclimatechangepolicyfor_namib.pdf), accessed 20 June 2014
- Proposals for a Clean Energy Investment Framework for Africa: Role of the African Development Bank Group, Final version, available at <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/10000025-EN-PROPOSALS-FOR-A-CLEAN-ENERGY-INVESTMENT-FRAMEWORK-FOR-AFRICA.PDF>, accessed 21 July 2014
- Proposed Climate Change Strategy and Action Plan for Namibia, available at <http://www.met.gov.na/Documents/Proposed%20Climate%20Change%20Policy.pdf>, accessed 20 June 2014
- Regional Vulnerability Assessment and Analysis Programme, available at <http://www.sadc.int/sadc-secretariat/directorates/office-deputy-executive-secretary-regional-integration/food-agriculture-natural-resources/regional-vulnerability-assessment-analysis-programme-rvaa/>, accessed 22 July 2014
- Report on the Status of Disaster Risk Reduction in Sub-Saharan Africa 2010, available at <http://www.gfdr.org/sites/gfdr.org/files/publication/AFR.pdf>, accessed 20 June 2014.
- Report on the Status of Disaster Risk Reduction in Sub-Saharan Africa 2010, available at <http://www.gfdr.org/sites/gfdr.org/files/publication/AFR.pdf>, accessed 20 June 2014.
- SADC Climate Services Centre 2011: *Drought Risk Management in Southern Africa: Africa-Asia Drought Adaptation Forum*, available at

<http://web.undp.org/drylands/docs/drought/AADAF1/1.7.Garanganga.pdf>,  
accessed 14 June 2014

- SADC Climate Services Centre, available at <http://www.sadc.int/sadc-secretariat/services-centres/climate-services-centre/>, accessed 10 June 2014
- SADC Disaster Risk Management, available at <http://www.sadc.int/themes/disaster-risk-management/>, accessed 20 June 2014
- SADC Drought Monitoring Centre, available at <http://www.eldis.org/go/home&id=6727&type=Organisation#.U7v2gCfMuW8>, accessed 14 June 2014
- SADC Protocol on Energy, [http://www.sadc.int/files/3913/5292/8363/Protocol\\_on\\_Energy1996.pdf](http://www.sadc.int/files/3913/5292/8363/Protocol_on_Energy1996.pdf), accessed 15 June 2014.
- SADC Protocol on Energy, available at [http://www.sadc.int/files/3913/5292/8363/Protocol\\_on\\_Energy1996.pdf](http://www.sadc.int/files/3913/5292/8363/Protocol_on_Energy1996.pdf), accessed 15 June 2014
- SADC Protocol on Forestry, available at <http://www.fire.uni-freiburg.de/GlobalNetworks/Africa/Protocol%20on%20Forestry.pdf>, accessed 15 June 2014
- SADC Protocol on Health, available at <http://www.ifrc.org/docs/IDRL/Southern%20African%20Development%20Community.pdf>, accessed 15 June 2014
- SADC Protocol on Mining, available at [http://www.sadc.int/files/3313/5292/8366/Protocol\\_on\\_Mining.pdf](http://www.sadc.int/files/3313/5292/8366/Protocol_on_Mining.pdf), accessed 18 June 2014
- SADC Regional Biodiversity Strategy, available at [http://www.sadc.int/files/1213/5293/3516/SADC\\_Regional\\_Biodiversity\\_Strategy.pdf](http://www.sadc.int/files/1213/5293/3516/SADC_Regional_Biodiversity_Strategy.pdf), accessed 14 June 2014

- SADC Regional Indicative Strategic Development Plan, available at [http://www.sadc.int/files/5713/5292/8372/Regional\\_Indicative\\_Strategic\\_Development\\_Plan.pdf](http://www.sadc.int/files/5713/5292/8372/Regional_Indicative_Strategic_Development_Plan.pdf), accessed 10 June 2014
- SADC Regional Indicative Strategic Development Plan, available at [http://www.sadc.int/files/5713/5292/8372/Regional\\_Indicative\\_Strategic\\_Development\\_Plan.pdf](http://www.sadc.int/files/5713/5292/8372/Regional_Indicative_Strategic_Development_Plan.pdf), accessed 20 March 2014
- SADC Revised Protocol on Shared Watercourses [http://www.sadc.int/files/3413/6698/6218/Revised\\_Protocol\\_on\\_Shared\\_Watercourses\\_-\\_2000\\_-\\_English.pdf](http://www.sadc.int/files/3413/6698/6218/Revised_Protocol_on_Shared_Watercourses_-_2000_-_English.pdf), accessed 18 June 2014
- SADC Revised Protocol on Shared Watercourses, available at [http://www.sadc.int/files/3413/6698/6218/Revised\\_Protocol\\_on\\_Shared\\_Watercourses\\_-\\_2000\\_-\\_English.pdf](http://www.sadc.int/files/3413/6698/6218/Revised_Protocol_on_Shared_Watercourses_-_2000_-_English.pdf), accessed 18 June 2014
- SADC Treaty, available at [http://www.sadc.int/files/9113/5292/9434/SADC\\_Treaty.pdf](http://www.sadc.int/files/9113/5292/9434/SADC_Treaty.pdf), accessed 10 June 2012.
- SANBI Climate Change Adaptation in South Africa, available at <http://www.sanbi.org/biodiversity-science/state-biodiversity/climate-change-and-bioadaptation-division/national-impleme-1>, accessed 25 June 2014
- Sixteenth Southern Africa Regional Climate Outlook Forum, available at <http://www.sadc.int/documents-publications/show/1306>, accessed 14 June 2014
- Statement from SARCOF-17, Available at [http://www.sadc.int/files/5913/7846/2156/SARCOF\\_17\\_Statement\\_Final300813.pdf](http://www.sadc.int/files/5913/7846/2156/SARCOF_17_Statement_Final300813.pdf), accessed 14 June 2014
- Statement from SARCOF-17, available at [http://www.sadc.int/files/5913/7846/2156/SARCOF\\_17\\_Statement\\_Final300813.pdf](http://www.sadc.int/files/5913/7846/2156/SARCOF_17_Statement_Final300813.pdf), accessed 14 June 2014
- Stern Review: *The Economics of Climate Change*, available at <http://siteresources.worldbank.org/INTINDONESIA/Resources/226271->



*1170911056314/3428109-1174614780539/SternReviewEng.pdf*, accessed 10 June 2014

- The Bali Action Plan, available at *http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf*, accessed 10 April, 2014
- The Cancun Adaptation Framework, available at *http://unfccc.int/adaptation/items/5852.php*, accessed 7 April 2014
- The Constitutive Act of the African Union, available at *http://www.peaceau.org/uploads/au-act-en.pdf*, accessed 10 April 2014
- The Costs to Developing Countries of Adapting to Climate Change: New Methods and Estimates, The Global Report of the Economics of Adaptation to Climate Change Study, available at *http://siteresources.worldbank.org/INTCC/Resources/EACCRReport0928Final.pdf*, accessed 20 July 2014
- The Kyoto Protocol to the United Nations Framework Convention on Climate Change, available at *http://unfccc.int/resource/docs/convkp/kpeng.pdf*, accessed 2 April 2014
- The New Partnership for Africa's Development, available at *http://www.nepad.org/system/files/framework\_0.pdf*, accessed 15 April 2014
- The Tripartite Agreement, available at *http://www.comesa.int/index.php?option=com\_content&view=article&id=306:tripartite-agreement*, accessed 21 June 2014
- Treaty of the Southern African Development Community, available at *http://www.sadc-tribunal.org/*, accessed 20 July 2014
- Tripartite Agreement signed for the joint implementation of climate change programme, available at *http://www.comesa.int/index.php?view=article&catid=5%3Alatest-news&id=306%3Atripartite-agreement-signed-for-joint-implementation-of-*

*climate-change-programme&format=pdf&option=com\_content*, accessed 21 June 2014

- United Nations Framework Convention on Climate Change, available at *http://unfccc.int/resource/docs/convkp/conveng.pdf*, accessed 2 April 2014
- UNDP Human Development Report (1994) 22-41, available at *http://hdr.undp.org/sites/default/files/reports/255/hdr\_1994\_en\_complete\_nostats.pdf*, accessed 30 November 2014.
- World Development Report (2010), available at *http://siteresources.worldbank.org/INTWDRS/Resources/477365-1327504426766/8389626-1327510418796/Chapter-6.pdf* , accessed 20 July 2014
- World Development Report (2010), available at *http://siteresources.worldbank.org/INTWDRS/Resources/477365-1327504426766/8389626-1327510418796/Chapter-6.pdf* , accessed 20 July 2014.