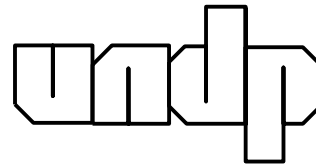




**Government of the
Republic of Namibia**
Ministry of Environment and Tourism
Directorate of Environmental Affairs



**United Nations
Development Programme**

Namibia's National Assessment

for the

**World Summit on Sustainable
Development
2002**

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ABBREVIATIONS, ACRONYMS AND TERMS USED IN THIS DOCUMENT

Agenda 21	The set of principles to guide sustainable development that emerged at the Rio Earth summit in 1992. Chapter 36 of Agenda 21 – focuses on the need to: <i>re-orientate education towards sustainable development, increase public sensitivity to environment and development problems, foster a sense of personal environmental responsibility and commitment towards sustainable development, and promote and strengthen training.</i>
BCLME	The Benguela Current Large Marine Ecosystem programme
BENEFIT	The Benguela Environment Fisheries Interaction and Training programme
BTP	Build Together Programme
CBD	The United Nations Convention on Biodiversity
CBNRM	Community Based Natural Resource Management.
CBO	Community Based Organisations
CCF	Cheetah Conservation Fund
CRM	Community Resource Management
DEA	Directorate of Environmental Affairs
D F	Directorate of Forestry
DFN	The Development Fund of Namibia
DRFN	The Desert Research Foundation of Namibia
DWA	Department of Water Affairs
EA	Environmental Assessment. All countries are subject to constant development demands and initiatives, most of which are politically driven or profit motivated EA, which provides decision makers with an indication of the likely social, environmental and economic consequences of any new policy, plan, programme or project is an essential tool to evaluate the development initiative against general principles of sustainability.
EE	Environmental education
EEZ	Exclusive Economic Zone
EIF	Environmental Investment Fund
EMA	Environmental Management Act
GDP	Gross Domestic Product
GIS	Global information systems
GMOs	Genetically Modified Organisms
GRN	Government of the Republic of Namibia
IBAs	Important Bird Areas
ICT	Information computer-based technology
ICZM	Integrated Coastal Zone Management
ICZMP	Integrated Coastal Zone Management Plan

¹ This document was compiled by *The Namibia Natural Resources Consortium* (Dr CJ Brown, Dr. PW Tarr, Mr G. Kozonguizi and Ms JG Tarr)

IMR	Infant Mortality Rates
IMSCLUP	Inter-Ministerial Committee for Land-use Planning
IRDNC	Integrated Rural Development and Nature Conservation
ISO	International Standards Organisation
LA 21	Local Agenda 21
LIFE	The <i>Living in a Finite Environment</i> programme, run by the WWF
LUEB	Land Use and Environmental Board
MAWRD	Ministry of Agriculture, Water and Rural Development
MEAs	Multinational Environmental Agreements
MET	Ministry of Environment and Tourism
MFMR	Ministry of Fisheries and Marine Resources
MHA	Ministry of Home Affairs
MHSS	Ministry of Health and Social Services
MLRR	Ministry of Lands, Resettlement and Rehabilitation
MME	Ministry of Mines and Energy
MoL	Ministry of Labour
MPCS	Ministry of Prisons and Correctional Services
MWACW	Ministry of Woman Affairs and Child Welfare
MWTC	Ministry of Works, Transport and Communication
NACOBTA	Namibia's Community Based Tourism Association
NACSO	Namibian Association of CBNRM Support Organizations
NAMPAB	Namibian Planning Advisory Board
Namport	Namibian Port Authority
NAPCOD	Namibia's Programme to Combat Desertification
NARREC	Namibia animal Rehabilitation, Research and Education Centre
NBRI	Namibia's Botanical Research Institute
NDC	National Development Corporation
NDP I	First National Development Plan (for the period 1995 –2000)
NDP II	Second National Development Plan (for the period 2000 –2005)
NDTF	National Drought Task Force
NEEN	Namibian Environmental Education Network
NEPRU	Namibia's Economic Policy and Research Unit
NGOs	Non governmental organisations
NHE	National Housing Enterprises
NNBTF	Namibia's National Biodiversity Task Force
NNF	Namibia Nature Foundation
NNRC	Namibia Natural Resource Consortium
NPC	National Planning Commission
NPCS	National Planning Commission Secretariat
NRA	Natural Resource Accounts
NSSD	National Strategy for Sustainable Development
Ramsar site	Wetland of recognised international importance (under the Ramsar Convention) especially as a waterfowl habitat
SARDEP	Sustainable Animal and Range Development Programme
SD	Sustainable Development - development that meets the needs of the present, without limiting the ability of future generations to meet their own needs. In order to pursue sustainable development, strategies that create a balance between social, economic and ecological needs should be adopted
SDA	Sustainable Development Accounts

SEA	Strategic Environmental Assessment – an EA on policies, plans, programmes
SIAPAC	Social Impact Assessment and Policy Analysis Corporation - Namibia
SoER	State of Environment Report
Sperrgebiet	The diamond area in southern Namibia.
SRT	Save the Rhino Trust
TAC	Total Allowable Catch
TEV	Total Economic Value –TEV embraces <i>direct use values</i> (income derived from actual use of natural resources - for example, income from fishing), <i>indirect use values</i> (the value of conserving/preserving a resource because of its indirect effect on direct use values – for example, the flood control value of a wetland) and <i>non-use values</i> (the values perceived in the preservation of a resource either for later use (the <i>option value</i>) or to hand down to future generations (<i>bequest value</i>) or just to know it's there (<i>existence value</i>))
UNAM	University of Namibia
UNCCD	The United Nations Convention to Combat Desertification
UNCED	The United Nations Conference on Environment and Development held in 1992. UNCED is generally referred to as the <i>Rio Earth Summit</i> .
UNDP	United Nations Development Programme
UNFCCC	United Nations Convention on Climate Change
<i>Veldkos</i>	Edible wild plants
WASCO	Water and Sanitation Committee
WASP	Water and Sanitation Policy
WHO/CTD	World Health Organisation, Division of Control of Tropical Diseases.
WSSD	World Summit for Sustainable Development
WTO	World Trade Organisation

INTRODUCTION

The United Nations Conference on Environment and Development (UNCED)

The United Nations Conference on Environment and Development (UNCED) held in Brazil in 1992 (also known as the Rio Earth Summit), marked the beginning of a new era in human history - one that heralded important shifts in thought and action regarding environmental issues. At UNCED governments formally adopted the concept of sustainable development, which is most often described as *“development that meets the needs of the present without limiting the ability of future generations to meet their own needs”*.

The World Summit on Sustainable Development (WSSD) and the purpose of this report

The World Summit on Sustainable Development (WSSD) to be held in Johannesburg, South Africa, in 2002 will mark the ten-year anniversary of the Rio Earth Summit. This provides an ideal opportunity for countries to review their progress in implementing sustainable development options. This document provides an assessment of Namibia’s progress since UNCED.

Public participation was called upon to help formulate and review this National Assessment. Four consultative workshops were held which brought together government, non-government, private sector, technical experts and interested parties. These workshops followed on from a year of intensive consultation for the development of Namibia’s second 5-year National Development Plan (for the period 2001 – 2006), Namibia’s Vision for the year 2030, a large number of field-based initiatives in all regions within Namibia supporting local empowerment, improved natural resource management and rural development, and the UNDP, in conjunction with the Ministry of Environment and Tourism (MET), organised National Preparatory Workshop for Rio +10 held in June 2001. As a result, this assessment report presents the consolidated views of a broad cross-section of Namibian society, including government (at national, regional and local levels) and civil society (urban and rural communities, non-governmental organisations, academic and training institutions and the private sector). Not all of it necessarily reflects the views of everyone, but in the interests of democracy, and in recognition of the fact that sustainable development is best pursued in an environment of open discussion and debate, the Government of the Republic of Namibia has decided that the report should fairly reflect both the achievements and the challenges – and achievements there have been, more so in the past 10 years than in the previous century of Namibia’s history.

The past 10-year review period since UNCED closely corresponds with the period of Namibia’s independence. Namibia had a particularly large challenge to face – not only to shift to a new paradigm of sustainable development, but also to overcome a 100-year history of colonialism and apartheid. It is often not fully appreciated just how large a social debt Namibia inherited as a result of the skewed development objectives of the past. This debt is evidenced by rural and urban poverty, huge disparities in income distribution, unequal access to land and natural resources, poor education, health and housing, and many other more subtle issues.

Even less well known is the vast environmental debt that Namibia inherited. The marine fisheries sector had partly collapsed in the 1970s through over-fishing, the productivity of the agricultural rangeland had shown a steady decline, as had biological diversity in large areas

of the country. Deforestation, overgrazing, soil erosion and declining water and wetland quality had become major issues of concern. These issues, in today's value, were costing Namibia well over N\$300 million per year in lost productivity.

It is not surprising that improving human health, education, living conditions, livelihoods and equity have been top policy priorities since Independence in 1990. These improvements are essential for ensuring national stability. Concurrently, a portfolio of environmental policies and programmes has been systematically introduced. These have all been prompted by a desire to pursue long-term social, ecological and economic national objectives rather than to fulfill the ideals of UNCED *per se*.

A. NATIONAL STRATEGIES FOR SUSTAINABLE DEVELOPMENT

1. THE PLANNING PROCESS FOR SUSTAINABLE DEVELOPMENT

After independence in 1990, Namibia became one of the first countries worldwide to incorporate an environmental and sustainable development clause within its National Constitution (Articles 95(l)). It complimented this clause by enabling its citizens to raise issues of environmental concern via the Office of the Ombudsman (Article 91 (c)). In 1992, through *Namibia's Green Plan*, the Government of the Republic of Namibia (GRN) created a national common vision for sustainable development. President Sam Nujoma formally tabled this document at UNCED, on behalf of the Republic of Namibia. The Green Plan led, in turn, to *Namibia's 12 Point Plan for Integrated and Sustainable Environmental Management*, a short strategic implementation document, which was tabled and adopted by Parliament in 1993. Namibia's portfolio of environmental programmes and projects arose from this process, and were designed as a complimentary and synergistic set of activities to address the country's environmental challenges and opportunities.

Based on the foundation laid by Namibia's Green Plan and the experience gained through implementing the suite of environmental and sustainable development projects and programmes, a focussed intervention was planned by the National Planning Commission in the Office of the President, in partnership with the Ministry of Environment and Tourism and other stakeholders, to fully incorporate environmental and sustainable development issues and options into the country's National Development Plan (NDP II – for the years 2001 to 2006). Sustainable Development philosophy and approaches have thus been mainstreamed at the heart of national development. In addition, Namibia's VISION for 2030 which fully embraces the idea of sustainable development aims to help guide the country's five-year development plans from NDP III through to NDP VII and, at the same time, provide direction to government ministries, the private sector, NGOs and local authorities.

The most recent National Development Plan (NDP II) and the Vision 2030 process conducted in 2001, have placed sustainable development at the heart of national planning.

2. STRENGTHS AND WEAKNESSES IN IMPLEMENTING THE PLANNING PROCESS

a) Organisational and management systems

Clarity of responsibilities and accountabilities regarding planning and implementation

Soon after independence, and immediately following UNCED, the Government of the Republic of Namibia created a new Directorate responsible for broad environmental leadership, the Directorate of Environmental Affairs (DEA) with the following mission: *to promote environmental protection, environmental planning and environmental coordination in support of sustainable and equitable use of natural resources and national development, and to protect the environment and human welfare from unsustainable, unhealthy and inappropriate practices.* This Directorate was placed within the Ministry of Wildlife and Tourism, at which point Cabinet decided to change the name of the Ministry to reflect its

broader mandate, to that of the Ministry of Environment and Tourism (MET). The DEA was charged with placing the outcomes of UNCED and the aims of Agenda 21 on the Namibian political agenda. This small Directorate is comprised of professional Ministry staff, contractors and consultants representing a broad range of disciplines, who work closely with other Government departments, NGOs, the private sector and community based organizations to try and meet the interrelated social, economic and ecological challenges associated with sustainable development.

While various government institutions have assumed a lead role in the implementation of the relevant Multinational Environmental Agreements, the multi-sectoral nature of most of the sub-issues that emanate from these agreements or aim to meet Namibia's sustainable development challenge, usually demand the co-operation of more than one agency.

An attempt to clarify the responsibilities and accountabilities regarding the implementation of certain sustainable development objectives was made during the preparation for NDPII and it is hoped that VISION 2030 will further elucidate these issues.

Adequacy and clarity of sustainable development management objectives

While reviving and sustaining economic growth, improving human health, education, living conditions and equity have justifiably been Namibia's top policy priorities since Independence, it is noteworthy that ecological sustainability is included as a priority issues within the objectives of national development. NDP II attempts to incorporate the most important issues relating to environment and sustainability into most of its objectives and strategies, however, the link between environment and development still requires more emphasis and must be acknowledged as a pivotal management objective – one that can play an important role in poverty reduction, sustaining economic growth and improving human well being.

Criteria for monitoring and evaluation

Government Ministries and departments have not yet developed specific criteria for rigorously monitoring progress towards meeting sustainable development objectives. Irregular monitoring, missing data and inadequate indicators make it extremely difficult to assess the impacts of policies and programmes. However, some isolated efforts to monitor and evaluate progress towards sustainable development are being made. These include:-

- A midterm evaluation of the NDP, to ascertain whether the objectives and targets for each sector are being implemented.
- UNDP publishes an annual National Human Development report for Namibia. These reports analyse the relevant indicators of human development and document specific development challenges, threats and opportunities facing the nation.
- The DEA's *INFOCOM programme* which is facilitating the production of thematic State of Environment Reports (SoERs) and the development of a comprehensive set of indicators to help monitor changes in the Namibian environment.
- Many national programmes, for example, Community-based Natural Resource Management (CBNRM), Namibia's Programme to Combat Desertification (NAPCOD), the Biodiversity Programme, undergo periodic reviews and are regularly evaluated against their objectives.

Openness to multistakeholder consultation

Since independence and UNCED there has been a noticeable shift from an oppressed colonial style of administration to a far more democratic approach – one that embraces multi-

stakeholder consultation and broad participation in various national debates. Good examples include the preparation of NDP II and Namibia's VISION for 2030 (which both involved a number of multistakeholder workshops) as well as extensive and ongoing rural participatory appraisal and planning processes throughout the country; the development of many new policies and laws; the widespread use of EA where public consultation is a mandatory requirement; local Agenda 21 initiatives; the devolution of rights and responsibilities over natural resources to community-based organisations (e.g. water point committees, conservancies); and the establishment of multi-stakeholder (GRN and NGO) steering committees to guide national programmes.

b) Institutional capacity

Clarity of mandates

Based on Article 95(1) of the National Constitution, the GRN has an obligation to promote sustainable development. The direction adopted by the GRN through the Green Plan, NDP II and Vision 2030 highlights this obligation and underlines the cross cutting issues and intersectoral nature of the sustainable development challenge.

Human resource capabilities

Namibia can be described as having a large civil service² with inadequate human capacity within central, regional and local governments. As a consequence:-

- There remains a high reliance on foreign technical experts and consultants who sometimes lack sufficient knowledge about the country and are committed to Namibia for only a few years.

Strength of strategic leadership

Strategic leadership in Namibia in the field of sustainable development is in its early stages of development.

- The development of NDP II and Vision 2030 are examples of how strategic leadership within Government has strengthened since independence. It is particularly important that this leadership be extended to key issues such as land-use planning and the problems relating to rapid urbanisation, which illustrate the need for integrated strategic thinking.
- The challenge of developing approaches to harmonise policies in different sectors is one that could be assisted by the integration of sustainable development issues within the national development planning process, but requires close monitoring.

Extent of inter-institutional co-operation and coherency

There have been many positive changes in the development of policies and plans within Namibia over the past 10 years. One of the largest challenges remains that of moving from a largely sectoral management regime to one of integrated and holistic planning. This applies not only within GRN, but also within and between all sectors of society. There is also an urgent need to find efficient and effective ways to implement the many new and generally innovative policies that have been developed over the past 10 years.

² Namibia's civil service increased from 46 000 employees at Independence to the current number of 81000. It is GRN's stated intension to considerably reduce the size of the civil service, but the immediate needs of reconciliation and retaining existing employees while at the same time bringing in new employees to create a representative balance of Namibian society within the civil service, and the need to cater for ex-combatants in the interests of national stability, has made it inevitable that there be a short-term increase in the size of the civil service.

c) Resourcing

The adequacy of the knowledge base

Large amounts of useful information have been gathered on Namibia's natural history and changing social, economic and ecological environments. Where there remain significant gaps in the knowledge base, much of the relevant knowledge that does exist is not widely shared, easily accessible nor well managed (Krugmann 2001 a). In addition, rapid modernisation threatens the survival of valuable indigenous knowledge - knowledge that is seldom recognised as providing any contribution to development, despite the fact that it is often better suited than Eurocentric approaches to conditions in Namibia. In the absence of intellectual property protection (through legislation and international agreements), valuable indigenous knowledge and local communities remain vulnerable to exploitation. Programmes and projects that are helping to address some of these issues include:

- Namibia's *Natural Resource Accounting (NRA) Programme*, which assesses the economic value of the country's natural resource capital. Information gleaned from this programme is used to help guide policies and improve the management of Namibia's natural resources.
- *SchoolNet Namibia* which aims to, *inter alia*, monitor and evaluate the impact of Information Computer-based Technology (ICT) use on education and create awareness and understanding of the potential of ICTs in education.
- *Numerous projects relating to Namibia's natural resources and natural environment* including: The quantitative assessment of woodland resources, biodiversity inventories and strategies, desertification and climate change monitoring, national aerial surveys and complimentary ground game counts, livelihoods monitoring, livestock and crop production monitoring, population census (most recently in 2001), water monitoring, drought and vulnerability monitoring, etc.

Technical resources

There has been steady progress in testing and applying technological solutions to sustainable development challenges in Namibia, including wind and solar energy, fuel efficient stoves, water saving devices, etc. Notwithstanding some of the developments discussed below, there is still ongoing testing, and a need to create appropriate incentives for enhancing commitment to introducing clean and environmentally appropriate technologies.

- The continued use of biomass fuel for an estimated 60% of all Namibians is a major cause of deforestation in the more heavily populated communal areas and the rapidly growing informal settlements on the outskirts of towns. Outlets for making and selling of wood efficient stoves have recently been established in Oshakati and Windhoek (NPC 2001 c).
- Renewable sources of energy were actively promoted during the 1990s by the MME, NGOs and donor agencies. In spite of these efforts, energy from renewable solar sources is considerably under-utilised and currently provides an insignificant 0.3% of the total energy consumed annually (NPC 2000 c). Practical, cost-efficient mechanisms exist for creating incentives to promote these issues, e.g. solar water heaters.
- The MME is currently testing the development of a small wind farm near Lüderitz to generate electric power that will be incorporated into the national grid.
- Some exciting zero emission projects have been proposed by municipalities, NGOs and the private sector. The University of Namibia's (UNAM) Integrated Bio System Project provides a good example.

- The extensive use of remote sensing and GIS technologies has helped to improve the knowledge base by assisting with vegetation biomass monitoring, veld fire scar mapping, the creation of geological maps and the monitoring of wildlife. Effective interfaces have been developed to create bridges between this high-level technology and rural community users.
- Water managers have made good progress in the artificial recharge of underground aquifers through the use of injection boreholes and settling basins that eliminate water losses from evaporation and counteract the environmental impacts associated with heavy abstraction during years of drought. Sophisticated water recycling is implemented, particularly during drought times, and desalination at the coast is under development.
- Satellite collaring is used to monitor the distribution and conservation status of certain threatened species found in Namibia, including elephants and Palaeartic migrants like lesser spotted eagles and Wahlbergs eagles
- Environmental Assessment, widely practiced in Namibia, is a powerful technical tool that enhances sustainable development by helping to reduce the damaging impacts of development activities while enhancing their contribution to social and economic upliftment.

Financial resources

Many options exist for increasing domestic investment in sustainable development, including several economic instruments (Box 1) and/or redirecting financial resources through macro-economic reforms. In the absence of adequate domestic investment, Agenda 21 initiatives need to be funded by aid or foreign investment.

- The various economic instruments mentioned in Box 1 have tremendous potential as tools for encouraging sustainable development. Namibia's policy environment now needs to be reviewed to take full advantage of these instruments and the findings that emerge there from.
- Since independence the GRN has increased its domestic investment in the social sectors – a vital investment needed to redress the inequalities suffered in the past. In addition, approximately half of Namibia's development assistance is used to finance human resources development. (NPC 2001 c). At the same time the amount of aid money that has been pledged for the natural resource sector has increased significantly since 1990 from 3.6% in 1990 to 17% in 1999.
- Funding for programmes directly associated with Multinational Environmental Agreements (MEAs) and Agenda 21 initiatives remain largely dependent on donor support. A mechanism to increase domestic support for these programmes is now a priority.

Box 1. Economic instruments that can be used to stimulate and finance sustainable development options (UNEP 1999).

Many economic instruments can be used to help finance sustainable development and/or discourage environmentally unfriendly practices that threaten human health and limit long-term economic prosperity. These economic instruments include:

- Introducing tax reforms and environmental taxes by taxing environmentally unfriendly or pollution generating imports and inappropriate land use practices;
- Reducing perverse subsidies that encourage environmentally unsound practices (for example the use of pesticides, water and coal);
- Providing loans, grants or subsidies that will encourage sustainable, environmentally friendly practices (for example: the use of solar and other renewable energy resources; drip-irrigation equipment that reduce the threat of soil salination, Integrated Pest Management practices instead of highly polluting pesticides);
- Creating “green” funds and environmental investment funds that can be used to help conserve and enhance the natural resource capital that supports the economy;
- Implementing strict “polluter pays” policies; and
- Providing bonds and deposit refund systems for sound forest management, land reclamation and rehabilitation of land that has suffered environmental impacts as a result of mining or other damaging land-use practices.

The adequacy of the social resources

- **Education.** Significant progress has been made since 1990, with increased investment in education, improved enrolment in schools (particularly for girls), smaller classes, improved levels of training of secondary school teachers, improved infrastructure, etc. However, because of the vast disparities of the past, now-where more pronounced than in the education systems, there is still considerable work to do in reaching targets of equity across the country. Regional inequalities are still evident and many rural schools still operate with inadequate facilities. Further public awareness of Agenda 21 and environmental issues is required to be integrated into the education system.
- **Health Services.** There has been a fundamental shift in health care, from an emphasis on curative health services to primary preventative health care. This resulted in a major improvement in the delivery of health care throughout the whole population. While access to health facilities and health education have improved considerably, and major gains have been made in reducing infant and child mortality, this progress is being increasingly challenged by the HIV/AIDS pandemic, which has had a devastating impact on life expectancy.
- **Water and sanitation.** At independence less than 50% of the rural population had adequate access to a reliable source of safe water. Since then the GRN has improved water supply to rural communities through the provision of new and the rehabilitation of existing boreholes and the development of pipelines. By 2000 an estimated 70% of the rural population had access to potable water.
 - Despite significant improvements in this regard, unimproved and/or unprotected sources of water remain a problem for an estimated 30% of rural Namibians and 2% of urban dwellers (in NPC 2000a).
 - In 1991 it was estimated that 10 % of the rural population and 85% of the urban population had acceptable sanitation facilities. By 2000 these figures had increased to 21% and 93% respectively (NPC 2000 a).
- **Housing.** There has been improved access to urban land and incentives to invest in, and develop land through the systematic proclamation of smaller towns and the adoption of the National Housing Policy. The self-help *Build Together Programme* (BTP) launched in 1992 provides low interest rate loans to individuals. BTP has managed to redress approximately 3% of Namibia’s housing backlog per annum.

- **Electricity provision to rural areas.** A rural electrification programme is being implemented, focusing on the larger settlements and areas of highest human density, such as the north-central regions. Many rural areas in Namibia are not connected to the national grid. It is often not economically viable to connect small, widely disbursed rural communities to the national grid. As a result, a number of pilot initiatives are being tested, using local power generation, including solar options.
- **Communication.** Good progress has been achieved in road developments, in particular the Trans-Capriivi and Trans-Kalahari highways, as well as road infrastructure in some regions – e.g. the north-central. There has also been a dramatic upgrading of roads and infrastructure in formerly neglected parts of Windhoek and other towns. In the north and north-east there have been dramatic improvements in access to telephone and postal services, radio and television and, in some rural schools, access to the internet.
- **Law enforcement, social work and protection of victims.** Domestic violence is an issue of considerable concern to all Namibians. The President of the Republic of Namibia has spoken out on this subject many times, and has blamed alcohol abuse as an important contributing factor. The GRN has placed high value on social equality, the importance of women in society and family values. To help promote these values, a Ministry of Women Affairs and Child Welfare has been established.

The adequacy of the budgetary/investment programme

In 2001 government adopted a three-year budget horizon instead of a one-year horizon. This means that sectors are better able to practice long term planning, and are provided with more flexibility in project management.

- Currently the GRN spends over 55% of its total budget on paying civil servants. Guidelines from the World Bank recommend that not more than 40% should be devoted to salaries if a civil service is to be sustainable. During the 2000/2001 financial year the GRN spent 3.25 times more on its personnel than on its total capital expenditure (Anon. 2001).
- For the period 1995-2000 the aggregate average budget deficit was 3.7% of GDP (NPC 2001 c), an amount that is not sustainable and one that has begun to undermine the stability of the Namibian economy.
- Public investment during the past 10 years has followed a downward trend. On average, capital expenditures during the period 1990-1994 accounted for 16% of the total Government expenditure but dropped to 14.3% during the period 1995 –1999 (NDP 2001 c). This trend threatens economic growth and employment creation.

These are some of the trade-offs that Namibia has made in return for a smooth transition from colonial rule to Independence in 1990, in promoting a policy of reconciliation and investing in social stability.

d) Political support

How well informed is the political constituency?

Shortly after the UNCED, the Government of the Republic of Namibia created a new Directorate responsible for broad environmental leadership, the Directorate of Environmental Affairs (DEA) charged with placing the outcomes of UNCED and the aims of Agenda 21 on the Namibian political agenda. DEA was placed within the Ministry of Wildlife and Tourism, at which point Cabinet decided to change the name of the Ministry to reflect its broader mandate, to that of the Ministry of Environment and Tourism (MET). Efforts to keep politicians and the public informed of the links between environmental issues and socio-

economic development in Namibia is featuring sufficiently high on the political agenda. Political and public awareness of Agenda 21 and environmental issues thus requires ongoing attention.

The extent to which the political constituency has supported/hindered effective implementation

- Many good policies and plans have been developed in Namibia over the past 10 years, including those on agriculture, water, forestry, wildlife, marine resources, education, health, energy, poverty, etc. However, the implementation of many policies and strategies has been slow, mainly because of limited technical capacity. The following examples are cited:
 - **Land reform.** Despite efforts made to resettle previously disadvantaged people, and the formulation of the National Agricultural policy (which includes a well formulated Drought Strategy and Emergency plan), the redistribution of freehold land has occurred at a slower rate than expected;
 - **Waste Management and pollution control.** Central government, local authorities and the private sector have made progress in improving waste management in some of the major towns (in particular Walvis Bay and Windhoek). More incentive-based schemes are needed, however, to improve waste management and pollution control – particularly the reduction, recycling and re-use of waste materials and the adequate handling and disposal of hazardous wastes in other parts of the country.
 - **CBNRM implementation.** The CBNRM initiative is a shining example of a policy that is being effectively implemented. It has received growing political support and recognition, locally, nationally and internationally. Based on this experience, there is considerable scope for expanding the policy framework that devolved rights and responsibilities to local communities, and to include land, grazing areas, fresh water fisheries, etc. within an expanded, integrated approach.
 - **EA implementation.** Environmental Assessment has been widely adopted and implemented for most development projects in Namibia. Legislation in support of the EA policy is in the final stages of development, following a long and highly consultative process. Once this important planning tool is fully in place, it should be easier to apply the policy in a more consistent fashion.

e) Legislative support

In 1993 the reviewal and revision of environmental legislation became the subject of a three year programme which included the development of a national Environmental Management Bill to give support to the environmental clauses in the National Constitution, a revision of the wildlife, parks and forestry legislation, initiating legislation on pollution control and waste management and an evaluation of specific sectoral legislation.

3. SUMMARY OF CHANGES THAT HAVE OCCURRED SINCE INDEPENDENCE AND UNCED

In reviewing Namibia's progress since UNCED it must be noted that:

- Namibia has embarked on an approach to implementing sustainable development that is a little different to many other countries, partly because of the history of emerging from colonial rule at the same time as the UNCED process was being initiated, and partly because of a conviction that national and local approaches and solutions should be found to implement national and local developments. Namibia does not have a traditional

national strategy for sustainable development (NSSD) in the sense that many other countries do. Rather, Namibia has built sustainable development clauses into its national constitution, developed a Green Plan (presented at UNCED), operationalised this in *Namibia's 12-point plan for integrated and sustainable environmental management*, implemented the plan through a portfolio of national programme and has build sustainable development into the heart of its national development processes.

- Most of the positive changes that have occurred over the past decade were prompted by a desire to pursue long-term national objectives aimed at redressing the social and ecological debts accrued during the colonial era. The resultant improvements in human health, education, living conditions and equity are essential for ensuring the social sustainability and political stability required before Namibia can move towards improved economic and environmental sustainability. The Sustainable Development objectives and philosophy have been mainstreamed within the NDP2 process and document, which placed sustainable development at the heart of national development. This is considered to be the most effective approach and perhaps a model for others.
- Many of the environmental initiatives undertaken since UNCED can be attributed to the vision and leadership of politicians, officials, supportive NGOs and individuals. Namibia has yet to achieve a critical mass of people from all sectors of society who share and pursue a common vision towards sustainable development. However, considerable work is ongoing, both through GRN and the NGO community, to help sustain our efforts in the environmental sector, at all levels of society.

The most pertinent changes in policy making, decision making, the national budget, decentralisation and local empowerment since UNCED are summarised in Table 1.

4. RECOMMENDATIONS FOR IMPROVING PLANNING PROCESSES FOR SUSTAINABLE DEVELOPMENT

- The recent initiative of formulating a Vision for the year 2030 for Namibia provides a good framework for sustainable development planning, since it creates a long-term perspective within which the 5-year NDPs can be designed (Figure 1). This model will enable Namibia to plan more systematically and to better evaluate its progress towards a future goal.
- The next major challenge is to incorporate integrated long-term planning at the sectoral level.
- Another challenge is to synergistically link programmes with national processes so that, for example, mid-term reviews of the NDPs link with annual State of Environment

Table 1. Changes in policy making, decision making, the national budget, decentralisation and local empowerment since UNCED

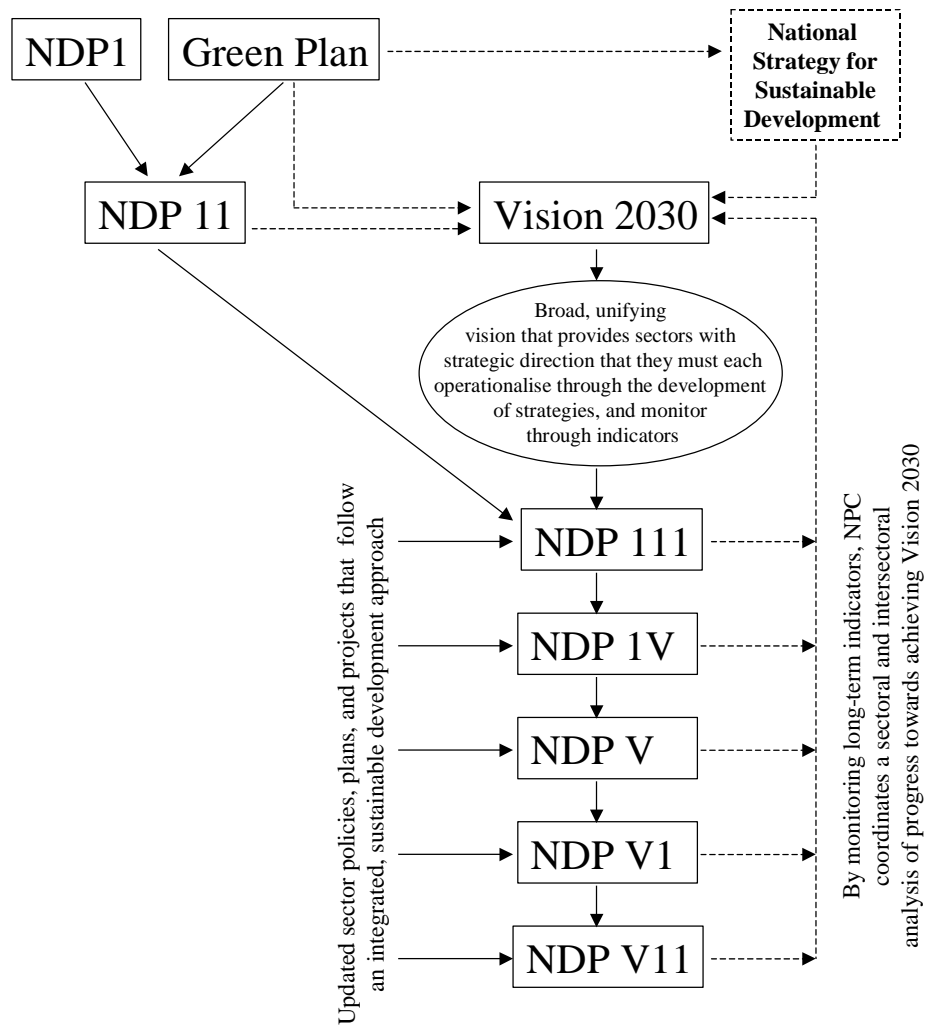
	Changes that have occurred	Impacts on stakeholders
Policy making	<p>There have been considerable improvements in policy making over the past 10 years:</p> <ul style="list-style-type: none"> • Multistakeholder consultation has become the norm; and • There has been a steady move towards developing policies within a broader sustainable development framework rather than following the traditional sectoral approach. <p>Several new policies that adequately reflect sustainable development objectives have been formulated, including the:</p> <ul style="list-style-type: none"> • <i>Environmental Management Bill,</i> • <i>Pollution and Waste Management Bill;</i> • <i>Community Based Natural Resource Management Policy;</i> • <i>The most recent marine fisheries management policies;</i> • <i>Mineral Policy;</i> • <i>National Drought Policy and Strategy and,</i> • <i>Energy Policy White Paper.</i> 	<p>Stakeholders from public and private sector institutions, as well as concerned individuals, are generally invited to participate in the policy-making process. This is a positive development for Namibia as it exposes stakeholders to issues outside their sectoral (or personal) focus and encourages those engaged in policy formulation, to consider outside input.</p>
Decision –making	<p>In the absence of a NSSD, decision making at the project or implementation level is often inconsistent with the strategic decisions taken at the policy (and legislation) levels.</p> <p>However, a much more systematic decision making process is developing at political and technical levels, with Vision 2030 expected to provide a useful framework in the future. The adoption and widespread use of sustainable development tools such as EA have improved decision making at plan, programme and project levels, whilst the emerging SoER programme will help Namibia to track the impacts of key decisions.</p>	<ul style="list-style-type: none"> • Public sector stakeholders are still in the process of making the transition between sectoral planning and more holistic planning and decision making. • The transformation of state-run departments into state-owned parastatals has caused some concern amongst public and private-sector stakeholders particularly as expectations have not always been met and goals and objectives were sometimes not clear. • The more inclusive decision-making process has improved opportunities for public sector stakeholders, and members of the public to participate in decision making to a far greater extent
The National Budget	<ul style="list-style-type: none"> • The country's budget deficit (on average 3.7% of GDP for the period 1995-2000) has become cause for concern as it has begun to endanger the stability of the Namibian economy. • Public investment during the past 10 years has followed a downward trend (declining from 16% of total government expenditure in the early 1990s to approximately 14% by 1999). 	

Decentralisation and local empowerment	<ul style="list-style-type: none"> • Decentralisation was adopted as a policy by the GRN in 1997. Key constraints include inadequate human and material capacity in the Regional Council offices and insufficient financial resources. • The systematic proclamation of towns has improved opportunities for local-level decision making. • The emergence of conservancies and other community-based natural resource management initiatives (e.g. the CBNRM programme and the water point committee programme) begun to restore decision-making powers to grass-roots levels. • There is growing autonomy amongst Local Authorities (municipalities) in most of the larger towns and local Agenda 21 programmes have been established through the Windhoek and Walvis Bay municipalities. • The EA planning tool, although inconsistently implemented, has helped to promote a culture of public consultation and participation in decision making at the national and local level. 	<ul style="list-style-type: none"> • Local NGOs have strengthened and several make a positive contribution to sustainable development (e.g. the NNF, NANGOF, NACOBTA, the DRFN); • Regional development and coordination committees have been established in most regions. • Rural communities that have formed conservancies have more opportunities to participate in decision making.
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Reports and allow for dynamic and responsive adaptive management of development planning and implementation.

- Now that the organisation established to help promote sustainable development and integrated environmental management has been in existence for almost 10 years, it is appropriate to take stock and review its institutional setting in terms of its effectiveness in delivering services and promoting collaboration. A number of options have been proposed, ranging from the status quo, where the Directorate of Environmental Affairs remains within the Ministry of Environment and Tourism and the establishment of a separate Environmental Agency outside of government. Ideally, the organisation should have a flexible management regime that allows it to forge strategic partnerships with line ministries, support organisations, the private sector, etc., within the country, the region and internationally, and that provides the institution with the authority to facilitate integrated holistic approaches in support of sustainable development. These (and other) options could be evaluated against a set of criteria related to efficiency and cost-effectiveness in achieving the mission and objectives of the organisation.
- At the sectoral level, various laws (currently under development) need to be enacted and implemented. These include the Environmental Management Bill, the Pollution and Waste Management Bill, and new legislation relating to water, energy inland fisheries and agriculture.

Figure 1. The relationship between various strategic planning processes in Namibia and the proposed National Strategy for Sustainable Development



B. INTEGRATION AND PARTICIPATION

1. The extent to which national planning demonstrates an integrated approach and multistakeholder participation

The multi-sectoral nature of Namibia's sustainable development challenges demands the co-operation of many government agencies and all components of society. Some of the national issues which specifically require harmonisation of objectives and policies and close coordination of actions include:-

- **Natural resource management and land-use**, which falls under the auspices of four different ministries (MLRR, MRLGH, MAWRD and MET).
- **Pollution control**, which falls under the jurisdiction of the six different ministries (MAWRD, MHSS, MET, MME, MRLGH and MWTC).
- **Rural development and poverty alleviation**, which fall under numerous agencies but for which there is no single proactive co-ordinating agency.

Progress regarding integrated planning and multistakeholder participation is summarised as follows:

- Admirable efforts have been made to integrate environmental issues into national planning, and to involve public participation at this level of decision making (for example, during preparations for NDP II and V2030).
- Since UNCED, sustainable development objectives have been integrated into many new policies, most of which involved broad public participation in their formulation. These include: -
 - **The Community Based Natural Resource Management (CBNRM) Policy**, which aims to: *promote wise and sustainable use of natural resources: to devolve rights over and responsibilities for wildlife and tourism to rural communities – creating enterprise and income generating opportunities; and to encourage and assist communities to acquire skills to manage their areas and actively pilot their own future.* Through the national CBNRM programme rural communities have been given an opportunity to benefit from the CBNRM policy by forming conservancies and developing high earning, low impact wildlife and tourism enterprises on their land.
 - **Namibia's Environmental Management Bill and Pollution Control and Waste Management Bill** (both still to be passed by parliament) require the consideration of environmental issues in the development of all future policies, plans, programs, projects and new legislation. This offers opportunities for preventative management and will help to minimise future damage to human health, ecosystems and Namibia's natural capital - without limiting the implementation of viable development opportunities.
 - **Integrated Water Resource Management and Water Demand Management policies** that are helping Namibia reach its national goals of social well-being, economic development and environmental health. These include innovative water re-use and reclamation efforts, the development of alternative water sources and the adoption of a stricter economic approach to water pricing.
 - **Namibia's marine fisheries management policies** that have been commended internationally for their effectiveness and efficiency. The establishment of the Exclusive Economic Zone (EEZ - prohibiting fishing by foreign trawlers in Namibian waters except under licence) and the implementation of scientifically established fishing quotas have helped to promote the integrity of marine resources and enhance the recovery of certain fish stocks after decades of overexploitation.
 - **The National Drought Policy and Strategy**, which aims to ensure that long-term sustainable drought mitigation, replaces the short-term, inefficient drought relief efforts of the past. In

addition this policy aims to give more responsibility for drought management to the farmers themselves. If successfully implemented it will help to slow down the rate of land degradation in Namibia, reduce poverty and improve rural livelihoods and food security.

- **Namibia's Energy Policy White Paper**, which promotes sustainability through: the assessment of woodland depletion and renewable energy projects; the development of sites for the safe disposal on land of oil-based waste generated during petroleum exploration and production; and the establishment of a Used Oil Task force which is seeking an acceptable solution for the disposal/ re-use of used mineral oils. This policy also pledges commitment to, *inter alia*, ensuring effective governance, social upliftment, investment and economic growth.

Not all policies translate into institutional co-operation and coherency at the operational levels. In particular, clarity still needs to be sought regarding the accountabilities and responsibilities of various agencies responsible for land use planning.

- There is a growing appreciation of the need for integrated, intersectoral planning at the management level within the GRN. Some of the cooperative management initiatives that have emerged, enabling different organisations and stakeholders to join forces for a common good, include:
 - The CBNRM programme which has led to local natural resource management initiatives representing successful partnerships between government, NGO's and communities. In addition, good co-operation is emerging between private sector tourism enterprises and conservancies, and the formation of the Namibian Association of CBNRM Support Organisations (NACSO - which has helped to improve coherency within the CBNRM programme, through the development of a framework for integrated needs based support to communities that have formed conservancies), is a positive development.
 - The development of several trans-frontier conservation and management initiatives. Success has been variable – depending largely on the political will as well as the technical and managerial capacity in the countries involved.
 - Strong collaboration between the judiciary, law enforcement agencies, social services, the media and NGOs in addressing certain social issues, for example, improving awareness of HIV/AIDS, violence against women and children and upholding woman's rights.
 - Initiatives such as the Forum for Integrated Resource Management (FIRM - a collaboration of three different national programmes, five NGOs and four different government extension service providers) which have attempted to create a national vision for systematic, integrated and needs-based support services to local land and natural resource managers.

Namibia is in a fortunate position that there are no policy or legislative barriers that prevent integration or that restrict the potential for local authorities to initiate and implement Local Agenda 21 projects and activities. The main limitations are shadow sectoralism from the past and limited financial resources.

2. COORDINATING MECHANISMS FOR SUSTAINABLE DEVELOPMENT PLANNING

At Independence the GRN adopted decentralisation as part of Namibia's democratisation process. Consequently the Government intends transferring more responsibilities to the regions, traditional authorities and communities, thereby re-empowering the people.

National level planning

At the national level, a number of line ministries have some form of planning authority. In view of the potential overlap between sector Ministries, government established the *National Planning Commission (NPC)* to co-ordinate all planning. In reality, however, the NPC collates the development planning policies and activities of individual sector ministries as well as performing macro-economic planning for the government as a whole. Thus, there remain fundamental challenges in achieving the desired level of coordination at national and regional levels. NDPII and Vision 2030 address this issue and it is expected that coordination will improve once these documents are implemented.

In response to the need for improved national coordination particularly regarding land-use and natural resource management planning, several small inter-ministerial co-ordinating bodies have been established to facilitate the necessary integration. These include (but are not limited to): The Namibian Planning Advisory Board (NAMPAB); The Inter-Ministerial Committee for Land Use Planning (IMSCLUP); The Land Use and Environmental Board (LUEB); The Standing Committee for Mining and Mineral Rights; The Water and Sanitation Committee (WASCOM).

Regional and local level planning

Although planning at the regional and local levels are still rather limited (with the notable exception of the larger Municipalities, e.g. Windhoek and Walvis Bay), a number of local level planning structures exist. These are summarised in the following table.

Table 2. Local level land use planning and resource management institutions

Institution	Parent Ministry	Functions / powers
Traditional Authorities	MRLGH	<ul style="list-style-type: none"> No legal powers with respect to land use planning or resource management, but the Traditional Authorities allocate land to people in accordance with traditional customs.
Farmers Unions (Communal Areas)	MAWRD	<ul style="list-style-type: none"> Co-ordination of communal farmers Focal point for communicating with government
Regional Water Point Committees	MAWRD	<ul style="list-style-type: none"> Manage individual water points Collect use-fees (in future – full cost recovery) Control water supply to users
Communal Land Board (CLB) (Communal Land Bill – 1997 draft)	MLRR	<ul style="list-style-type: none"> Control allocation & cancellation of land rights Issue leasehold rights Advise minister on legislative & policy Changes
Conservancy Committee (Nature Conservation Amendment Act 1996)	MET	<ul style="list-style-type: none"> Management of wildlife & other resources Allocation of tourism & hunting concessions
Regional Council (Regional Councils Act of 1992)	MRLGH	<ul style="list-style-type: none"> Land use planning & zoning (excluding towns) Administration of land incl. Settlement areas Establishment of local development committees Advising on policy & legislative changes

Note : This table excludes municipalities, which are autonomous local authorities.

3. RECOMMENDATIONS FOR STRENGTHENING COORDINATING MECHANISMS

- As suggested in NDP II and Vision 2030, decision makers with sustainable development objectives in mind need to take a long term view of development planning and ensure that this planning is implemented in an integrated, multisectoral manner;
- Public-private partnerships hold great promise for improved efficiency regarding service provision and resource management. The Government of the Republic of Namibia has placed high importance on the development of such smart partnerships, which then allows government to focus on its core functions of planning, policy development, monitoring, regulation and control;
- Community organisations should be empowered to coordinate support agencies (e.g. GRN extension staff and supporting NGOs) as part of a “needs-driven” development process, and an enabling and incentives-based environment must be created for this to work efficiently;
- NGO’s need to coordinate closely with each other and the establishment of NACSO provides an excellent opportunity for this to happen;
- There is a strong need to rationalise land use planning and natural resource management committee’s and coordinating bodies;
- Local Agenda 21 programmes must be encouraged;
- service providers and programmes must network and collaborate so that communities, especially those in rural areas, receive “one-stop” services in a more integrated way;

C. NAMIBIA'S NATIONAL CRITICAL ISSUES

The key threats to sustainable development in Namibia, as identified during the consultative process for the preparation of this report, of NDP II and Vision 2030 (Krugmann 2000, Tarr 2000a and NPC 2001b) can be summarised as follows:

- Namibia's high dependence on natural resources
- Population growth and settlement patterns
- Human health and the HIV/AIDS epidemic
- Poverty and inequality
- Land issues, particularly equitable access to land and natural resources, but including desertification
- The challenge of ensuring that development and industrialisation are sustainable
- Increasing competition with neighbouring countries for shared natural resources
- The loss of biodiversity
- Governance issues
- Global atmospheric change
- Threats to human resources
- Increasing water stress
- Improving access to existing knowledge and Filling knowledge gaps
- The need for a stable macroeconomic Environment and stimulating private Entrepreneurship

Although mentioned separately most of these issues are interlinked - reflecting the complex and integrated nature of Namibia's sustainable development challenge. Choosing *Namibia's land issues (including desertification)* for further discussion helps to highlight this point. This particular challenge needs to be addressed as quickly as possible, as it encompasses pressing social and environmental challenges that are central to rural development, improving peoples' livelihoods and to the well being and future of all Namibians.

1. NAMIBIA'S LAND ISSUES

Most of Namibia is characterised by low, highly variable rainfall and poor soils that contain low levels of moisture. Due to erratic rainfall the availability of grazing on rangelands is variable and, even in years of good rain, livestock carrying capacity and crop productivity are low.

Despite the country's severe climatic and topographical constraints, a major percentage of the land is used for agricultural purposes. As a result of population expansion and the erection of fences, traditional agricultural methods are becoming increasingly marginalized. This is of considerable concern, as traditional methods have local adaptations that are well suited to local conditions. Moreover, Namibia is water poor and increasing water stress poses threats to human health, economic well-being and environmental integrity. Despite its modest contribution to GDP, agriculture accounts for approximately 60% of all water used in Namibia. Crop irrigation accounts for almost 40% of all the water used.

Notwithstanding Namibia's low capability for husbandry, subsidies to farmers give agricultural activities an unfair advantage over other viable land uses in Namibia.

Namibia's "Land Issues" consist of three interlinked components that are discussed below. To complicate matters, land-use planning and natural resource management fall under the auspices of several different ministries (namely, the MLRR, MRLGH, MAWRD and MET) and consequently, these issues require focussed harmonisation of objectives and policies and close coordination of actions.

Issue 1. Inequitable land distribution

Land is the basis for survival for the majority of Namibians. However, as part of Namibia's colonial legacy, it is unevenly distributed. Close to 65 % of Namibia's population practice subsistence agro-pastoralism on State-owned communal land, which constitutes approximately 41% of the total land area, while less than 10% of the population (mostly white farmers) live in the freehold farming areas that constitutes approximately 44% of the total land area. This unequal distribution of land and inequitable access to resources, if not resolved in the near future, could lead to conflict that will destabilise the country's entire society and economy.

Issue 2. Limited land capability and vulnerability to desertification

Most soils in Namibia are inherently vulnerable to desertification. Areas most susceptible include those where the productivity of the land is naturally variable (for example, Namibia's arid savannah systems) or where extensive deforestation has caused dry woodland areas to revert to savannah-type systems.

Although usually attributed to overgrazing, land clearing for crop farming or inappropriate cultivation techniques, desertification ultimately occurs mainly as a result of the policy framework and incentives and regulations that encourage inappropriate management practices. In particular, issues such as land tenure, access to resources, drought subsidies and the type of planning systems used, have a strong influence over the way in which the land is utilised in Namibia.

Desertification threatens sustainable economic development because it limits opportunities for other forms of land-use, alters natural habitats and threatens biodiversity. The environmental manifestations of desertification in Namibia - soil erosion, bush encroachment and soil salination result in economic losses and escalating poverty for the majority of Namibia's population through declining agricultural production and reduced food security. This leads to human migration, rapid urbanisation and an increased need for the government to import food.

Issue 3. Lack of secure tenure over resources

Secure group tenure over land and natural resources is a prerequisite in the creation of the right incentives for people to care for the land and invest in its improvement. Without secure tenure, there will continue to be economically and environmentally unsound land use practices, which in turn cause environmental degradation, dissipation of net benefits and reduced production.

An analysis of the national actions taken to address Namibia's land issues

This section should be read in conjunction with **Section A. National strategies for sustainable development**, which provides background information on the accomplishments

and implementation challenges relating to the organisational and management systems, institutional capacity, and resources that have contributed to Namibia’s Land Issues today.

Since independence several projects, programmes and policies have been put in place to address Namibia’s interlinked land issues. These are summarised as follows:

Important policies

- Shortly after Independence, government convened a National Conference on Land Reform, which resulted in the appointment by Cabinet of the Technical Committee on Commercial Farmland, which investigated *inter alia*, the possibility of redistributing freehold (mainly white-owned) land, back to dispossessed black Namibians. The legislation enabling land reform has given government the preferential right to purchase land for sale on a willing seller-willing buyer basis. It also provides for the compulsory acquisition of land if it (a) is under-utilised (b) is held in excessive amounts and (c) has been acquired by a foreigner after the promulgation of the Act for a period exceeding ten years. Since 1995, a Communal Land Bill has also been drafted but has not yet been promulgated, but the National Resettlement Policy (1995) and the National Land Policy (1998) have been completed.
- The National Drought Policy and Strategy aims to ensure that long-term sustainable drought mitigation replaces the short-term, inefficient drought relief efforts of the past. It aims to provide a social safety net to farmers in times of drought while promoting a responsible and sustainable approach to natural resource management. If successfully implemented, this policy will help slow down the rate of land degradation in Namibia, reduce poverty and improve rural food security.
- The National Agricultural Policy developed in 1995 (Table 4).

Table 4 . A review of the National Agricultural policy

Positive signs for sustainable development	Policy contradictions and omissions
☺ Recognises that water resources in Namibia are limited.	☹ Policy promotes the five fold expansion of irrigated areas in the country but makes no mention of strategies needed to reduce the negative impacts associated with irrigation (high water demand, agrochemicals and soil salinisation). No mention of promoting the use of environmentally friendly technologies to mitigate these impacts e.g. the use of Integrated Pest Management and mulches etc. rather than chemical fertilisers.
☺ Recognises that growth within the agricultural sector should not be at the expense of the natural environment.	
☺ Recognises that drought is a normal phenomenon and that drought management should be in the form of long-term preparedness and planning.	
☺ Recognises the need to investigate water tariffs for agricultural activities, which will reflect the full cost of water.	☹ Promotes irrigating low value crops, e.g. cereals and fodder.
☺ Recognises the need for cost effective irrigation systems.	☹ No guarantee that soils and critical wetland systems will be protected against overexploitation or damage by irrigation and livestock expansion.
☺ Recognises the interdependence between agriculture and other economic sectors and resources (especially water).	☹ Subsidies and tax breaks should be orientated only towards those activities that will not threaten future agricultural production
☺ Recognises the need to research the restoration of	☹ Makes no reference to the illegal fencing off and

<p>degraded land and the use of indigenous, drought tolerant crop varieties.</p> <p>☺ Encourages the use of Environmental Assessment for agriculture projects.</p> <p>☺ Proposes a review of legislation related to agrochemical use.</p> <p>☺ Encourages sustainable land use based on geographic and climatic conditions.</p> <p>☺ Aims to remove trade barriers that restrict development of informal and small business sectors.</p> <p>☺ Promotes improved standards for imported and exported food products, which will help protect public health and prevent the trade in alien invasive organisms.</p> <p>☺ Recognises that subsidies for agrochemicals and water distort prices and markets and serve as a disincentive for private sector investment.</p>	<p>overstocking of prime veld by wealthy farmers on communal land or how to control this growing trend.</p> <p>☹ Aims to import genetic material to promote livestock breeding but no reference is made to importation, trade and use of Genetically Modified Organisms and the effects they may have on human health, indigenous stocks and the environment.</p>
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- The implementation of Namibia’s Environmental Management Act (currently a Bill) and EA policy will help to guide future agricultural development and other land-use activities, since they require that all policies and major projects undergo EAs as part of their planning process.
- The Community Based Natural Resource Management (CBNRM) Policy, which promotes wise and sustainable use of natural resources; devolves rights over and responsibilities for wildlife and tourism to rural communities – creating enterprise and income generating opportunities; and assists communities to acquire skills to manage their areas and actively pilot their own future. This policy has been implemented on over 4 million hectares and, during 2001 earned rural communities additional income of over N\$6 million. By 2005 it is estimated to extend over 8 million ha and generate at least N\$15 million.

Important programmes and activities initiated since Independence and UNCED

- Programmes to address the resettlement problem include: purchasing land for resettlement (N\$20 million per year) and allocation to poor farmers, of previous agriculture research farms owned by government; and Agribank concessional loans to wealthy communal area farmers to enable them to acquire and relocate to freehold farms. The German government recently pledged financial support for land acquisitions.
- Some progress has been made in the past 10 years on the issue of resource tenure – specifically with respect to wildlife and tourism through the CBNRM policy and legislation on conservancies, water-point committees, community forest areas, and new policies for the community management of freshwater fish.
- National programmes (e.g. CBNRM, NAPCOD, SARDEP) and the development of rural water committees that represent partnerships between government, NGO’s and communities aim to promote rural development, enhance livelihoods, build local capacity, promote drought preparedness and improve flexibility to a changing environment.

- The country's National Programme to Combat Desertification (NAPCOD) has made a first approximation of the areas affected by desertification in Namibia. Satellite captured data provides a continuous source of information regarding the occurrence of green vegetation across Namibia and will be used to evaluate the results of the first approximation of desertification in Namibia.
- Since independence, the GRN has redirected development efforts towards farmers in the previously neglected communal areas. This has led to an increase in the number of cattle slaughtered and marketed in the north. The conservation of indigenous (*Sanga*) cattle, which display high tolerance to dry environments and resistance to tick-borne and other endemic diseases, has become a priority in the MAWRD's National Research Policy. Furthermore a number of NGO and government sponsored programmes have been developed to support the policy and to focus efforts on improving animal health in the communal-tenure areas. Included amongst these programmes are those focussed on implementing sustainable rangeland management practices.
- Despite the fact that the National Agricultural Policy promotes the five fold expansion of irrigated areas and planting low value crops (e.g. cereals and fodder), there has been a promising move towards diversifying into high value cash crops in recent years (e.g. table grapes, melons and dates), for export. When compared to maize and other cereals, these products have high value adding for the resources (water and soil) required to grow them.
- Farming with wildlife or using wildlife for tourism (hunting and game viewing) both on freehold and communal land has grown in recent years. These non-agricultural land-uses have the potential to contribute significantly to biodiversity conservation and economic growth and, if properly planned and controlled, should not cause excessive impacts on the environment.
- The potential for energy conservation and the use of environmentally friendly solar and wind energy is being investigated by the Ministry of Mines and Energy. Solar energy in particular has tremendous potential for reducing rates of deforestation and meeting energy demand in rural areas.

RECOMMENDATIONS

Two broad recommendations are suggested:

- a) There is a strong need to improve and coordinate land-use planning and the management of natural resources. Land and water management, agriculture, forestry, poverty, population growth rates and economic policies are all related to each other and, either directly or indirectly, to desertification in Namibia. In the absence of integrated, cross-sectoral planning, policy contradictions are common and the outcomes threaten sustainable land-use and economic development.
- b) Considering Namibia's low land capability for intensive agriculture, future focus should be on employment in the non-agricultural sectors that hold the greatest promise for economic growth, income generation, and poverty reduction. Agricultural and resettlement programmes should concentrate on supporting the serious farmers who make productive use of their farms and impoverished communal farmers who have no other choice but to live off the land.

Incentives and disincentives should be developed to persuade the wealthy absentee freehold and communal farmers to make their land available for other users and other purposes.

The more specific recommendations are summarised below.

* **Choosing the most viable land-use options**

Fully integrated land use planning needs to be promoted, together with appropriate land use options - ones that are based on sound economic and ecological criteria and capitalise fully on Namibia's comparative advantages. These comparative advantages include (NPC 2001b):

- **Vast, wide-open spaces** and relatively uninhabited wilderness areas. These are increasingly valuable commodities in today's rapidly developing, hectic, overpopulated world;
- **Abundant and diverse wildlife populations** that are well adapted to Namibia's harsh climatic and physical conditions, and have extremely high direct and indirect use value. Some species of wildlife in Namibia also have high non-use values which include the values perceived in their preservation for later use (their option value) or their value as resources to be handed down to future generations (their bequest value);
- **Relatively uncontaminated, free-range meat and fish products.** Provided Namibian beef, game and fish products remain free of persistent organic pollutants, hormones, BSE and other contamination, they will have a comparative advantage on the global market and should yield high returns if marketed properly.
- **Well-adapted indigenous domestic species** (crops and livestock) that contain valuable genetic material that can be used to help scientists develop new crop and livestock strains that are able to cope with changing climates, pestilence and other types of environmental stress.

It is apparent that future large-scale agricultural activities should focus on the cultivation of high value crops and there should be improved value adding to meat and fish products. The use of dangerous pesticides that could disrupt ecological functioning and threaten to contaminate Namibia's meat and fish products should be avoided and replaced, wherever possible, with systems of Integrated Pest Management. In addition, there should be appropriate development of high quality, low impact consumptive and non-consumptive tourism, which capitalise on Namibia's comparative advantages.

* **Land distribution and resettlement**

There is an urgent need for an accelerated and comprehensive land redistribution and resettlement programme that avoids confrontation and conflict, prevents environmental degradation, promotes equity and cooperation amongst all stakeholders. This programme should incorporate:

- Sound economic and ecological criteria and the need to protect "agriculturally under utilised" land that has high potential for other forms of land-use (e.g. high earning, low impact tourism) but low potential for conventional farming activities;
- Suitable combinations of market-based mechanisms, government intervention, private initiative, and donor support to acquire and transfer land;
- Appropriate land tenure structures, including group tenure on former freehold land;
- Decentralised services and support (e.g. extension services) especially for people who really need to live off the land;
- The development of community institutions capable of allocating land rights and managing natural resources sustainably;

- Mechanisms that are able to select families for resettlement on the basis of need, as well as other schemes that promote a more representative cross-section of Namibian society settling on former freehold land.
- **In addition this programme should recognise the need to:**
- Rehabilitate and improve degraded land;
- Convince current owners of large amounts of freehold land to make land available to government at reasonable prices;
- Move wealthy farmers, who currently occupy large pieces of illegally fenced off land in the communal areas, onto freehold land; and
- Extend CBNRM activities into all areas that have high potential for tourism and that would benefit from other forms of CBNRM management.

* **Combating desertification**

Areas affected by desertification in Namibia have not yet been fully mapped although this work is currently receiving attention under the NAPCOD programme. Combating land degradation and encouraging sustainable land-use practices demands interlinked political, social, economic and educational approaches. Which should include:

- Providing incentives for family planning and education services combined with appropriate and diversified land-use options.
- Integrating anti-land degradation schemes into national environment and development planning.
- Recognising the interdependence between agriculture and other issues in particular, water management, biodiversity conservation and human well-being.
- Governance systems that recognise that rural Namibians live with uncertainty (climatic, water and agricultural production), and that fast, effective and dynamic response systems are needed for both social and ecological security.
- Providing appropriate, effective decentralised and integrated support services (extension, research, education, credit, marketing, etc.).
- Providing incentives for people to protect themselves against present and future extreme events e.g. incentives to encourage rapid destocking and marketing of livestock to reduce pressure on rangelands during times of drought.
- Developing effective and sustainable uses of land and natural resources that do not threaten their future productivity. For example:
 - ◆ Replacing monoculture food and cash crops with viable intercropping systems, crop rotation or agro forestry.
 - ◆ Ensuring that irrigated land is well drained, practicing night-time irrigation and leaving land fallow for part of the year in order to reduce the chances of soil salinisation.
 - ◆ Avoid overstocking and overgrazing by livestock, on rangelands that are susceptible to desertification.
 - ◆ Ensure that all woodlands are used sustainably in order to prevent rapid deforestation.
 - ◆ Maintain the genetic integrity of indigenous *Sanga* cattle and other indigenous livestock and crop gene pools.
 - ◆ Encourage research, development and testing of new CO₂ responsive, heat and drought resistant crop cultivars (in preparation for future climates that could become hotter and drier).

2. AN EMERGING CRITICAL ISSUE – CLIMATE CHANGE

Namibia, as a developing country located in an arid region where drought and high climatic variability is endemic, and where great demands are placed upon natural resources, is considered to be particularly vulnerable to the effects of climate change.

Possible future climate under conditions of global warming

Scenarios developed in 1996 suggest that, in addition to becoming increasingly hotter, most of the SADC region is likely to become drier and will experience shorter, less reliable rainy seasons during forthcoming decades. Based on a regional study conducted by Hulme *et al.* 1996, one climate change scenario for the SADC region (Hulme's 'core' scenario) suggests average warming of approximately 1.7°C, decreased rainfall by between 2.5-7.5%, increased rainfall variability of between 5 and 15% and increases in potential evapotranspiration of between 4 and 16% for most of Namibia by the 2050s decade.

Potential socio-economic and environmental impacts of climate change

- Of the many interlinked atmospheric and oceanic changes that will affect marine environments as a result of global warming, only an increase in sea surface temperature (SST) and a rise in sea level are predicted with any degree of confidence. Increased SST alone will be capable of shifting wind and pressure regimes, altering the ocean's primary production and impacting on the distribution and population dynamics of many marine species. However, researchers can only hypothesize how the interactive winds, ocean currents and up-welling processes that fuel the Benguela's high productivity may change under altered climatic conditions.
- Ultimately a future climatic regime that is hotter, drier and more variable will have severe consequences for local and regional food supply, land use options, production profitability, poverty, employment potential and economic sector competitiveness. Impacts on household food security amongst subsistence farming communities could be dramatic; increased health care and water supply costs and disease epidemics are also likely.
- There are many expected impacts on biodiversity and ecosystems.
 - The species most at risk under altered climatic conditions are likely to be those that are geographically localised, genetically impoverished, poor dispersers, slow reproducers or currently at the edge of their optimal tolerance levels.
 - Under scenarios of increased aridification (elevated temperatures and declining rainfall) semi-arid areas in Namibia are likely to become arid and dry sub-tropical areas could shift to semi-arid conditions. Rates of land degradation are likely to increase under this scenario.
 - Fast growing weeds and bush encroachment species, which commonly yield less timber, provide lower quality foliage for domestic and wild animals and supply poorer quality habitats are expected to benefit from global warming.
 - Insects also likely to track changes in climate extremely effectively. As a result, increased bio-invasions of pests and disease carrying vectors are predicted.
 - Permanent damage to Namibia's natural wetlands is likely to occur if the region becomes more arid under climate change conditions.
 - The possibility of fewer fog days along the coast will threaten the survival of many unique, endemic plant and animal species that are well adapted to current conditions within the fog belt.

- Furthermore, increased temperatures, accompanied by reduced winter rainfall will threaten the rare succulent flora that characterise the Sperrgebiet.

Important programmes and activities initiated since Independence and UNCED

A country study was conducted and completed in 1998. Three separate documents *viz.*: *A Greenhouse Gas Inventory*; *An overview of Namibia's vulnerability to climate change*; and *Emissions scenarios and mitigation options for Namibia*.

In 2001 a Namibia Climate Change Committee (NCCC) was formed. This committee has hired a team of consultants and contractors to complete Namibia's First National Communication to the UNFCCC.

Recommendations

The working group on *Vulnerability to Climate Change* from the *Final Workshop for Namibia's Initial Climate Change Report* held in Windhoek (February 10th 1999) recommended the following:

1. Research

- The creation of plausible **baseline scenarios** necessary for future sectoral vulnerability studies will be able to draw on information from the Natural Resource Accounting Programme, the National Biodiversity Programme, Namibia's State of Environment Reports and other ongoing projects. Nevertheless there is a strong need for the development of human resources and the continual creation of reliable databases on climate, soils, vegetation and fauna. All efforts to develop such databases and networks must continue.
- Ongoing **climate modelling**, specific to Namibia, is essential for all forthcoming research. There is an urgent need to build up capacity, systems of information exchange and co-operative research within the region regarding this highly specialised aspect of vulnerability and adaptation studies.
- Quantifying the potential socio-economic and biophysical impacts of climate change on Namibia's **water resources** should form the focus of immediate research. It is recommended that all other research should focus on those impacts that are expected to have **specific effects on human livelihoods and well being**, and are unlikely to be pursued by the National Programme to Combat Desertification (NAPCOD), the National Biodiversity Task Force or marine resources research that aims to improve understanding of the effects of the natural environment on fish population dynamics. Some suggestions include:-
 - ◆ Investigating the direct effects of climate change on food security amongst rural communities. Focus should be on sorghum, millet, etanga (*Citrullus lanatus*), and omakunde (*Vigna unguiculata*) growth, important fruiting and tuberous *veldkos* species, the potential for increases in crop pests, pathogens and livestock disease, and the adaptation options regarding these impacts.
 - ◆ Investigating the effects of climate change and the possible adaptation measures that can be taken on the health of marginalized urban and rural populations in northern Namibia – an area that could become increasingly susceptible to vector borne diseases and other pathogenic invasions from neighbouring states.

2. Adaptation and Disaster Preparedness

More extreme weather events (both droughts and floods) are likely to characterise Namibia's future climate and it is important to identify cost-effective adaptive management approaches. National preparedness regarding extreme events and the secondary impacts that accompany them (including the threat of bio-invasions, disease epidemics, reduced food security and increased rates of human migration) is required. These national disaster response strategies should become an integral part of Namibia's sustainable development planning.

Development planning, particularly at the strategic and project levels should take cognisance of the potential impacts of climate change. For example, the allocation of land for specific land-use should consider the potential effects of increasing climatic variability. Similarly, risk assessments within project EAs must consider the possibility of increased frequency of large flood events.

3. Creating Awareness

In addition to informing policymakers about the possible effects of climate change, decision-makers at all levels including government officials, local and traditional authorities, farmers and the general public should be kept informed about Namibia's inter-seasonal and inter-annual climatic variability. Publications similar to the tri-monthly *WHOT?* Bulletin produced by Namibia's Meteorological Services are a good example of how relevant climatic information, and the implications thereof, can be provided to all stakeholders.

D. CRITICAL GLOBAL ISSUE: EDUCATION, TRAINING AND PUBLIC AWARENESS

Meeting the requirements of Chapter 36 of Agenda 21

1. EDUCATION IN NAMIBIA – the slow process of redressing past inequalities

At Independence in 1990, Namibians inherited a country with significant financial, social and environmental debts, incurred through a century of colonial rule. The outcome of this legacy included widespread environmental degradation and a sharply divided society whose majority were impoverished and generally poorly educated. An assessment of Namibia's progress in meeting the requirements of Chapter 36 of Agenda 21 must take account of the significant cumulative impacts of this legacy.

Efforts to redress past inequalities in education are summarised as follows:

- Approximately 28% of the government budget is currently allocated to the education sector, which aims, *inter alia*, to improve and expand educational infrastructure and increase enrolment. Between 1990 and 1997 the number of schools in Namibia increased by 21% and the number of pupils rose from 60% of school age children to 85% of senior secondary school pupils. In addition, adult literacy enrolment increased by 300% between 1992 and 1999 (NPC 2001a).
- Many NGOs and donor-funded projects have helped to improve education and human capacity in Namibia since independence and UNCED. Examples include: *SchoolNet Namibia* which aims to build capacity through improving Namibian learners' access to ICTs (in schools and higher education institutions throughout the country, but especially in the marginalised rural areas); *NAMCOL* (which offers correspondence courses for students unable to attend regular school); *NEPRU* (which provides economic students with on-the-job experience); the *Rössing Foundation* (which has focussed on, *inter alia*, adult education and skills enhancement amongst rural communities);

Redressing Namibia's past inequalities in education has proved to be a huge task and, despite the admirable efforts mentioned above, levels of education are still low. Repetition and dropout rates remain high and regional disparities in the pupil: teacher ratio is still large. In addition the growing AIDS epidemic has the potential to reduce enrolment and educational performance at all levels. The resulting inadequate human resources and limited skilled labour hampers private sector business expansion and constrains public sector capacity and economic development.

2. HOW WELL ARE ENVIRONMENTAL EDUCATION, TRAINING AND PUBLIC AWARENESS INTEGRATED INTO NAMIBIA'S PLANNING PROCESSES?

Meeting the post-independence education challenges has been the biggest constraint to educating the public adequately regarding Agenda 21 issues. Efforts to coordinate EE in a structured and strategic way are now starting to emerge, with development of formal and informal environmental education in Namibia in collaboration between the Ministries of Environment and Tourism, Education, NGOs and donor agents.

3. EFFORTS TO RE-ORIENTATE NAMIBIA'S EDUCATION SYSTEM (FORMAL AND NON-FORMAL) TOWARDS SUSTAINABLE DEVELOPMENT

During the past decade some efforts have been made to improve environmental education at all levels of society.

- Informal EE has been the focus of many programmes run by the MET and a large number of NGOs. During the Mid 1990s a co-ordinating body, Namibia Environmental Education Network (NEEN) was developed to try and network EE activities and develop an EE database for Namibia.
- GRN and NGOs have produced several fact sheets, pamphlets and books for parliamentarians and decision makers on issues such as desertification, biodiversity loss, water management, energy, policy issues and the impacts of poorly planned development.
- A variety of in-house training programmes are provided by both GRN and NGOs.
- Environmental membership organisations like *Earthlife Africa* and *the Wildlife Society* promote awareness of Namibia's natural environment, monitor development programmes and apply public pressure relating to environmental issues when necessary.
- Creative theatrical performances aimed at educating the public regarding specific environmental issues (e.g. "*the Guardians of Eden*" and "*A night in the life of Kaya Africa*") have been sponsored by NGOs and the private sector.
- Formal education has attempted to improve Namibian students' knowledge of environmental and development issues through:-
The introduction of an IGCSE (school leaving Grade 11 and 12) course on Natural Economy. This subject was developed in response to the issues and challenges highlighted by Agenda 21. It provides students with the opportunity to learn about:
 - *the earth's natural resources and the vital role they play in determining local and national economies;*
 - *the positive and negative social, economic and environmental impacts that are associated with economic development;*
 - *how national economies and human health can suffer as a result of some of these negative impacts; and*
 - *the management options that can be adopted to limit these impacts and help to achieve sustainable development.*
- The DEAs *Natural Resource Accounting programme* (which has provided training for Namibian graduate and undergraduate economists), has provided critical analyses of policies and practices in natural resource management.
- Various environmental and natural resource oriented courses have been established at Namibia's University and Polytechnic.

4. RECOMMENDATIONS

- A lack of environmental awareness is often associated with a lack of education *per se*. Consequently, all efforts should be made to upgrade education levels, training and capacity building in Namibia through:-
 - Improving communication skills by upgrading the level of English tuition throughout the educational system (specifically in the teacher training colleges);
 - Training teachers to:- *take a cross-curricular, integrated approach to the subjects they are teaching, develop their pupils' problem solving skills; and encourage a life-long love of learning.*

- Improving the quality of educational resources available to all Namibians.
 - Encouraging the continued role of outside expertise, while local capacity is emerging;
 - Developing local management capacities as well as technical skills, so that outside expertise can be properly directed and managed;
 - Creating opportunities for sharing regional educational facilities and centers of excellence with other countries, rather than duplicating these locally; and
- Concurrent to efforts to improve education in general, there is a concerted effort to improve environmental education at all levels of society through:
- Developing a well co-ordinated national strategy for EE in Namibia
 - Strengthening institutional structures to allow for the full integration of environmental and developmental issues at all levels of education (pre-school to university);
 - Encouraging professional environmentalists and other scientists to regularly visit schools, teacher training colleges and other tertiary education institutions in order to provide special courses on sustainable development and Agenda 21.
 - Integrating the subject *Natural Economy* within the conventional social and life science curricula until Grade 8. From Grade 9 to 12 Natural Economy should be promoted within all schools and taught as a separate subject.
 - Improving public access to all environmental information.
 - Encouraging the media to devote as much attention to environmental issues as they do to crime, politics and sport.

E. THE WAY FORWARD

Developing countries like Namibia are in an excellent position to avoid the damaging impacts of development that other nations have suffered in the past. To achieve this, there is a need to:

- Reduce Namibia's dependence on the natural resource base and to fully optimise the country's competitive advantages;
- Pass and implement important legislative instruments that are already prepared (for instance, the Environmental Management Bill, the Pollution and Waste Bill and the Parks and Wildlife Bill), and develop new instruments where none currently exist;
- Establish domestically determined procedures that integrate environment and development issues into decision-making at all levels;
- Improve education and knowledge of environmental issues so that Namibian society becomes more articulate, knowledgeable and better able to participate in decision-making processes.

The more specific recommendations and strategies below were drawn from preparatory workshops and wide rural and urban consultations for this report, Namibia's Vision 2030, NDPII and a wide range of rural sustainable development and Agenda 21 initiatives that have taken place over the course of the past year.

1. REDUCING POPULATION GROWTH AND IMPACTS OF RAPID URBANISATION

- Improvements in living standards and education standards for all Namibians, but particularly of girls and women.
- Continue to expand the primary health care system and peoples' access to health facilities.
- In rural and rapidly growing urban areas: improve waste removal and disposal, access to water and adequate sanitation and reduce deforestation in adjacent areas (for example through the promotion of wood efficient stoves or alternative energy sources like solar cookers).
- Reduce crime and domestic violence.
- Continue to improve housing and access to urban land; and
- Stimulate industrial and rural development.

2. REDUCING POVERTY AND INEQUALITY

A wide range of options to reduce poverty and enhance social upliftment within the framework of national sustainable development are being implemented, and new approaches are always being sought. Off-farm livelihood options are a priority area, to reduce pressure on natural resources. These options are linked to industrial development and service-based enterprises. Thus, appropriate industry, that takes into account Namibia's water scarcity and environmental standards, should be encouraged and supported. Similarly, service-based enterprises, such as in the tourism sector, presently show good growth and, with careful planning, should continue to grow for many decades without undermining the resource base.

A second area is on farm diversification, where incentives are provided to farmers to manage a wide range of resource production activities, thereby enhancing income and reducing risk. Over the past four years, communal farmers in Namibia have earned increasing amounts from non-traditional on-farm activities, including wildlife use, tourism and associated services. In 1999 farmers earned about N\$2.5 million from these diversified activities, in 2000 almost N\$4 million and in 2001 over N\$6 million. It is expected that these earnings will continue to grow, making this CBNRM programme one of the most effective rural development initiatives in Namibia, while at the same time protecting and building the natural resource base, and empowering communities through capacity building and institutional support.

Strategies to reduce poverty and inequality require considerable institutional advancements, which include:

- Devolving rights and responsibilities over natural resources to the lowest appropriate levels;
- Maintaining a level playing field in terms of subsidies, taxations, etc.
- Improving social service delivery to the poor;
- Re-directing investment patterns to open up a greater range of more environmentally friendly economic opportunities and livelihood options for the poor;
- Promoting entrepreneurial drive and small-scale enterprise development;
- De-regulating the business environment to unleash the absorptive potential of the informal sector; and
- Making the formal labor market more flexible in order to increase employment options and opportunities.

3. SOLVING NAMIBIA'S LAND ISSUES

Specific suggestions for the following issues are presented in Section C: choosing the most viable land-use options; encouraging ecologically sound land distribution and resettlement; developing and maintaining economically and ecologically sound systems of tenure over all natural resources and combating desertification. In addition there is a need to further improve coordinated planning and implementation of actions amongst different responsible and stakeholder institutions, particularly with regard to land-use planning and natural resource management.

4. REDUCING WATER STRESS

a) Management of human, agricultural and industrial water demand

Water is Namibia's most limiting resource and, as such, has received considerable attention, both in terms of infrastructure development and water demand management. Some of the mechanisms include recycling, separation into potable and "grey" water, pricing structures, devolving responsibility for water points to rural water committees, research on water use in different sectors, compiling water accounts, encouraging water-saving devices and carrying out many water awareness campaigns.

Because of the scarcity and importance of water, and despite considerable progress in water demand management in Namibia, there is an ongoing need to keep this issue high on the priority list and to look for ways to continue to reduce pressure on limited water resources by:-

- Ensuring adequate protection of watersheds, aquifers and freshwater ecosystems, fish and other resources.
- Promoting the high value-added economic uses of water (e.g. nature centered low-impact tourism, irrigating high value crops) and the importation of water-intensive goods and services.
- Providing incentives to encourage more water-efficient irrigation technologies (e.g. use of drip irrigation) and discourage domestic production of crops in favor of imports by charging for ‘free’ water; and
- Continuing to embrace vigorous water demand management approaches and mechanisms that encourage more efficient water use.

b) Improving access to potable water for the rural poor

Efforts to provide improved access to safe and reliable water supplies for the rural poor should be continued based on the tested principles of user participation and community-level water management.

5. IMPROVING DEVELOPMENT PLANNING AND IMPLEMENTATION

Economically and ecologically rational development plans are essential for sustainable development.

- Such plans aim to make a positive net contribution to the economy in terms of Total Economic Value (TEV). Ultimately, it is essential for Namibian decision makers to recognise, not only the direct values, but also all the other values of natural resources. This is because these values are associated with people’s willingness to pay. With the right mechanisms in place, all values associated with natural resources could be captured as income by those investing in the resource (i.e. the nation and local communities of Namibia).
- Policy harmonisation is now becoming a priority issue for Namibia. This is because rural development has reached the stage where integrated and holistic approaches are now possible, and community empowerment and devolution of management have been demonstrated as appropriate and effective approaches.

6. REDUCING THE NEGATIVE IMPACTS OF INDUSTRIALISATION

a) Ensuring progress on the Environmental Management Act (EMA)

An Environmental Management Bill has been drafted, based on wide and lengthy consultations. This Bill addresses a range of important principles underpinning sustainable development, as well as the national EA process. This essential planning tool is now ready to go through the legislative process to promulgation.

b) Preventing the erosion of Namibia’s renewable natural resource capital

Options that help maintain Namibia’s resource capital and avoid resource over-exploitation include:

- Diversification and placing greater emphasis on manufacturing, service provision and other secondary and tertiary sector economic activities;
- Encouraging local value adding through domestic processing of primary export goods (for example fish and meat processing);

- Increasing sustainable economic output from land, through land-use diversification on freehold and communal land so that Namibia’s comparative advantages are capitalised upon;
- Rehabilitating and improving degraded habitats, including land and water bodies;
- Importing products whose production is intensive in the use of scarce natural resources (in particular, water);
- Emphasising recycling, re-use and waste reduction in production and consumption.
- Applying natural resource economics and the construction of Natural Resource Accounts (NRA) as mainstream economic tools to help planners and decision makers to assess the real value of natural resources and to determine the costs of environmental degradation or natural resource loss; and
- The establishment of mechanisms that secure financial resources that can feed directly into the relevant natural resource sectors in order to boost the funds available for the maintenance and improvement of Namibia’s natural capital (for example the Environmental Investment Fund (EIF) that has just been established by an Act of Parliament, a land management financing scheme and maintaining the Fisheries Investment fund).

c) Optimising the benefits from Namibia’s non-renewable natural resources

Emphasis is placed on:

- Maintaining technical, financial and management efficiency to cope with volatile mineral markets through securing long-term contracts;
- Investing in mineral beneficiation to add value to commodities wherever possible;
- Re-investing profits from mining, into secure investments, the development of human capital and other industries, especially those that promote the sustainable utilisation of renewable natural resources; and
- Applying EA and SEA, and encourage mines to obtain ISO certificates.

7. ENHANCING BIODIVERSITY CONSERVATION

a) Improving the policy environment

- A detailed national review of policies and impacts on sustainable development has been undertaken, which clearly identifies those requiring further attention. Means of addressing this issue are being explored by a number of organisations and programmes.
- Access to genetic resources, intellectual property rights and associated issues are complex, both nationally and internationally. Namibia has given considerable attention to the development of policy and draft legislation, which is now ready to enter the legislative process.

b) Extending the protected areas network

At the time that most of Namibia’s national parks and reserves were proclaimed, biodiversity was an unknown concept. Consequently, a detailed review of parks in relation to the country’s biomes, vegetation types and biodiversity distribution (including endemic species) has been undertaken. This has shown that the protected area network need to be extended to some areas where the current level of protection is inadequate, but also that a range of alternative, innovative land management options and incentives are needed, such as through community and private sector land-use and management approaches. Current incentives under the communal and freehold “conservancy” approach has, over the past five years,

resulted in over 8 million ha of land being managed for enhanced wildlife and biodiversity values, under group accountability systems. The incentives behind these approaches are the vital driving forces, and should be carefully nurtured and improved over time.

c) Improving biodiversity information.

Considerable biodiversity information has been compiled over the past decade, ranging from scientific information for technicians to general information to the public. Of particular relevance has been the compilation of a Biodiversity Country Study, which has drawn together a huge body of information on Namibia's biodiversity. The National Biodiversity Task Force has identified a lack of trained manpower as a real constraint to the work in this area.

d) Meeting cross boundary conservation and resource sharing challenges.

Cooperation with neighbouring countries on planning and managing shared river basins, ecosystems and migratory species, and enhancing economic opportunities through collaborative trans-boundary initiatives are receiving increasing amounts of attention. This involves:

- Information exchange and joint research,
- Harmonization of policies e.g. in the case of shared rivers and water use,
- Coordinated policy implementation e.g. joint monitoring of transboundary resources and shared ecosystems, coordinated research and management.

8. IMPROVING GOVERNANCE

a) Speeding up the devolution and decentralisation process

The process of political and administrative decentralisation and the devolution of resource management rights, responsibilities and functions to the local level has moved rapidly in the past few years, for example in the sectors of local authorities, regional government, and natural resource management (water, forestry, wildlife, tourism). This has included:

- Devolving and decentralising right down to the lowest appropriate local level, so that a bureaucracy is not established at the regional level;
- First steps in harmonizing policies and inter-sectoral coordination of policy implementation at the national level, in particular on issues relating to land and integrated natural resource management;
- Local support services of different sectors cooperating at local level to enhance support to clients (communities).

b) Improving service provision and resource management efficiency

- Public-private partnerships (including joint ventures, the outsourcing of management tasks to parastatals, the private sector, and civil society groups and organisations) hold great promise for improved efficiency regarding service provision and resource management. Government has pronounced its strong support for "smart partnerships" that promote the efficient delivery of good and services as well as economic growth and sustainable development.

c) Upholding principles of human rights, civil liberties and multi-party democracy

Human rights, civil liberties and multi-party democracy are all essential ingredients for sustainable development to be successful. These vital components of a healthy society are only some 12 years old in Namibia. They have been hard fought for, and are dear to all Namibians. There is thus a strong commitment to uphold and secure them, by means of:-

- Strengthen the institutional framework;
- Strengthening the enabling environment for better representation and greater participation of stakeholder groups in governance, policy development and implementation;
- Building capacity and skills at all levels;
- Aggressively promoting economic development and equity;
- Making information broadly available and accessible; and
- Provide incentives for policies to build on informal as well as formal institutions.

d) Improving peace, stability and political commitment

Sustainable development can prosper only in a climate of political and social stability. Namibia therefore has embarked on a policy of harmonious and supportive cooperation and collaboration with its partners in SADC, including providing strategic assistance to resolving conflicts within the SADC region. The people of Namibia have resolved to support and promote the many vital policies promoting internal peace and stability, including those of reconciliation, affirmative action, equity, etc. Priority issues to continue on this path to prosperity include the need to:

- Enhance equitable and appropriate land re-distribution and resettlement systems that significantly reduce conflicts over land and resources;
- Strengthen accountability of elected people, at all levels (public and private sector) to their constituencies; and
- Continue to protect press freedom and access to information.

9. IMPROVING EDUCATION, TRAINING AND CAPACITY

Capacity-building is one of the main challenges facing Namibia. There is nothing that gives a country a greater advantage in its development process than human skills and human capacity. This topic should thus be a major focal point for the next 10 years. A number of public forums have emphasized that the fastest way to reach development goals is through intensive skills training, education and capacity-building – almost in the same way that nations retrain citizens when they move onto a war footing – but in this case for peaceful development objectives. Capacity building should constitute at least 10% of all development programmes, and there should be strong incentives for the private sector to invest in development. The issue is of such fundamental importance, that it would warrant a special Presidential commission and Task Force to coordinate a national initiative. Recommendations for improving education and environmental education are discussed in Section D.

10. MEETING NAMIBIA'S HEALTH CHALLENGES

In addition to the progress made to date, there is a need to:-

- Continue to promote the approach of primary health care and improved access to clinics;
- Continue to raise awareness regarding the causes and consequences of the HIV/AIDS epidemic and to ensure adequate support to people and families that have fallen victim to this disease;
- Continue to practice preventative health care and improved health and safety in the work place;
- Improving the quality and efficiency of health care, and building the skills of health care professionals to ensure that there are sufficient skills at the right places, at the right times and at affordable costs; and

- Enforce strict air and water standards and pollution control so that there is adequate protection of Namibia's ecosystems and life support systems.

11. IMPROVING ACCESS TO EXISTING KNOWLEDGE AND FILLING GAPS

a) Improving access to knowledge

There is a need, not just for more data on environmental and economic issues but for standardizing data collection and storage, and making data readily accessible to technicians, managers and the public.

- An approach to free and ready access to information is beginning to emerge in many sectors in Namibia, as a result of the notion that development is best aided by open information flows. This is to be encouraged;
- Some information and knowledge in the private sector may need to be protected as intellectual property, through patents, copyright, trademarks, etc., but this should not be used as an excuse to restrict information sharing. Legitimate intellectual property protection is secured in a number of ways, and there is ongoing work to extend this to traditional and customary knowledge systems through domestic legislation;

b) Research

Information-based decision-making, monitoring and adaptive management are interlinked and important components for sustainable development. An unrestrictive research policy environment is also important, as many of the outcomes of research are unknown, and many of the resulting application are not anticipated. Thus, Namibia's research environment makes provision for:

- Both local and visiting researchers, and a relatively light regulatory framework that encourages collaboration and sharing of information, aims to protect peoples' rights and intellectual knowledge, protects fauna and flora from abuse, controls access to protected areas, etc.
- Allows for both open and directed research focus; and
- Encourages the establishment of links by overseas researchers and institutions to Namibian institutions (e.g. UNAM) and promotes capacity building of Namibian students and institutions; and

A review of the research policy framework is currently under review, to look at ways of improving and encouraging research.

c) Monitoring

Sound sustainable development planning and implementation is not possible without appropriate monitoring efforts. This issue is being addressed through a dedicated programme to monitor the state of Namibia's environment (social, economic, ecological, institutional) by means of a series of selected indicators, and to compile annual reports for different target audiences, ranging from senior decision-makers in Parliament, to technicians at management level, to the general public. This work has demonstrated the need for more systematic and comprehensive collection of information, and close collaboration between different agencies.

12. CREATING A MORE STABLE MACROECONOMIC ENVIRONMENT

In order to enhance macro-economic stability in Namibia there is a need to:

- Maintain a sound economic policy and management framework

- Address the growing government budget deficit, Namibia’s growing trade imbalances and uncertainties regarding foreign direct investment through:
 - A reduction in government expenditure;
 - The creation of incentives for investment in projects that capitalise on Namibia’s comparative advantages (Ref. Section D, point 3a) and incorporate economically rational development plans that aim to make a net contribution to the economy in terms of TEV; and
 - The granting of secure tenure over land and resources so that communal and freehold farmers, concessionaires and other investors have incentives to invest in the country and the future.
- Improve awareness of market requirements (e.g. tourism, agricultural produce, fish, minerals) and monitoring market responses to Namibia’s products;
- Increase exports by adding value to primary export goods through domestic processing;
- Seize on opportunities for import substitution; and
- Create financial incentives (such as tax breaks, subsidies and low interest credits) to encourage private enterprise development (in particular the development of small and medium businesses) and environmentally friendly technologies (Section A, Box 1). There is also a need to promote entrepreneurial activity by de-regulating the business environment and encouraging informal sector activity.

13. PREPARING FOR THE ADVERSE IMPACTS OF CLIMATE CHANGE

The potential impacts of increasing weather variability and progressive sea level rise are likely to be disastrous for Namibia. Consequently there is a need to identify cost-effective adaptive management approaches and national disaster response strategies to these impacts and, once identified, to incorporate them within Namibia’s National Development Plans.

In conclusion

Considerable progress has been made since UNCED, particularly in the area of mainlining sustainable development at the heart of national development planning – within NDP2 and Vision 2030. The effectiveness of this approach needs to be monitored and evaluated, but it offers the best vehicle to ensure that sustainable development objectives cut across all sectors of national development. It could be a model for international interest.

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