



**Rapid Strategic Environmental Assessment
of the
Fourth National Development Plan
and Associated Policies and Strategies
in Namibia**

*Final Report
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Note:

References are made in brackets in this report to page numbers in the summary of main texts of NDP4 and Vision 2030 where quotes are drawn from or particular points are made. (eg S15 means page 15 of summary; 28 means page 28 of main report)

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ACRONYMS AND ABBREVIATIONS

BEE	Black economic empowerment
CA	Conservation agriculture
CBNRM	Community-based natural resource management
DEA	Department of Environmental Affairs (of MET)
EAPAN	Environmental Assessment Professionals of Namibia
EIA	Environmental impact assessment
EMP	Environmental management plan
FLT	Flexible land tenure
GDP	Gross Domestic Product
GRN	Government of the Republic of Namibia
GS	Green scheme
HIV/AIDS	Human immune-deficiency virus/ acquired immune deficiency syndrome
ICZMP	integrated Coastal Zone Management Plan
IIED	International Institute for Environment and Development
IPM	Integrated pest management
IRBM	Integrated results-based management
KRA	Key Results Area
LA21	Local Agenda 21
LUP	Land use plan/planning
MAWF	Ministry of Agriculture, Water and Forestry
MET	Ministry of Environment and Tourism
M&E	Monitoring and evaluation
MFMR	Ministry of Fisheries and Marine Resources
ML	Ministry of Lands
MME	Ministry of Mines and Energy
M/O/A	Ministries, offices and agencies
MRLGHRD	Ministry of Regional Local Government and Housing and Rural Development
NamPower	Namibia Power Corporation (Pty) Ltd
NAPHA	Namibia Professional Hunters Association
NBSAP2	Second National Biodiversity Strategy and Action Plan
NDP	National Development Plan
NGO	Non-governmental organisation
NP	National park
NPC	National Planning Commission
NR	Natural resources
NRA	Natural resource accounts
NWR	Namibia Wildlife Resorts (state-owned company)
OECD	Organisation for Economic Cooperation and Development
O/M/A	Offices, ministries and agencies (of government)
PA	Protected area
PIF	Project Identification Form
PPP	Policy, plan or programme
PSIP	Public Sector Investment Programme
RSA	Republic of South Africa
SADC	Southern African Development Community
SAIEA	Southern Africa Institute for Environmental Assessment
SEA	Strategic environmental assessment
SME	Small or medium-sized enterprise
TFCA	Trans-frontier conservation area
V-2030	Vision 2030
WB	Walvis Bay
WPC	Water Point Committee

EXECUTIVE SUMMARY

This ex-post *rapid SEA* was conducted in four weeks and provides an illustration of only the key environmental and social issues and concerns that an NDP would need to address. It aims, therefore to help identify gaps that may need to be addressed in implementing NDP4 and to provide a platform for further analysis in developing NDP5. A full SEA for a complex subject such as an NDP would normally take many months in order to examine the full array of issues and engage systematically with stakeholders. This assessment reviews NDP4, Vision-2030 and associated sector policies and strategies in the context of sustainable development. Sector implementation plans were not part of this exercise.



The key objectives set in the Terms of Reference were to (a) identify the likely *cumulative environmental and social impacts* of implementing NDP4, and critical environmental and social issues that are not adequately covered, in order to (b) provide a basis for sectors to consider how such issues can be better addressed when implementing their policies, plans and programmes during NDP4 implementation. Our main conclusions are as follows:

Vision 2030 addresses environmental objectives and concerns, and it is understood that NDPs (which are complimentary to Vision 2030), will not necessarily repeat them in any detail. NDP4 itself focuses on a few key sectors in which it seeks to stimulate particular progress. Implementation of NDP4 and Vision-2030 is likely to provide *overall benefits to the national economy* through multipliers, and undoubtedly will generate positive environmental and social impacts, eg: conservation improvements; improved economic viability of tourism operations; increased range of services in remote areas; increased employment, skills development and livelihood opportunities.

However, analysis for this rapid SEA shows a number of *contradictions within Namibia's policy 'basket'* (both within and between policies) which may generate environmental and social problems with *negative impacts* including: land degradation; loss of scenic value and sense of place, habitat and biodiversity loss; pollution of land, water and air; over-abstraction of water from rivers and aquifers; livelihood insecurity, involuntary resettlement and health impacts. Examples of *policies that may negatively affect each other* include: industrialisation versus tourism, irrigation versus other uses of water (e.g. for industry and urban growth); and mining versus fisheries. It would be useful for future NDPs to address the linkages between key sectors, identify where synergies can be achieved, and policy oppositions reduced, and consider the implications of cumulative environmental or social impacts (positive or negative).

Most, if not all. governments are structured by sectors so that de facto *planning and policy implementation is also conducted along sectoral lines*. As a consequence, sector policies, strategies, programmes, plans and projects are often inadequately aligned and integrated. Higher level mechanisms are needed (perhaps best driven by NPC in the case of Namibia) to provide for greater multi-stakeholder dialogue and reflection on key challenges (particularly environmental and social) and possible solutions, leading to better selection of policy priorities and implementation modalities. This would have the added benefit of generating wider stakeholder buy-in when agreeing the

objectives of successive NDPs, and lead to improved cooperation in planning and implementation.

Policy inconsistencies are sometimes not obvious at national level, and cumulative environment and social impacts will always be difficult to identify at this level due to the general nature of policies. But they become much clearer at more local levels where their translation into implementation becomes more specific - especially in areas that are fast-developing as *industrial hubs*.

As part of strengthening the implementation of NDP4, we suggest three steps:

- A *high-level workshop* to present the results of this SEA to senior government officials, those responsible for preparing all sector implementation plans, other experts/stakeholders (to provide broader perspectives). This would be followed by facilitated sessions to unpack key oppositions and potential synergies (within and between sectors), and identify potential steps to reduce or build on these respectively. This could helpfully be a part of developing and adjusting/finalising (where drafts have already been prepared) NDP4 implementation plans, involving those responsible for developing the plans and other stakeholders (to provide broader perspectives).
- Pilot, facilitated, round table, *multi-sector consultations in selected major 'development hubs'* These round tables would strategise on how to reach overall national goals in those specific geographic development hub areas. This approach would complement existing processes where sectors prepare stand-alone implementation strategies in response to NDP4. It would help identify how to ensure that, in the selected hubs, sector approaches are mutually synergistic and supportive and overcome conflicting or divergent approaches between them, and reduce cumulative impacts of a range of projects in each hub. Such a pilot exercise would provide valuable lessons and may suggest an additional way of focusing future NDPs.
- *NPC's economic analytical work could be strengthened by taking better account of natural resource and environmental values.* In particular current national and sectoral planning does not adequately incorporate consideration of changes in the capital asset value of natural resources. A comprehensive way to ensure this would be to *activate and institutionalise the natural resource accounting (NRA) programme, including ongoing development of NRA and related focused research and analysis of ecosystem service values.*

Development hubs are fast-developing areas (because of multi-sector growth) with many projects being established in proximity to each other at the same time, thus causing cumulative impacts but also offering opportunities for synergy. Examples of such hubs include:

- Windhoek–Okahandja;
- Central Namib and coastline, and;
- North-central Namibia.

Development hubs are not necessarily the same thing as *logistical hubs*, though there could be overlap between the two (e.g. Walvis Bay).

We conclude that the preparation of future NDPs could be supported and strengthened by adopting a *full SEA-type of process*, either as a parallel process or, better still, to fully embed such an approach within NDP development. Some broad guidance for how to address environment and social issues through such an approach is provided in Appendix 7. Such an umbrella SEA would also provide a linking framework for more focused SEAs undertaken for individual sector policies, plans and programmes.

1: BACKGROUND

1.1 Introduction

Vision-2030 was approved in 2004. It sets the nation's long-term vision for 2030 as “*A prosperous and industrialised Namibia, developed by her human resources, enjoying peace, harmony and political stability*”. In particular, Vision-2030 provides long-term alternative policy scenarios on the future course of development in Namibia at different points in time up until the target year 2030. It spells out the country's development programmes and strategies to achieve its national objectives, focusing on eight themes to realise the long-term vision:

- 1 Inequality and social welfare;
- 2 Peace and political stability
- 3 Human resources development and institutional capacity-building;
- 4 Macro-economic issues;
- 5 Population, health and development;
- 6 Namibia's natural resources sector;
- 7 Knowledge, information and technology; and
- 8 Factors of the external environment.

The driving forces for realising the objectives of Vision 2030 are identified as:

- Education, Science and Technology;
- Health and Development;
- Sustainable Agriculture;
- Peace and Social Justice; and
- Gender Equality.

Box 1: Goals of Vision 2030

The goal of the Vision is to “*improve the quality of life of the people of Namibia to the level of their counterparts in the developed world, by 2030*”. Thus it is concerned with the population in relation to their social, economic and overall well-being. It aims to transform Namibia into a healthy and food-secure nation, in which all preventable, infectious and parasitic diseases (including HIV/AIDS) are under secure control, people enjoy high standards of living, a good quality of life and have access to quality education, health and other vital services. All of these aspirations translate into a long life expectancy and sustainable population growth.

The Vision is also designed to promote the creation of a diversified, open market economy, with a resource-based industrial sector and commercial agriculture, placing great emphasis on skills development. The Vision also aims to promote competitiveness in the export sector, in terms of product quality and differentiation.

Capacity-building will be pursued with the utmost vigour by both the private and public sectors to support the objectives of Vision 2030. The country will, furthermore, operate a totally integrated, unified, flexible and high quality education and training system that prepares Namibian learners to take advantage of a rapidly changing global environment, including developments in science and technology. The capacity building will transform Namibia into a knowledge-based society and changes in production and information technology will revolutionise all aspects of the manufacturing process.

Vision 2030 is expected to reduce inequalities and move the nation significantly up the scale of human development, to be ranked high among the developed countries in the world.

By 2030, Namibia aims to be a just, moral, tolerant and safe society with legislative, economic and social structures in place to eliminate marginalisation and ensure peace and equity between women and men, the diverse ethnic groups and people of different ages, interests and abilities.

One of the major principles upon which Vision 2030 is based is "partnerships", which is recognised as a major prerequisite for the achievement of dynamic, efficient and sustainable development. This involves partnership between government, communities and civil society, partnership between different branches of government, with the private sector, non-governmental organisations, community-based organisations and the international community, partnership between urban and rural societies and, ultimately between all members of the Namibian society.

Vision-2030 is designed to serve as a guide for Namibia's five-year national development plans, fully embracing sustainable development as its cornerstone. NDP3 was the first National Plan to be framed around the eight Vision 2030 objectives (Box 2).

Box 2: Focus of NDP3 (2007/08 – 2011/12)

NDP3 was formulated by 10 thematic working groups using an Integrated Results Based Management (IRBM) approach focusing on the appropriate and timely achievement of relevant goals/results at all levels through systematic strategic planning; efficient resource use during implementation; performance monitoring, reporting and evaluation; and systematic utilization of the performance information to improve service delivery and policy decision-making at all levels.

The main theme of the NDP3 was "*Accelerated Economic Growth and Deepening Rural Development*". It comprised 21 goals across eight Key Result Areas (KRAs), corresponding to each of the Vision 2030 Objectives (with two of the KRAs sub-divided into sub-KRAs):

- Competitive economy
- Productive utilisation of natural resource and environmental sustainability
- Productive and competitive human resources and institutions
- Knowledge-based economy and technology-driven nation
- Quality of life
- Equality and social welfare
- Peace, security and political stability
- Regional and international stability and integration

The document contains two volumes: Volume I comprises a review of implementation of NDP2; details of NDP3 with chapters describing the performance and strategies for each KRA; and arrangements for implementation, monitoring, reporting and evaluation. Volume II includes the Public Sector Investment Programme (PSIP).

In July 2012, the National Planning Commission published the Namibia's Fourth National Development Plan (NDP4) covering the period 2012/13 to 2016/17. The detailed programmes on how to achieve the various NDP4 goals and targets is now being led by the various Offices, Ministries and Agencies (O/M/As) responsible for the relevant sectors. These detailed O/M/A plans will be scrutinized by the National Planning Commission (NPC) to ensure that they fit into the programme logic and have a reasonable chance of being actualized.

Previous NDPs contained many goals and many proposed strategic actions to achieve them (see Box 2). But the country faces a range of challenges and progress during implementation was limited. Thus, in an effort better to achieve progress towards the aims of Vision-2030, NDP4 focuses on just three carefully selected and sequenced goals (and associated target values):

- high and sustained economic growth;
- increased income equality; and

- employment creation.

While other sectors will not be neglected, attention is focused on four priority economic sectors to create the necessary momentum for economic growth and to ensure the impact and results of the country's efforts are optimal: logistics, tourism, manufacturing and agriculture. There is also a strong emphasis on formalised monitoring and evaluation (M&E) (by NPC) to encourage accountability.

A key question is the extent to which environmental and associated social concerns are addressed in NDP4. Thus, in support of the NDP4 process, the Directorate of Environmental Affairs (DEA) commissioned the International Institute for Environment and Development (IIED) and the Southern Africa Institute for Environmental Assessment (SAIEA) to conduct a rapid strategic environmental assessment (SEA) of NDP4 to:

- Demonstrate value of SEA as instrument to address environmental sustainability and sustainable development;
- Draw attention to possible major environmental concerns and how to address them when implementing the basic enablers and economic priorities;
- Clarify role of renewable natural resources, especially biodiversity and ecosystem services, not only as basic enablers of development but also as contributors to achieving economic growth as priorities.

The specific objectives of the SEA set by the Terms of Reference were to:

- review NDP4 in the context of sustainability to:
 - Identify the likely environmental and social impacts of its implementation, and critical environmental and social issues not addressed in NDP4; in order to
 - provide a basis for sectors to consider adjustments to policies, plans and programmes during NDP4 implementation.
- Provide simple guideline and check-list for use during NDP5 preparation to help in addressing environmental and sustainability considerations.

1.2 Development of NDP4

NDP4 was developed between September 2011 and July 2012 - rather more quickly than had been expected. There was a delay in starting the process, partially due to a change in the leadership and structure of NPC. A concept paper was first prepared setting out its proposed scope as a 'high-level' document focusing on four priority sectors rather than a 'stapled' collection of what all sectors are already doing. This approach was discussed at a stakeholder meeting with ministries, development partners, unions and NGOs. The concept paper was then presented to and approved by Cabinet. Drafting of NDP4 was undertaken by a Committee (seconded officials from government and parastatals) in consultation with the lead entities for each priority sector. Workshops were organised with the leads entities and also with a limited number of key stakeholders. One of the Committee members was responsible for handling environmental concerns and consulted with MET. Then the Minister of Environment and Tourism met with the Director General of NPC and it was agreed that the MET would submit a contribution on environmental issues to be incorporated in the NDP4 document.

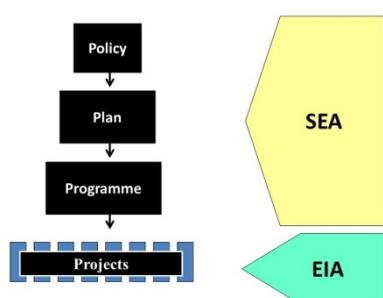
Following approval of NDP4, key sectors were requested to develop sector plans setting out their modalities to implement their contributions to achieving the plan's sector goals. To raise understanding and provide orientation for this task, NPC organised several sensitisation meetings

(some are still continuing) with these key sectors. Progress in preparing sector plans has been slow: most sectors have submitted first draft to the NPC for review and comment, but the NPC estimates that only 50% of these have so far been completed.

1.3 Methodology for rapid SEA

Guidance produced by the OECD Development Assistance Committee defines SEA as “*analytical and participatory approaches to strategic decision-making that aims to integrate environmental considerations into policies, plans and programmes (PPPs) and evaluate the inter linkages with economic and social considerations*” (OECD-DAC 2006). It differs from environmental impact assessment (EIA) which is focused at the more specific levels of individual projects that are undertaken when implementing PPPs (see Figure 1). A broadly common approach is used for undertaking EIAs most countries. By comparison, one of the main principles of SEA is that there is no ‘one size fits all’ approach. It must be customised to each context in which it is applied.

Figure 1: Relationship between SEA and EIA



A key challenge for this particular application has been that SEA has seldom, if ever, been applied to a national development plan (Dalal-Clayton & Sadler 2005). So the approach applied in this case can be seen as a pioneering exercise. Furthermore, SEA is most useful when undertaken as a fully integrated part of the planning process itself (see Appendix 4 for a profile of how SEA works), or at least as a parallel process with opportunities identified to inform and support such planning. In this regard, an SEA of an NDP would be expected to take as long as plan development itself (probably in excess of one year). But, in this case, the NDP4 has already been approved by Cabinet and is under implementation. So the SEA could only be an *ex-post* process. Four weeks were allocated for its conduct to meet the objectives set by MET (see section 1) and so as to be useful to NPC and sectors as soon as possible in finalising implementation plans for NDP4. As a result, this SEA is actually a ‘rapid SEA’ and could not be pursued in the way that a full SEA over a longer period might have been designed. In this regard, it might be viewed as doubly experimental.

We interpret the purpose of sequential NDPs to be to deliver Vision-2030 and thus sustainable development, proposing course corrections where necessary. To maintain a sustainable development focus, the SEA needed to assess how NDP4 affects, and is influenced by, the entire policy landscape. But NDP4 is focused on only four priority sectors – and thus other sectors are not discussed in detail. So the SEA could not be an assessment of the NDP4 document alone; a wider perspective was required. It therefore involved a preparatory initial desk review of NDP4, Vision-2030 and key sector policies, as well as several other policies (National Biodiversity Strategy and Action Plan 2, the Human-wildlife conflict policy and the Climate Change Policy). Each of these documents was analysed in terms of their main objectives and the strategies identified to achieve those objectives

against five strategic policy clusters that drive development in Namibia: land and agriculture, water, conservation and tourism, mining and industry, and fisheries. These analyses are presented in Appendices 2.1 – 2.4.

Half-day, facilitated, multi-stakeholder focus sessions for representatives of Namibian institutions (participants numbers ranging between 15 and 25) were then convened for each of these five clusters. In each session, participants reviewed the main thrusts of the concerned policies and participants shared perspectives on policy performance (eg implementation contributing well or poorly to sustainable development). They also examined where there were potential synergies between policies that could be built on (invested in) to foster sustainable development, and where there were oppositions in policy directions or divergent aims/approaches that could potentially lead to conflicts between development interventions that would undermine sustainability. Participants also identified how policies elements might be improved to enhance synergies/reduce oppositions and improve their contribution to sustainable development and achieving the goals of NDP4 and Vision-2030. The results of the focus session deliberations are presented in Appendix 3 and provide a basis for many of our recommendations.



Focus session

In a rapid SEA of very limited duration, it was not possible to analyse all policies, nor the myriad, complex linkages between them and the anastomosing web of impacts associated with them. That is the function of a full SEA and takes considerable time and effort. However, the focus sessions revealed well the main concerns identified by the Namibian stakeholders.

We then undertook ‘snapshot’ analyses of key sectors. Each snapshot summarises the key objectives and strategies set out in Vision 2030, NDP4 and the relevant standing sector policies (more detailed analysis is provided in the preparatory desk reviews of key documents – see Appendices 2.1 – 2.4). It also provides a summary assessment of the key cumulative impacts, oppositions and synergy options associated with the sector. Case boxes are included to illustrate some of the oppositions or synergies identified.

In addition, we carried out briefer assessments of the energy, health and education sectors to identify the main environmental and social issues related to the main objectives set for these in Vision-2030 and NDP4.

Inputs by Namibian stakeholders was provided in several ways. Firstly through the multi-stakeholder thematic focus sessions which involved co-construction of the policy analyses presented in Appendix 3. These analytical tables were made available to participants (via the SAIEA website – with a link provided to all participants and consultees) for review and feedback, and 12 people suggested corrections and amplifications to the tables, and others contributed boxes for the text. The draft report of this rapid SEA was also made available on the SAIEA website. A few individuals offered final suggestions which were also incorporated in this final version of the report.

2: CUMULATIVE IMPACTS, OPPOSITIONS AND SYNERGIES OF KEY DRIVER SECTORS

In this section, snapshot analyses are provided for the following sectors:

(a) Priority economic sectors identified in NDP4:

- 2.1 Agriculture
- 2.2 Logistics (including infrastructure)
- 2.3 Tourism
- 2.4 Manufacturing (and industry)

(b) Other sectors not specifically addressed in NDP – that drive the economy:

- 2.5 Land
- 2.6 Mining
- 2.7 Water
- 2.8 Conservation
- 2.9 Fisheries

Commentary is also provided in section 2.10 on environmental and social aspects of the health, education and energy sectors.

2.1 AGRICULTURE

Vision 2030

The overall goal of Vision 2030 is: *“A healthy, productive land and mineral cycling, leading to infrequent, low-level drought and flooding. Rivers run permanently and clear. No atmospheric pollution emanates from croplands and rangelands, and only minimal pollution from urban and industrial areas is experienced. Farms and natural ecosystems are productive, efficient, diverse, stable and sustainable – socially, economically and ecologically”* (S15)¹. Vision-2030 continues to emphasise the role of agriculture in reducing poverty and ensuring environmental sustainability (S28).

A key strategy for achieving this is identified as the modernisation of agricultural practices so that Namibia achieves high incomes and food security at household and national levels, and agriculture continue to support the sustainable and equitable growth of Namibia’s economy, whilst maintaining & improving land capability” (S42).

Vision-2030 also seeks to ensure that all Namibians have equitable access to land and other natural resources, and that these resources are sustainably and efficiently used, while maximising Namibia’s comparative advantages (142). This will include the cultivation of high value crops (S43) and avoidance of dangerous pesticides and replacement by integrated pest management (S43).

NDP4

NDP4 sets an ambitious target of 4% growth per year (xviii). It aims to increase household food security (65.67), stimulate large-scale development of the agri-business and agro-industrial sectors (106), and increase land carrying capacity (xviii). Debushing is identified as a key strategy for increasing productive farmland and grazing (106).

These goals are to be delivered through: expanding green schemes (xviii); focusing on cereals, horticultural produce & fruit (106), and establishing and assisting access to fresh produce and livestock markets (xviii, 109). Furthermore, there is a strong linkage within the agriculture component of NDP4 and the need for improved procedures for land reform so that people can acquire and own land for business and housing development (39).

Agriculture sector policy objectives

The policy sets the goal for Namibia to produce 50% of its cereals needs, cultivating 27,000 ha in formal cultivated fields by 2020. It also aims to achieve food production at a rate higher than population growth, improving livelihoods and jobs and adding value to agricultural products, whilst using the land and natural resources sustainably.

The Drought Policy aims to achieve improved drought preparedness through better forecasting and the establishment of a support scheme that enables timely de-stocking during drought and re-stocking afterwards. It proposes the establishment of a Drought Fund and decentralised support for drought response. Moreover, there shall be a continuous supply of potable water to communities and a mechanism for keeping reproductive livestock herds during droughts.

¹ References (eg S15) refer to page number in the Summary of Vision 2030

Key cumulative impacts, oppositions and synergy options for selected policy components

Selected policy components	Key cumulative impacts	Key oppositions	Key synergy options
Green schemes (GS)	<p><u>Positives</u></p> <ul style="list-style-type: none"> • Overall benefit to national economy through multipliers. • Stimulates ancillary industry and services (engineering, chemicals, transport, banking, etc.). • Provides jobs, income opportunities, skills training. • Attracts expatriate expertise. <p><u>Negative</u> If number of GS increases significantly, then:</p> <ul style="list-style-type: none"> • Over-abstraction of water (cumulatively by GS and other sectors). • Habitat and biodiversity loss (through land clearing and pesticide use). • Eutrophication (through excess use of artificial fertilisers). • Involuntary resettlement (through displacement of people to make way for GS). 	<ul style="list-style-type: none"> • GS vs subsistence agriculture: Land previously used for traditional agriculture alienated for GSs. • GS vs conservation and tourism: Many GSs located adjacent to major rivers that are important for biodiversity and already utilised for tourism. 	<ul style="list-style-type: none"> • Conservation agriculture and multi-cropping within GS: maintains more habitat diversity, reduces need for fertilisers, reduces risk if one crop fails. • Local involvement in GS: involvement of local people and small-scale farmers in GSs would improve livelihoods whilst reducing their dependence on unsustainable farming. • GS and industrialisation: where possible, locate new GS near industrialisation and urbanisation hubs (closer to labour, markets, social infrastructure, and reduces transport impacts).
General agriculture	<p><u>Positive</u></p> <ul style="list-style-type: none"> • Overall benefit to national economy through multipliers. • Stimulates ancillary industry and services (engineering, chemicals, transport, banking, etc.). • Provides jobs, income opportunities, skills training. <p><u>Negative</u></p> <ul style="list-style-type: none"> • Land degradation (including bush encroachment) and biodiversity loss (e.g. because of overstocking, inappropriate use of fire, pesticide and poison use). • Livelihood insecurity (due to farming marginal land vulnerable to climate variability and change). 	<ul style="list-style-type: none"> • Human-wildlife conflict: expanding farming areas encroach on wildlife ranges including the establishment of permanent farms adjacent to national parks. 	<ul style="list-style-type: none"> • Livestock and wildlife: potential to integrate livestock and wildlife management and production (mixed farming is more productive, spreads risks and reduces vulnerability to climate variability and change. GRN should encourage formation of freehold conservancies as well as continue supporting CBNRM). • Farming and tourism: mixed game and livestock farming enables income diversification (Box 3).

Box 3: Mixed farming

Livestock farming is the most prevalent form of land use on freehold farms in Namibia, but farming with game and livestock is increasing. Approximately 288,000 km² of freehold land is used for mixed farming and about 32,000 km² is used exclusively for wildlife production. Owing to the expansion of trophy hunting and ecotourism, the economic output of wildlife on freehold land is approaching that of livestock (despite veterinary policies which favour the latter and which markedly reduce potential returns from wildlife). Wildlife is likely to continue to increase in prevalence in future and may exceed the economic contribution of livestock farming in the near or medium term. Research in South Africa, Zimbabwe and southern Namibia suggests that including wildlife ranching as part of farming results in better economic returns, more jobs, improved food security and lower risks to climate change. However, wildlife farming has not been developed to anything near its potential in Namibia (Source Lindsey 2011).



Mixed farming with livestock and wildlife enables a broader spectrum of vegetation to be utilised as cattle are grazers, whilst game such as kudu, are mostly browsers.

2.2 LOGISTICS (AND INFRASTRUCTURE)

Vision 2030

Vision-2030 envisages the establish of a national network of infrastructure such as road, rail, telecommunications and port facilities (S16), and water & electricity (S27), with transport infrastructure serving rural and urban communities (S27) and Namibia becoming a regional transport hub (S27). In addition, ICT will be used to enhance social and economic transformation (S31). Regarding production technology, the aims are: to achieve energy supply through appropriate diversity of economically competitive and reliable sources; ensure that all households and communities have access to affordable and appropriate energy supplies; and achieve enhanced local technological development with a focus on appropriate technology (87). For the urban environment, it is intended to achieve integrated urban and rural development in which there are opportunities for innovative and sustainable employment, with well planned, well managed, clean, safe and aesthetically pleasing urban areas (173).

Transport objectives are to be achieved through: drawing up and implement a master plan for airports (68) and to revise/promulgate new maritime legislation to ensure the prevention of marine pollution (68), and implementing the policies of the Transport White Paper (68).

Production technology objectives will be achieved through, for example: basing industry and major projects on natural resources (e.g. power generation from ‘Kudu Gas’ at Oranjemund; a national water transfer and management system to optimise sustainable water use, including social and ecological needs; and use of lime & gypsum resources). There will also be: investment in mining, food-processing and service sector; promotion of renewable energy sources and projects to produce from these sources to meet industry demand. In addition, a duty-free corridor network is proposed to be established along roads joining capitals of SADC countries and ports on the East and West coasts; and sound environmental standards adhered to in the distribution and consumption of energy (87).

Objectives for the urban environment will be met by, for example: (a) incorporating a clear urban development plan in the NDP – to reduce land conversion, improve infrastructure for water supply, provide opportunities for energy savings, make recycling of waste and water more cost effective; (b) improving urban environmental management (more effective waste collection, implementing strict legislation on treating hazardous wastes, adopting sustainable energy policies); and (c) improving urban governance decentralising responsibilities, securing partnership between civil society actors, making local authorities accountable to citizens, promoting public participation in development decisions) (173).

NDP4

Logistics is a foundation issue in NDP4 which envisages: a high quality transport linked to Walvis Bay (xvi, 71); an increase in the percentage of modern housing (xvi, 71); improvements to ICT infrastructure; enhanced power generation (20); ensuring adequate base-load energy infrastructure (71); and promoting Namibia as logistics hub (84).

These objectives are to be achieved through: expanding Walvis Bay port and upgrading/expanding port storage facilities (87); doubling Walvis Bay cargo-handling and rail-transported cargo (71); upgrading roads and constructing some new roads (74); replacing sections of rail infrastructure (74); upgrading airport facilities and increase the supply of residential serviced land (71); developing a gas- or coal-fired power station (Nampower projects in the pipeline) (75); promoting electricity-saving technologies (75); investing in the desired energy mix (78); and preparing a national infrastructure development plan (89).

Logistics/infrastructure sector policy objectives

No individual ministry has overall responsibility for infrastructure development and management in Namibia. Rather this is spread across a range of O/M/As. As a result, sector policies addressing logistics/infrastructure have to be analysed.

Key cumulative impacts, oppositions and synergy options for selected policy components

Policy component	Key cumulative impacts	Key oppositions	Key synergy options
New power generation & transmission infrastructure	<p><u>Positive</u></p> <ul style="list-style-type: none"> Affordable power will enable industrialisation & sustained economic growth. If power generation options include household and village-level solar capture (off-grid), there should be reduced deforestation for fuelwood. <p><u>Negative</u></p> <ul style="list-style-type: none"> Most industrial-scale power generating facilities have significant environmental impacts. These will be cumulative if, for example, multiple hydropower schemes are located on a single river (e.g. altered ecological functioning of the river), or coal/diesel stations are sited in close proximity to each other (e.g. pollution & health impacts). Expansion of grid transmission lines pose increasing threats to birds, particularly bustards & flamingoes 	<ul style="list-style-type: none"> Power generation & transmission vs biodiversity: As noted in the impacts column, cumulative biophysical impacts are a cause for concern. Power transmission vs tourism: In Namibia's open landscapes, powerlines are highly visible and easily reduce sense of place. A proliferation of powerlines in important tourism areas may present opportunity costs, e.g. Central Namib, Kunene. 	<ul style="list-style-type: none"> Power and households: If incentives are provided for investment in household panels, energy surplus to domestic requirements could be fed into the grid, supporting national demand whilst reducing household energy bills (Box 4).
Port expansion	<p><u>Positive</u></p> <ul style="list-style-type: none"> Benefit to national economy through multipliers. Provides jobs, income opportunities, skills training. Attracts expatriate expertise. <p><u>Negative</u></p> <p>Habitat destruction, resulting in biodiversity loss.</p> <ul style="list-style-type: none"> Pollution (land, water & air) and associated health hazards and biodiversity loss. Intrusion onto residential and other urban areas. Increase in maritime traffic – with accidents, pollution and spread of alien invasive organisms and increased transmission of STDs in port areas. 	<ul style="list-style-type: none"> Ports vs conservation: Both of Namibia's ports are close to important coastal & wetland habitats. Routine port activities pose on-going pollution threats to nearby biodiversity whilst port expansions (e.g. dredging and land reclamation) increase the distribution of toxic substances (e.g. heavy metals in mud) Ports vs mariculture: The most suitable areas for shell-fish mariculture in Namibia are the calm waters & sheltered bays close to Walvis Bay & Luderitz ports. Ambient pollution levels, spiked by intermittent dredging & 	<ul style="list-style-type: none"> Ports and tourism: Both Walvis Bay & Luderitz already provide facilities and opportunities for tourism. But there is substantial potential for expansion – with social and economic benefits.

		accidents, threaten the viability of small but increasing mariculture industry, and may contaminate shell-fish.	
Improvement of existing road & rail infrastructure	<p><u>Positive</u></p> <ul style="list-style-type: none"> • Overall benefit to national economy through enabling marketing, improving efficiency, mobility, and attracting investment. • Provides jobs, income opportunities, skills training. <p><u>Negative</u></p> <p>Habitat destruction, resulting in biodiversity loss.</p> <ul style="list-style-type: none"> • Wildlife road kills, especially birds, reptiles & nocturnal mammals. • Increased accidents • Vector for STD transmission. 	<ul style="list-style-type: none"> • Roads/rail vs conservation: whilst essential for a modern economy, the development of new all-weather roads & rail in remote wilderness areas (e.g. northern Kunene) will undermine wilderness and sense of place attributes, biodiversity, and eco-tourism potential. 	<ul style="list-style-type: none"> • Roads/rail and power transmission: the impacts of roads/rail and powerlines could be reduced by establishing such infrastructure along existing or the same corridors.

Box 4: Alternative energy

Namibia's national development is critically linked to the security of its energy supplies. Only if energy supplies remain accessible, available and affordable can the nation be powered into the future. Currently, Namibia imports all of its liquid fuels and more than 60% of its electricity requirements. This exposes the country to the whims of international market forces without creating lasting local value. Such a strategic risk must be addressed with urgency, and it can.

Namibia should transform its energy sector to create a sustainable energy future. The energy sector can and should become a driver of economic growth. But a sustainable energy future does not just happen by itself. The nation's energy choices should catalyse long-term benefits through local sustainable value creation, while minimising import dependencies and non-sustainable resource use. Namibia's national energy supplies and their long-term security should be strengthened by deliberately embracing and developing renewable energy resources, which are abundant, safe and clean, and will remain so in future.

Namibia is blessed with substantial solar, wind and biomass resources. These renewable energy riches constitute a comparative national advantage that Namibia must more actively engage to propel its socio-economic development. Utilising renewable energy resources introduces long-term energy price stability, creates new and permanent local jobs in local value chains, and decreases non-productive and costly foreign currency outflows. At the same time, the increased uptake of renewable and energy efficient technologies hedges Namibia against the price increases of imported energy.

Policy drives investment. Investments in local energy resource use creates multiple local benefits and value, which are absent if Namibia continues importing power. NDPs should recognise the value of the country's renewable energy resources, and policies that incentivise the development and use of renewable energy, are urgently needed.

Source: Dr Detlof von Oertzen, VO Consulting, September 2013



MET Head office and its new roof mounted photovoltaic system

2.3 TOURISM

Vision 2030

Vision 2030 highlights that “*the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought-after commodities that must be regarded as valuable natural assets. Preserving these assets is fundamental to developing tourism as a sustainable economic sector, and helping Namibia to maintain a comparative advantage within the global market. Tourism has more potential as a sustainable industry than virtually any other form of economic development in Namibia*” (S29).

In particular, Vision-2030 encourages the pursuit of high quality, low-impact and non-consumptive tourism (S43), the development of mining tourism (S43), and an increase in nature tourism (e.g. low impact whale/seal and bird watching) (S44). Moreover, tourism is recognised as offering a broad range of environmentally friendly economic opportunities and livelihood options for the poor (S28), including people in remote rural areas. It is seen as providing a mechanism to improve and accelerate income-generation on conservancies to lessen dependency on government and other providers of support (157).

These objectives are to be achieved through: facilitating opportunities for people to derive economic value from wildlife species that impact on farming and livelihoods; updating State-owned park management and tourism development, while placing strong emphasis on high-value, low-impact tourism; and developing/enforcing appropriate environmental and tourism legislation (157), and updating management and tourism infrastructure (169).

NDP4

Namibia aims to become the leading tourism destination in sub-Saharan Africa by 2017 (xvii, 90). This is to be achieved through: increased tourism arrivals; reduced seasonality of tourism; improved geographical spread; and a conducive investment, administrative and regulatory environment. In addition, government will improve tourism marketing and examine ways to improve land tenure and investment options in communal lands (94). Improving the management of Namibia’s protected areas is also a stated priority (95).

Tourism sector policy objectives

The policy aims to promote tourism as a key industry with GRN as a facilitator/enabler and the private sector and the main implementer. In particular, government seeks to spread tourism investments and benefits more broadly (through CBNRM) so that previously disadvantaged people are able to become increasingly involved in this fast-growing sector. Also, the policy promotes good environmental practices in line with the idea of providing high quality low impact tourism products. The policy seeks to promote and maintain Namibia’s several comparative advantages, particularly its biodiversity, remote landscapes and cultural heritage.

Key cumulative impacts, oppositions and synergy options for selected policy components

Selected policy components	Key cumulative impacts	Key oppositions	Key synergy options
Increase tourism numbers	<p><u>Positive</u></p> <ul style="list-style-type: none"> • Overall benefit to national economy through multipliers. • Improved economic viability of tourism operations. • Increased range of services in remote areas (banks, fuel stations, shops, health facilities, roads, etc). • Stimulates wildlife conservation and farming (improves biodiversity and livelihoods). <p><u>Negative</u></p> <ul style="list-style-type: none"> • Congestion in bottleneck areas, e.g. Sossusvlei (reduces sense of place, creates waste management challenges). • Contribution to greenhouse gases through air travel. 	<p>Tourism vs traditional norms: tourists actions can generate cultural misunderstandings in some remote areas, e.g. Kunene.</p> <p>Tourism vs public recreation: accommodation prices rise since international visitors can afford them, disadvantaging locals.</p>	<p>Wildlife and farming: the stimulus for wildlife farming provided by tourism can enhance farming viability, especially in marginal areas (<i>mixed farming is more productive, spreads risks and reduces vulnerability to climate variability and change</i>) (Box 5).</p> <p>Tourism and mining: potential for mining-based tourism as well as engaging small-scale miners in tourism activities (Box 6).</p> <p>Tourism and agriculture: stimulus for local agro-processing to service tourism facilities (e.g. processed meats, dairy products, fruit and vegetables) .</p>
Maintain Namibia's several comparative advantages (silence, solitude, biodiversity & natural beauty)	<p><u>Positive</u></p> <ul style="list-style-type: none"> • Incremental conservation improvements driven by market demand. • Economic benefits from attracting film industry (feature films, corporate advertisements). 	None obvious	None obvious
Spreading investment and benefits (eg through CBNRM, deriving economic benefits from wildlife)	<p><u>Positive</u></p> <ul style="list-style-type: none"> • Increased employment, skills development and livelihood opportunities. • Stimulates biodiversity conservation. • Stimulates traditional skills & artforms (basket weaving, song & dance, carving). 	None obvious	CBNRM and land/rural development: MET & MLR could cooperate to develop group resettlement projects in areas suitable for wildlife & tourism, e.g. to west of Kaudum NP.

Box 5: Changing land use in Gondwana Canyon Park

The Gondwana Canyon Park (GCP) consists of 11 adjacent farms comprising about 126,000 ha, running north to south in a crescent shape, to the immediate east of the Fish River Canyon Park. The GCP is on the edge of the hyper-arid zone and can be defined as southern Namib desert, with a mean annual rainfall of about 80 mm. The area experiences a water deficit (rainfall minus evaporation) of over 3m per year. Rainfall is highly variable and unpredictable, and may fall during both summer and winter months.

From the early 1900's to 1997 the land that is now the GCP was used primarily for small-stock farming. Hunting of wildlife was practiced, usually as a secondary activity, and greatly in excess of sustainable off-takes. As a result, wildlife numbers were severely depressed and many species were locally extinct. The area is

unsuited to conventional farming due to its extreme aridity and highly variable rainfall. Because of this and other exacerbating factors, the veld condition at the time of purchase of the land was poor. The vegetation had been severely overgrazed resulting in the loss of perennial grasses, and there had been no recruitment of young plants of some species for many decades (e.g. quiver trees). Furthermore, there was severe sheet and gully erosion and large areas consisted of hard-crustured soils with no vegetation. Another consequence of small-stock farming was the eradication of predators, with unselective control measures, especially poisons, have had a severe impact on non-target scavengers, both mammals and birds. As a result, a number of important components of the ecosystem were totally eliminated, e.g. hyaenas and vultures, and others reduced to critically low levels.

Over the past 15 years the Gondwana Group has set up a programme with several objectives:

- research the historic distribution of mammals in the area of the GCP and to systematically reintroduce species which used to occur there;
- re-wild the area by removing all farm fences and other infrastructure, while establishing appropriate water points for wildlife;
- develop management and development plans for the GCP with monitoring, research and education components; and
- establish and market a set of tourism lodges and tourism activities to the highest environmental standards, to generate income, create jobs and build the skills and capacity of staff.

The GCP used this experience and leadership to bring together neighbours, both national park and private sector, to develop a large-scale collaborative landscape approach to land and natural resource management, which has subsequently been taken up into a national programme. In the GCP area the landscape programme now involved neighbours collaborating in an area of over 700,000 ha. The results of this change in land use are shown in Table 1.

Table 1: Changed land use in Gondwana Canyon Park

Parameter	Under farming	Under wildlife & tourism
1. No. large mammal species*	7	16
2. No. predator & scavenger species	2	8
3. Wildlife biomass (kg/ha)	0.2	7.7**
4. No. Hartmann's Mountain Zebra ⁺	20	1,500**
5. Financial gross income per hectare (N\$) ⁺⁺	15	165
6. Net cash income per hectare (N\$) ⁺⁺	0.48	23.0
7. Pro-poor income per ha (N\$) ⁺⁺	3.27	10.0
8. Financial rate of return (%)	9.8	12.9
9. Number jobs	12	122

* Steenbok size & larger

** June 2013 game count data

⁺ Cites 2 Red data endemic

⁺⁺ Barnes & Hamuvindu (2003)



In hyper-arid area wildlife and tourism has a comparative advantage over livestock.

Box 6: Gemstone tourism

In Namibia, between 3000 and 4000 individuals generate or supplement their income through artisanal gemstone mining, generating in excess of N\$ 5 million per year. High quality gemstones and mineral clusters are mostly sold as a raw product to jewelers or foreign collectors, while lower quality stones are sold directly to tourists or curio stalls. Conflict between small-scale miners and landowners (often tourism-based commercial and communal conservancies) is common, as miners often access properties illegally in order to excavate deposits. Waste from the excavations, litter and disturbed land are often left as scars on the landscape, reducing the tourism attraction of properties.

There is a potential synergy between landowners/conservancies and small-scale miners. A digger's route could be established as a novelty to add to the eco-tourism product of areas where small-scale mining takes place. Landowners (e.g. guest farms) could market guided tours of small-scale excavations, including providing opportunities for tourists to buy stones directly from the diggings, and watch them being polished and set into custom jewelry. In addition to the benefits to miners, the added 'tourism product' would lengthen the tourists' stay at a property or in a region. This would reduce conflict between the land-uses, result in improved control of mining operations, beneficiation and marketing opportunities to miners and increase tourism revenue for the landowner.



Small-scale miner in a hand dug tourmaline mine south of Karibib.

2.4 MANUFACTURING (AND INDUSTRY)

Vision 2030

Vision-2030 sets overall objectives to transform Namibia into an industrialised country of equal opportunities, which is globally competitive, realising its maximum growth on a sustainable basis, with improved quality of life for all Namibians, and to promote competitive export sectors (S8). It recognises the need for improving development planning and reducing the negative impact of industrialization, by preparing economically and ecologically rational development plans (179).

Regarding manufacturing, the aim is to increase manufacturing with a focus on strategic businesses (e.g. mineral beneficiation, agro- and fish-processing) (101). The manufacturing and service sector is expected to grow to constitute 80% of GDP with small- and medium-sized enterprises (SMEs) targeted to contribute more than 30% of GDP. The aim is that processed goods will account for over 70% of total exports and there will be a reduction in the export of raw materials (S16).

Amongst the strategies to achieve these objectives, the supply of locally cut/polished diamonds will be increased and mining inputs will be manufactured within Namibia (101). There will be direct subsidies to SMEs for machinery and tax subsidies (98), and preferential government procurement of local goods (100).

NDP4

NDP4 places limited emphasis on industry. But manufacturing is targeted as one of four priority sectors. By 2017, it is expected that the contribution of general manufacturing in constant Namibian Dollar terms will have increased by 50% over the baseline figure of the 2010 National Accounts, and significant strides will have been made in identifying and developing upstream and downstream economic activities in the minerals sector (100). Mineral beneficiation, and agro- and fish-processing are highlighted as having continuing potential (101).

Amongst the strategies to achieve the above goal, NDP4 echoes Vision-2030 in targeting to increase current levels of mineral beneficiation, particularly through increasing the supply of rough diamonds for local cutting and polishing, encouraging the potential for jewellery-making, and the manufacture of inputs (unspecified) to the mining sector.

Industry sector policy objectives

The policy is focused on Namibia becoming an industrialised nation by 2030 (delivering economic growth and jobs). Interestingly, it states that NDPs should be aligned with industrial policy (whereas we understand that sector policies must align to support Vision-2030 and NDP objectives). The policy advocates the selection of sectors with potential for creating linkages and achieving regional and global economic integration. Furthermore, it states that when and where necessary, infant industries will be protected. From a social and equity perspective, Black Economic Empowerment and reducing rural-urban disparities are encouraged; and from an environmental perspective, the policy recognises the importance of timely implementing environmental safeguards. Though this policy, GRN anticipates being proactive through, for example, facilitating export development programmes and supporting schemes like spatial industrial zones or economic zones, and a tax regime that stimulates business activities, SMEs and value-adding.

Key cumulative impacts, oppositions and synergy options for selected policy components

Selected policy components	Key cumulative impacts	Key oppositions	Key synergy options
Increased manufacturing, establishment of industrial zones & growth of SMEs.	<p><u>Positive</u></p> <ul style="list-style-type: none"> Benefit to national economy through multipliers. Stimulates services (transport, banking, etc.). Provides jobs, income opportunities, skills training. Attracts expatriate expertise. <p><u>Negative</u></p> <ul style="list-style-type: none"> Habitat destruction, resulting in biodiversity loss, reduced sense of place and compromised tourism products. Depletion of water resources (mainly groundwater, some surface). Pollution (land, water & air) and associated health hazards and biodiversity loss. Pressure on infrastructure (roads, energy, ports). 	<p>Manufacturing vs tourism: when several production facilities are located in an area important for tourism, their visibility makes the area unattractive, thus undermining tourism.</p> <p>Manufacturing vs conservation: growth in manufacturing is likely to be concentrated in a few hubs which are also important conservation areas, e.g. Greater Windhoek, Central Namib Coast. Thus, there is potential for conflict between these sectors.</p>	<p>Manufacturing and urban development: the economies of scale achieved through manufacturing hubs improves the ability of local authorities & other service providers to better invest in physical & social infrastructure (eg transport, health facilities, schools) needed to accommodate Namibia's rapidly urbanising population. Establishing 'sustainable cities' could have many positive environmental and social benefits (Box 7).</p> <p>Manufacturing and tourism: tourists will support local products such as those manufactured by cottage industries, e.g. curios, cosmetics from indigenous natural products.</p> <p>Manufacturing based on sustainably harvested biological resources: Up-scaling and further value addition of Biotrade value chains for export</p>

Box 7: Sustainable Cities

Worldwide, capitals, cities and urban areas are facing increasing environmental, social and economic challenges caused by inadequate physical and social infrastructure, including inefficient urban transport systems, poor waste management, inadequate sanitation, etc.

Windhoek is the main hub for manufacturing, retail, administration and other services in Namibia. It is growing at a fast rate of approximately 4,3% per year. Within 20 years it will have to cater for the needs of 1 million residents and it is not far-fetched to imagine that 50-100 years from now, the valley between Windhoek and Okahandja may be a contiguous urban landscape. A key task for the city and the government is to plan for future transport, housing, medical, energy, education and other needs and to cater for the growing population. For Windhoek to become a sustainable city, it is important to make the right land-use and planning decisions now to ensure that the needs of current and future generations are satisfied. The City of Windhoek and the Ministry of Works and Transport, with assistance from the German agency government, is developing a "Sustainable Urban Transport Master Plan for Windhoek including Rehoboth, Okahandja and Hosea Kutako International Airport. However, other government and non-government agencies need to be included in this initiative, since the issues are not limited to transport only.



Both Windhoek (left) and Swakopmund (right) are examples of fast growing towns. The photo of Swakopmund shows the sewerage works (centre of picture) being encircled by housing areas. This facility was once well outside of the main town!

2.5 LAND

Vision 2030

Vision-2030 envisages that “*Access to land is rationalised, with emphasis on individual tenure systems. New lands continue to be opened for settlement, but land located in communal areas, for seasonal grazing, becomes increasingly restricted. Land reform has expanded access to land in the southern and central areas of the country, at the level necessary to meet the pressing needs of all rural households, since effective land use plans have been implemented throughout the country*” (S37). It advocates to improve on various issues: access to productive resources (including land), environmental degradation, growing poverty and economic stagnation (S10). All citizens who are able will have equal opportunity to access and utilise the natural resources in the country (land, minerals, water, fisheries and marine resources, forestry, and wildlife) for their own benefit and the benefit of their families, communities and the nation (S37). Off-farm livelihood options will be created so that subsistence agriculture is almost non-existent (S28). There will also be a focus on integrated urban-rural development (S44) and improved access to urban land (S45).

These objectives will be achieved through: implementing a land and natural resource policy that ensures fair access by all to the means of production; integrated cross-sector planning and land-use planning; and equitable land distribution (S40); by providing incentives to invest in and develop land through systematic proclamation of smaller towns and new National Housing Policy (S45); and the removal of the Red Line vet fence (S43).

NDP4

NDP4 makes little reference to land issues with the exception of noting the need to increase land carrying capacity (xviii) and to promote debushing to increase productive farmland and increase grazing land (106).

Land sector policy objectives

Policy objectives include promoting land redistribution and reform, establishing urban areas, decentralisation, supporting resettled people through providing infrastructure and breeding stock, etc., and improving equitable land rights to enable security of tenure and investment.

Key cumulative impacts, oppositions and synergy options for selected policy components

Selected policy components	Key cumulative impacts	Key oppositions	Key synergy options
Land redistributed to previously disadvantaged Namibians	<p><u>Positive</u></p> <ul style="list-style-type: none"> Enhanced livelihood opportunities, and improved food production & economic development (provided resettlement projects are planned and implemented effectively). Enhanced social stability. <p><u>Negative</u></p> <ul style="list-style-type: none"> If resettlement farms are established in areas not suitable for permanent livestock ranching, then land degradation is likely; and when farms are too small to be economically viable and unable to provide a sustainable livelihood. 	<p>Resettlement vs productive land: Needy people who are resettled tend to have limited skills and capacity to farm land productively and become increasingly impoverished and dependent on the State.</p> <p>Resettlement vs conservation: where major resettlement schemes are located in proximity to NPs, and where the intended land use on those schemes will be conventional livestock farming, it is likely that human-wildlife conflicts will occur (Box 8).</p>	<p>Resettlement and wildlife: livestock farming on resettled land can be combined with wildlife, or wildlife management could be the principle (and more profitable) form of land use, especially in marginal areas and adjacent to NPs, e.g. Khaudum.</p>
Establish urban areas, and improve access to urban land	<p><u>Positive</u></p> <ul style="list-style-type: none"> Rapid urbanisation is an existing reality and better planned towns and cities will enable more conducive living and working conditions for the growing population. Cumulative benefits include: easier provision of services, efficient use of infrastructure, labour in economic hubs, and improved business and job opportunities, easier access to education & vocational training. <p><u>Negative</u></p> <ul style="list-style-type: none"> Negative cumulative impacts are a feature of poorly planned urban areas and include: STDs, crime, growth of shanty towns, traffic congestion, accumulation of waste, deforestation/loss of habitat and biodiversity, pollution (air, land & water), etc. 	<p>Urbanisation vs rural development: the movement of skilled people to urban areas may deplete the productive potential of rural areas, and thus undermine rural development and livelihoods.</p>	<p>Urbanisation and service provision: urban planning requires coordination & cooperation between various ministries and authorities. Long-term planning for well-planned cities enables service providers (e.g. water, power, transport, waste, education, health, crime prevention, ICT) to achieve an economy of scale that maximises effectiveness and impact (including for environmental & social concerns).</p>

Box 8: Resettlement farms near Khaudum

Government has a stated objective to increase land productivity, especially in communal areas. Since 1997, this has led to the proclamation of blocks of small-scale commercial farms (SSCFs) in the northern communal areas. Here, units of 2,500 ha have been issued to individuals under 99-year leaseholds for purposes of commercial farming. A total of just over 1 million ha have been demarcated in Kavango Region, comprising 516 farms. There is donor support for this programme from the German government through KfW in the form

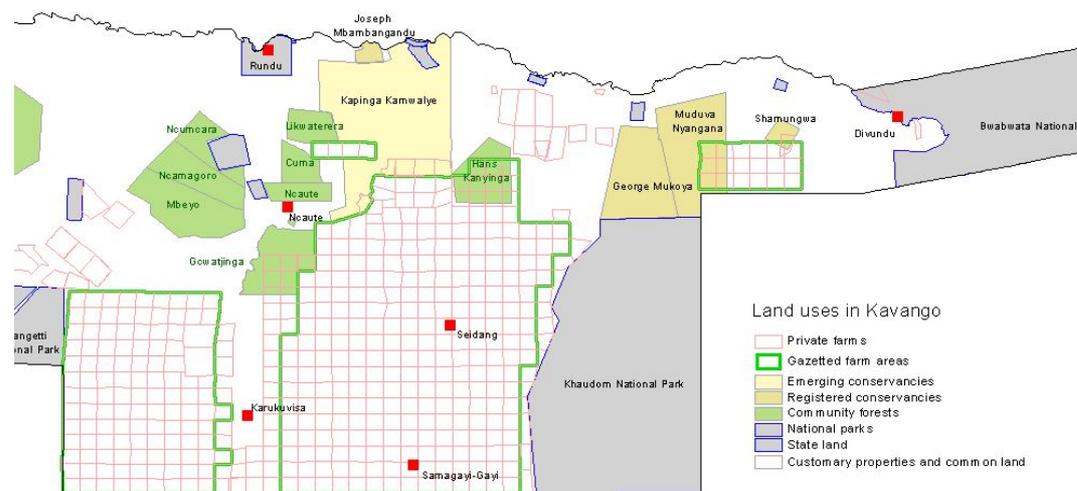
of a Basket Fund, which is now accelerating infrastructure development on the SSCFs.

The largest block of SSCFs in Kavango Region is situated adjacent to the Khaudum National Park, raising concerns that the farms are provoking conflict with the large population of elephants in the Park. Khaudum is not fenced on its western border, and elephants wander out of the Park along the omurambas (ancient river beds) into the area that is now set for cattle farming.

The Ministry of Environment and Tourism (MET) does not intend to fence Khaudum, recognising that it is usually ineffective to restrain elephants when they need to migrate, and that it is better to manage their movements through the strategic provision of water in the Park so they are less inclined to wander out. While the farming developments increase the pressure on wildlife, MET also recognises that the elephants and other animals offer an opportunity for income generation for rural residents, through wildlife concessions. Trophy hunting concessions have long been operated here in the past – these could now be operated by the farm owners, and serve to provide income from utilisation of wildlife rather than cattle. But this requires that the new owners collaborate with their neighbours to amalgamate the farms into larger units, and that these individuals all agree on this form of land use and how to co-manage the farms. Early moves are being made in this direction, through the Ministry of Land’s Land use Planning exercise in the region and its component of Participatory Planning.

The Land Use Plan proposes a wide buffer-zone on Khaudum’s western border, where it is suggested that SSCFs will be more effective if they adopt conservation practices (which include hunting) rather than livestock production. The implementation details of this land use have yet to be sorted out.

Figure 2: Khaudum National Park and adjacent small-scale commercial farming blocks



2.6 MINING

Vision 2030

The goals for mining are that it will continue to make a significant contribution to socio-economic development and that Namibia's mineral resources should be strategically exploited and optimally beneficiated while ensuring that environmental impacts are minimised (S43). In addition, small-scale mining will grow, and there will be equitable opportunities for all Namibians to participate in mining (S43). Furthermore, non-renewable resources will be exploited optimally for benefit of all (164). The latter objective is to be achieved by: setting targets in environmental management plans (EMP) to be met by management, and indicators that track progress towards less environmentally damaging mining; enacting and implementing a Pollution Control Bill; and ensuring that hazardous waste is handled and disposed in the safest way. Mines have ultimate responsibility for cleaning up their own polluting waste and will be expected to obtain ISO 14001 certificates.

NDP4

NDP4 makes only a passing reference to mining stating that mining should increase with rapid growth in quarrying (22) and that value chain analyses should be conducted on further beneficiation in copper, diamonds and other mineral resources . It also recommends the creation of a Committee on the Value Addition of Minerals to serve in multiple roles as well as actively encourage and support manufacture of inputs into the mining sector, while maintaining environmental awareness and mitigating negative environmental impacts (102).

Mining sector policy objectives

The policy asserts that the State owns all minerals - issuing licences for exploration and mining. Licence holders must remedy any environmental damage (although the government may do this itself and recover the costs). The policy also provides for the establishment of a Multi-sector Minerals Prospecting and Mining Rights Committee, and makes EIAs mandatory for prospecting and mining. The government requires financial guarantees (e.g. Trust Fund) for environmental rehabilitation.

Key cumulative impacts, oppositions and synergy options for selected policy components

Selected policy components	Key cumulative impacts	Key oppositions	Key synergy options
Exploitation of minerals - contributes to socio-economic development	<p><u>Positive</u></p> <ul style="list-style-type: none"> • Overall benefit to national economy through multipliers. • Stimulates ancillary industry and services (engineering, chemicals, transport, banking, etc.). • Provides jobs, income opportunities, skills training. • Attracts expatriate expertise. <p><u>Negative</u></p> <ul style="list-style-type: none"> • Habitat destruction, resulting in biodiversity loss, reduced sense of place and compromised tourism products. • Depletion of water resources (mainly groundwater, some surface). • Pollution (land, water & air). • Health impacts: direct (e.g. radiation, respiratory diseases) & indirect (e.g. STDs). • Pressure on infrastructure (roads, energy, ports). 	<p><i>Mining vs tourism:</i> when several mines are located in an area important for tourism, their combined visibility makes landscapes unattractive, thus undermining tourism (Box 9).</p> <p><i>Mining vs conservation:</i> mines may have a relatively small footprint, but prospecting (off-road driving, drilling, trenching, cut-lines) occurs over large areas causing biodiversity loss.</p> <p><i>Mining vs marine fisheries:</i> sea-bed mining for diamonds and phosphates causes habitat destruction and sediment plumes that may be detrimental to marine organisms (e.g. commercially important fish species).</p> <p><i>Oil and gas vs marine fisheries:</i> seismic surveys (mostly for oil and gas exploration) could have impacts on various fish species (e.g. tuna), as well as marine biodiversity generally.</p>	<p><i>Mining and tourism:</i> (1) Some active mines provide suitable tourism opportunities – to see how operations work. (2) As part of achieving tourism offsets, the mining sector could assist the tourism sector by developing and maintaining historical mining sites (e.g. Kolmanskop, Sperrgebeit), natural attractions (e.g. Spitzkoppe), archaeological sites (e.g. Kuiseb delta) and historical infrastructure (e.g. old German railway) so that these become/remain important tourism assets.</p> <p><i>Mining and conservation (through biodiversity off-sets):</i> measurable conservation outcomes of actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken.</p>
Promotion of small-scale mining (SSM).	<p><u>Positive</u></p> <ul style="list-style-type: none"> • Job opportunities in remote rural areas for unskilled people. • Income reinvested locally with minimal leakage (overseas) compared to large-scale mining. <p><u>Negative</u></p> <ul style="list-style-type: none"> • Habitat destruction & biodiversity loss through indiscriminate digging, wood-cutting, poaching, veld fires & littering. 	<p><i>SSM v farming:</i> miners and land owners frequently clash over access to claims and allowed activities.</p> <p><i>SSM v conservation:</i> habitat destruction & biodiversity loss – see opposite column.</p>	<p><i>SSM and tourism/farming:</i> it should be possible to have ‘gemstone safaris’ (Box 6) and thus achieve a win-win.</p>

Box 9: The Uranium Rush and Tourism

Tourism products in the central Namib include adventure tourism, business tourism consumptive tourism and ecotourism (excursions into the desert). There is also the use of the desert landscapes for filming of documentaries, adverts and feature films.

The tourism sector is of considerable importance to the Namibian economy. It provides over 18,000 direct jobs (5% of total employment), and N\$ 1,600 million pa in revenue (3.7% of GDP). The sector has seen significant growth over the past 15 years, with tourist arrivals increasing more than threefold from 254,978 in 1993 to

833,345 in 2006. The coastal region provides 16% of national bed occupancy (an indicator of tourism popularity). National bed occupancy was 53% in 2008 compared to 63% in Swakopmund and surrounding areas. In a survey conducted by NTB (2006-2007) the most popular destinations in Namibia were Swakopmund (30%), Etosha (27%) and Sossusvlei (16%).



The “Moonlandscape” near Swakopmund is a favourite tourism attraction, but it is feared that prospecting and mining will displace tourism in the area.

A study done during the Uranium Rush SEA (MME 2010) found that tourism operators list the following key concerns associated with mining in the central Namib: impacts on public health due to radiation exposure; diminished sense of place due to visual impacts and noise; loss of biodiversity; and reduced accessibility to sites of tourism importance.

2.7 WATER

Vision 2030

Vision-2030 expects all Namibians to enjoy a steady and equitable supply of good, potable and fresh water for direct consumption. The water supply will be appropriate to the requirements of households, agriculture and industry, taking into account the country's arid environment and the duty to conserve this scarce resource for the benefit of all (S41, S139). Furthermore, it envisages that: continued water supplies will be available from groundwater, perennial surface waters and dams on ephemeral rivers (S44); and continuous improvement in the management of human, agricultural and industrial water demand. It also aims to promote rational and efficient use of water resource (42) and equitable access to potable water and freshwater resources by all (S42); and ensure that increased water supply does not threaten environmental integrity, nor limit goods and services provided by natural wetlands and waterways (S42).

These objectives are to be achieved through: greater user participation (e.g. through Water Point Committees) (S139) and community-level water management (S42); desalination plants, new dams and accessing alternative sources of water (S44); and reducing water stress, through management of human, agricultural and industrial water demand, and by improving access to potable water for the rural poor (179). Water policies will be focused on demand management principles, appropriate pricing and water-efficient technology, recognising that the natural environment is a user of water and natural water resources like wetlands are important providers of vital processes and services. Sustainable and efficient water use will be promoted (away from expanding water supply to meet demand), and the production of unsuitable cash crops will be discouraged in favour of imports by charging for 'free' water. It is also intended to use natural resource accounts and SEA in water planning; to improve catchment, river and aquifer management; implement integrated pest management for disease control; and undertake joint management of river basins.

NDP4

Under NDP4, increased access to safe drinking water will be pursued (xvi, 71) and the water constraint addressed (76), mainly through desalination, aquifer recharge, water recycling and re-use in industry, construction of large dams (S176), and water-saving technologies/actions.

Water sector policy objectives

The Water Supply and Sanitation Policy advocates that where there are competing demands, the first priority will be subsistence use (for domestic and livestock use) with economic activities given lower priority. Essential water supply and sanitation services should be affordable and available to all Namibians, water should be used efficiently and environmentally sustainably, and provided to stimulate economic development.

The Water Resources White Paper and Management Act promote equitable access to water for all; for health and productive life; safe drinking water as a basic human right; harmonising human needs with ecosystems needs; and managing water resources efficiently for sustainable development. They recognise the economic value of water and making water developments cost-effective.

Key cumulative impacts, oppositions and synergy options for selected policy components

Selected policy components	Key cumulative impacts	Key oppositions	Key synergy options
Water provided to stimulate economic development	<p><u>Positive</u></p> <ul style="list-style-type: none"> Water availability at reasonable price enables national economy growth (e.g. mining, manufacturing, agriculture). <p><u>Negative</u></p> <ul style="list-style-type: none"> Ad hoc/poor planning & ill-considered development projects often result in inappropriate & unsustainable utilisation of water resources, placing stress on the nation's budget and denying funding for more pressing needs. Escalating demand for water by various users results in over use of existing sources and need for new ones such as dams and desalination – which generate major impacts on ecosystems functioning and biodiversity in river and marine systems respectively. 	<p><i>Water for development vs water for ecosystem functioning:</i></p> <p>(1) in spite of the policy intention to balance human and ecosystem needs, there are examples of water permit restrictions being ignored, resulting in unsustainable abstraction and threatening ecosystem integrity, eg Omdel aquifer;</p> <p>(2) For Neckartal dam, project authorisation proceeded despite environmental flow requirements not being properly understood, potentially jeopardising downstream habitats in the Fish and Orange Rivers. Such impacts would add to those from existing Naute and Hardap dams on the Fish River).</p>	<p><i>Water and development:</i> the most critical synergy opportunity is for the water and other sectors to undertake long-term strategic planning, eg through a strategic National Bulkwater Masterplan (Box 10).</p>
Essential water supply & sanitation services affordable to all Namibians	<p><u>Positive</u></p> <ul style="list-style-type: none"> Safe water & sanitation underpin a healthier population, enabling people to contribute to economic development. <p><u>Negative</u></p> <ul style="list-style-type: none"> Many poor people cannot afford water and sanitation services, so they must continue to be subsidised. As a result, it becomes increasingly difficult for the State to mobilise funding to develop new water resources and to establish & maintain water and sanitation infrastructure. This inevitably places pressure on existing sources and infrastructure, leading to environmental & social impacts (eg soil & water pollution, over-abstraction, loss of ecosystem functions, health risks). 	None obvious.	As above.

Box 10: National Bulkwater Masterplan concept

The development of a National Bulkwater Masterplan would enable Namibia to anticipate what water is needed where, when, for what, at what standard, etc. NamWater and partners (e.g. DWA, NamPower, MoF, NPC, MWTC) should plan well ahead, and prioritise budgets for the nation's most pressing long-term needs. Such a masterplan would also enable environmental and social issues to be examined well ahead of time, enabling better understanding of cumulative impacts, consideration of alternatives, and the commissioning of long-lead studies that may be required in the project-specific EIAs.



Dams and bulkwater abstraction schemes require huge capital investment and need to be carefully considered in terms of costs and benefits.

2.8 CONSERVATION

Vision 2030

Vision-2030 states that *“In order to ensure the sustainable use of environmental resources, it is necessary to strike a proper balance between short-term needs and long-term sustainability and, thereby, give priority to a more environment-friendly form of growth”* (S87), and notes that it is important to *“Ensure the development of Namibia’s ‘natural capital’ and its sustainable utilisation, for the benefit of the country’s social, economic and ecological well-being”*. A key objective is to accomplish the transformation of Namibia into an eco-friendly nation, ensuring that the *“Integrity of ecological processes, natural habitats and wildlife populations throughout Namibia is maintained”* (S44). It is expected that there will be: continued growth in the direct use of biodiversity, contributing to GDP, but with diminished rates of biodiversity loss; and growth in indirect uses associated with natural ecosystem values (ie provision of ecosystem services) (S45); ensuring equitable access of all to, and appropriate tenure over, all natural resources (169).

These objectives will be achieved through: maintaining stable, productive and diverse ecosystems managed for long-term sustainability by implementing appropriate policies and programme (S45); and enhancing biodiversity conservation through improvement in the policy environment and extending the protected areas network. It is intended to improve the knowledge base regarding biodiversity and natural resources (169, 179) and the policy environment regarding land-use management – through: ensuring that land use plans identify the most suitable land-use options for Namibia’s 13 regions and set clear guidelines for zoning; implementing the Environmental Management Act; developing legislation to assist conservancies with integrated resource management plans; ensuring that National Parks include representative parts of all important biodiversity; improving park management planning; and updating management and tourism infrastructure. In addition, the aims are to introduce: economic instruments to help finance sustainable development options and/or discourage environmentally unfriendly practices (e.g. tax reforms, subsidies); and initiatives regarding the transboundary management of the North East and the Namib desert. It is recognised that there is a need to combat deforestation and habitat loss through land degradation – by providing rural communities with electricity and/or renewable energy sources (169).

NDP4

Conservation not addressed explicitly. It is partly assumed under Environmental management (p.39) through the implementation of the CBNRM programme and under DO7 “Tourism”: Develop and maintain parks.

Conservation ‘sector’ policy objectives

Policy objectives include: protecting biodiversity (e.g. through National Parks) and particular species; maintaining and rehabilitating essential ecological processes and life support systems; ensuring equitable access to benefits from wildlife and genetic resources; delegating authority over wildlife to the lowest level possible; regulating harvesting, transport and utilisation of resources. In addition, it is intended to: regulate ownership conditions (including traditional knowledge) and trade/movements; and clarify the rights of people living within and around parks.

Key cumulative impacts, oppositions and synergy options for selected policy components

Policy component	Key cumulative impacts	Key oppositions	Key synergy options
Establish & maintain National Parks, and allow tourism therein	<p><u>Positive</u></p> <ul style="list-style-type: none"> Protects biodiversity, thus maintaining future use and non-use options (including restocking conservancies, sale of game to farmers). Benefit to national economy (see tourism section). Improves land use options for neighbours (e.g. conservation and tourism). Provides jobs, income opportunities, skills training. <p><u>Negative</u></p> <ul style="list-style-type: none"> Land alienated from people who lived in the areas historically. Increase in human-wildlife conflicts between parks and neighbours (those not engaged in conservation-compatible land use). 	<ul style="list-style-type: none"> Conservation vs stock-farming and crop-growing: wildlife (e.g. elephant and hippo) occasionally raid crops, whilst predators cause stock losses in some areas adjacent to parks. 	<ul style="list-style-type: none"> Conservation and land resettlement/farming: Land adjacent to National Parks (whether conservancies or resettlement areas) can have unique opportunities for conservation and tourism activities, augmenting such efforts within parks and providing income/livelihood opportunities for communities/farmers. Where park fences are removed wildlife is able to move freely to and from adjacent areas, expanding their range, whilst enriching tourism experience and income in adjacent areas.
Enable and support conservancies	<p><u>Positive</u></p> <ul style="list-style-type: none"> Protects biodiversity, thus maintaining future use and non-use options (e.g. tourism, trophy hunting, harvesting of indigenous plant products). Fosters community empowerment (local-level decision making & problem solving) Provides jobs, income opportunities, skills training. <p><u>Negative</u></p> <ul style="list-style-type: none"> Disillusionment if conservancy underperforms, possibly leading to abandoning/weakening of CBNRM, resulting in negative economic, social and environmental impacts. 	<ul style="list-style-type: none"> None obvious. 	<ul style="list-style-type: none"> Conservation and land resettlement/farming: to date, GRN has seen resettlement primarily as a means to enable people to engage in stock-farming. But there could be a synergy between CBNRM and resettlement of landless people – whether on communal or commercial farmland. (See also comments in section 2.1 on the potential for MET to support freehold conservancies in commercial framing areas).
Prevent illegal collecting and harvesting of wildlife (animals and plants). (countrywide)	<p><u>Positive</u></p> <ul style="list-style-type: none"> Protects biodiversity, thus maintaining future use and non-use options. Benefit to national economy (see tourism section). <p><u>Negative</u></p> <ul style="list-style-type: none"> Need balance between allowing people to harvest 	<ul style="list-style-type: none"> None obvious. 	<ul style="list-style-type: none"> Conservation and civil society: civil society is not a sector per se, but there is an obvious synergy between the authorities (i.e. MET) and citizens who are willing to volunteer their services – and equipment – to help implement conservation laws. As noted in Appendix 3, MET is urged to appoint Honorary Wardens so that law

	<p>sustainably, and preventing illegal harvesting.</p> <ul style="list-style-type: none"> • Unreasonable laws will result in increased illegal activities. 		<p>enforcement can be more effective and efficient.</p>
Research and monitoring	<p><u>Positive</u></p> <ul style="list-style-type: none"> • Increasing knowledge about various aspects of the environment, e.g. sustainability thresholds, resilience/sensitivity, ecological functioning, etc). This improves management and the application of environmental safeguards. 	<ul style="list-style-type: none"> • Information vs conservation: concern that the recent regulations to the Research, Science and Technology Act, 2004 (Act No. 23 of 2004) may discourage future scientific work, especially that conducted by the private sector and NGOs. 	<ul style="list-style-type: none"> • Conservation, fisheries, tourism and livelihoods: linefish angling is important for Namibia's tourism, and research and monitoring on issues concerning angling will help ensure the sustainability of biodiversity, angling, livelihoods and tourism. • Fisheries, mining and petroleum: joint research and monitoring by seemingly antagonistic sectors may improve environmental practices in mining and oil/gas exploration/production sectors.

Box 11: Conservation, tourism and the economy

Namibia's fast-growing tourism industry relies heavily on the country's impressive range of natural assets, including scenery and wildlife. Wildlife contributes some 50% of the value of nature-based tourism, 80% of which is non-consumptive (accommodation in parks, farms and communal land). The other 20% consists of consumptive tourism - mostly trophy hunting and, to a lesser extent, marine shore angling. Tourism holds significant comparative advantages for Namibia as it is less dependent on scarce and erratic rainfall, and it can make use of the natural beauty inherent in the landscapes. Tourism potential tends to be localized around areas of high scenic value, and high wildlife concentrations.

A significant proportion of Namibia's wildlife tourism value is associated with the state protected area system. In 2008, the total number of visitors to Namibian parks was estimated to be in the order of 180 000 (22% regional and 47% overseas). Based on estimates of average trip expenditure in Namibia by domestic, regional and overseas visitors to state protected areas in 2008, overall expenditure by wildlife-viewing tourists visiting protected areas was estimated to be about N\$2.35 billion. An additional N\$96 million was estimated to be spent by tourists attracted by hunting concessions in protected areas, bringing the total to N\$2.45 billion. Thus, the overall estimated direct contribution to GNP by state protected area tourists in 2008 was N\$1,113 million, roughly 2.1% of GNP. Of this, some N\$433 million was spent in state protected areas. With the inclusion of expenditure by wildlife tourists that do not visit protected areas, the total direct contribution of wildlife tourism was estimated to be N\$1,800 million.

This box shows that wildlife, wilderness and beautiful landscapes are not just a 'Green Agenda', and that they need to be valued much higher than they are by high-level decision-makers in Namibia.

(Source: Turpie *et al.* 2010).



Wildlife and tourists in Etosha

2.9 FISHERIES

Vision 2030

Key objectives of Vision 2030 are that *“Namibia’s marine species and habitats significantly contribute to the economy and equitable socio-economic development, whilst maintaining biodiversity and the functioning of natural ecosystems in a dynamic external environment”* (S43), and that *“Freshwater resources are available to support sustainable socio-economic development for poverty eradication and improved standards of living, and to maintain natural habitats”* (S44). Vision-2030 also advocates: high growth in fish harvesting – to maximum sustainable yields (S43); increasing exports of high-value fish, and marine products to the SADC region; and expansion of mariculture together with more efficient freshwater aquaculture and fish farming (S44). It also expects there to be increasing and sustainable yields of fisheries and marine resources for the development of the economy and the benefit of the people (161).

The objectives are to be achieved through: research on the marine environment and biodiversity; education; direct investment; commercial aquaculture (catfish, tilapia) in Hardap Dam; small-scale operations to raise fingerlings; culture-based fisheries; and integrated farming systems - strengthening links between agriculture and inland aquaculture (S44). In addition, appropriate technologies for promoting freshwater fishing will be developed (139). Furthermore, TACs (total allowable catches) will be set at conservative levels to promote sustainability of resources, and an integrated Coastal Zone Management Plan (ICZMP) will be prepared to limit unnecessary coastal degradation, without restricting coastal development (reducing conflicts of interest in resource utilisation). There will also be careful planning for managing fisheries (including undertaking EIAs), provision of incentives for sustainable fishing, development of port facilities for disposal of oily ballast water and other wastes, and investment for environmentally-friendly economic and livelihood options. It is also intended that there will be cost-effective, flexible/adaptable management and national disaster responses to potential impacts of sea-level rise and climate change – affecting marine resources (161).

NDP4

There is no specific mention of fisheries in NDP4.

Fisheries sector policy objectives

Policy objectives include: the control, management, protection, and utilisation of marine resources in the Exclusive Economic Zone; establishment and enforcement of exclusion zones; setting scientifically-determined quotas and fishing seasons; charging fees and levies to fund research and observers; stipulating fishing gear, restricting fishing of certain species, and regulating the importation of live marine resources. The policy also advocates: establishing marine reserves; setting penalties for dumping of fishing gear, waste, by-catch, other offences (e.g. transshipment at sea); controlling over-dredging and mining; and Namibianisation of the fishing industry.

Key cumulative impacts, oppositions and synergy options for selected policy components

Policy component	Key cumulative impacts	Key oppositions	Key synergy options
Allocate quotas and permit fish harvesting.	<p><u>Positive</u></p> <ul style="list-style-type: none"> Benefit to national economy through forex earnings, levies, taxes and multipliers. Stimulates services (port, canning, packaging, transport, marketing, etc.). Provides jobs, income opportunities, skills training. <p><u>Negative</u></p> <ul style="list-style-type: none"> Depletion of stocks (most are at low levels). Decline of predators (e.g. seabirds) as result of overfishing their food source (e.g. pilchard). Decline of non-target species as a result of bycatch (e.g. non-quota fish, seabirds). 	<p>Fishing vs mining: coastal and seabed mining results in habitat alteration, and seismic surveying impacts negatively on fish - undermining commercial fisheries.</p> <p>fishing v conservation: depletion of fish species and seabirds, and habitat alteration as a result of bottom trawling, undermines conservation of the marine environment.</p>	<ul style="list-style-type: none"> Fishing and conservation: (1) marine reserves established for purposes of conservation and protection of fisheries stocks, (2) joint research and monitoring of biodiversity by MFMR and MET will improve knowledge, (3) collaboration between MFMR and MET in coastal law enforcement will improve conservation. Fishing, urban development and industrialisation: fishing and fish processing contributes to harbour-town economies and development, provides resources for local authorities & other service providers to better invest in physical/ social infrastructure needed for Namibia's rapidly urbanising population. Potential for value-adding – e.g. fish canning, fillets.
Promote aquaculture (primarily mariculture).	<p><u>Positive</u></p> <ul style="list-style-type: none"> Increased food production. Provides jobs, income opportunities, skills training. Improves economy through exports. <p><u>Negative</u></p> <ul style="list-style-type: none"> Spread of diseases (e.g. shellfish kept in confined areas susceptible to diseases, and these could negatively affect local biodiversity). Spread of alien-invasive organisms (e.g. non-native shellfish can escape and establish feral populations that negatively affect native species, e.g. by outcompeting or predation). 	<p>Ports vs mariculture: since many mariculture projects are located close to Walvis Bay and Luderitz, dredging and pollution events in ports releases toxins that can kill or contaminate shellfish.</p> <p>Mariculture v conservation: spread of alien-invasive organisms – see first column.</p>	<ul style="list-style-type: none"> Mariculture and tourism: locally-grown shellfish should be standard item on hotel and restaurant menus – thus enhancing tourist experiences. Mariculture and industrialisation: potential for value-adding of farmed shellfish, e.g. canning, freezing.
Research and monitoring.	<p><u>Positive</u></p> <ul style="list-style-type: none"> Increasing knowledge about various aspects of the marine and coastal environment, e.g. sustainability thresholds, resilience/sensitivity, ecological functioning, etc. This improves management and the application of environmental safeguards. 	<p>Information vs fisheries: concern that the recent regulations regarding research (see oppositions column in section 2.8) may discourage future scientific work, especially if conducted by the private sector and NGOs.</p>	<ul style="list-style-type: none"> Fisheries and tourism linefish angling is important for Namibia's tourism, and research and monitoring on issues concerning angling will help ensure the sustainability of biodiversity, angling, livelihoods and tourism (Box 11). Fisheries, mining and petroleum: joint research and monitoring by seemingly antagonistic sectors may improve environmental practices in mining and oil/gas exploration/production sectors.

2.10 SELECTED OTHER SECTORS

2.10.1 Health

NDP4 identifies health, and education and skills (see next section), as amongst several basic enablers to secure economic development and underpin sustainable development. A healthy population underpins a productive nation – people able to work and earn a living.

‘Population, Health, and the Environment’ (PHE) is an approach that integrates health, or family planning with conservation efforts to seek synergistic successes for greater conservation and human welfare outcomes than single-sector approaches. Communities in remote areas often suffer from ill health because of limited access to health services or family planning, and tend to suffer from poor nutrition, water supplies or sanitation. Inadequate health care is usually because of economic struggles. Livelihoods in the rural communities depend on natural resources and small-scale agriculture, which can force people to use natural resources unsustainably because of pressures such as rapid population growth or health issues. This can be damaging to ecosystems and the biodiversity in these rural areas. Conversely, people’s health relies on the health of their environment. Their surrounding ecosystem provides them with goods and services such as water, food, medicine, fuel wood, building materials, and other resources. Damage or disruption of these natural goods and services can have severe consequences for human health. In rural areas, when people are healthy and able to maintain paid jobs, they are less likely to put pressure on biodiversity (eg by needing to resort to poaching), or to engage in environmentally-degrading activities such indiscriminately cutting trees.

Reduction in the incidence of particular notorious diseases such as malaria and STDs not only reduces pressure on health services, and thus the economy, but is also likely to be attractive for tourism, including eco-tourism. An improved health profile for the country is also likely to indicate improvements in environmental conditions, for example; reduced levels of pollution in the air and water (surface, ground and marine waters) and also on the land (i.e. lower levels of contaminated crops – and thus healthier foodstuffs).

2.10.2 Education

NDP4 sensibly places a priority on investing in a high-quality education system. It follows that raising awareness of environmental and social concerns through broader education that addresses such issues will help people to understand the importance of the environment and ecological services to the economy and to people’s health and livelihoods, and hopefully lead to improved environmental management.

The subject of ‘natural economy’ used to be taught in schools in Namibia but this is no longer the case. Given that people’s livelihoods and the economy of Namibia rely disproportionately on the use of renewable natural resources, it would be a wise move to reintroduce this subject into the school curriculum.

Consideration should be given to adopting an ‘environmental education’ (EE) approach. This refers to organized efforts to teach about how natural environments function and, particularly, how human beings can manage their behavior and ecosystems in order to live sustainably. The term is often used to imply education within the school system, from primary to post-secondary. However, it is sometimes used more broadly to include all efforts to educate the public and other audiences, including print materials, websites, media campaigns, etc. Related disciplines include outdoor education and experiential education. Environmental education is a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action.

2.10.3 Energy

A recent report on Namibia's Energy Future (KAS 2012) notes: *“Ever increasing energy prices, insufficient electricity supplies, and the dependency on foreign energy sources pose significant risks, not only to the Namibian people and economy, but even more so to the further development of the country. If Namibia is determined to achieve the development goals stipulated in the Vision 2030, sustainable energy supplies are a necessary cornerstone underpinning that vision, while being the basis for continued social peace and cohesion within society”*. Yet, sustainable energy is not discussed in NDP4 apart from a brief mention that renewable sources including hydropower are being investigated. It refers to Namibia having in place, by 2017, adequate base load energy to support industry in development through the construction of energy infrastructure, expanding production to more than 750 mega watts to meet demand. Nampower has two power station options in an advanced stage of development: one powered by natural gas, other by coal. It is also looking into energy-saving technologies.

Sustainable development can only be safeguarded, if, amongst others, a country's energy supplies are and remain sustainable. In this regard, Namibia should turn to its abundant sources of renewable energy: sunshine, wind and biomass (eg from invasive bush species – sometime called invader bush – that lead to bush encroachment). Currently, their productive use remains limited. But there is no compelling reason why the use of renewable energies and energy efficient technologies cannot be dramatically accelerated to contribute to Namibia's development – especially given that the country's current generation capacity is no longer able to meet the rising demand for electrical energy. From an environmental perspective, renewables make good sense and would reduce the inevitable negative environmental impacts from pursuing more conventional energy production options (eg air pollution from coal and gas plants, loss of habitats and biodiversity from hydropower schemes).

As the KAS report points out, the advantages of renewables include long-term energy price stability, the creation of new local jobs through the establishment of innovative local value chains, and the decrease of non-productive currency outflows. At the same time, the increased uptake of renewable and energy efficient technologies will hedge the country against price escalations of imported fuels.

Namibia's world-class solar regime can readily be utilised by solar water heaters, solar photovoltaic technologies, and concentrated solar power plants. These technologies can also contribute to reduce the country's immediate electricity supply gap. Small grid-connected solar photovoltaic plants are cost competitive, as are large-scale photovoltaic power plants, given suitable access to funding. In future, concentrating solar power plants could provide electric power at costs which are comparable to those of modern coal-fired plants.

Namibia's invader bush represents a significant and sustainable biomass energy resource. In addition to being a valuable and potentially sustainable energy crop, the use of invader bush could generate thousands of long-term jobs in rural Namibia. Power plants fuelled by biomass from this indigenous resource would have electricity generation characteristics similar to traditional coal-fired power plants.

Value chains focusing on the processing of biomass in rural areas create new jobs, and new local business opportunities, while ridding rangelands from bush encroachment. In addition, decentralised power production can contribute to further electrify rural Namibia, thereby creating new activities and opportunities that may also slow rural to urban migration. Few national opportunities offer so many value-adding synergies for rural Namibia as the sustained and environmentally sensitive use of the country's invader bush resource does. The most significant social value from the increased deployment of renewable energy technologies would be the development of energy supply systems that create and sustain long-term local jobs.

To enable Namibia to benefit from the potential of renewable energy options, the KAS report suggests a number energy policy options (see KAS 2012).

3: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

3.1 Introduction

As indicated in section 1.3 to have the maximum benefit, a full SEA for a complex, high-level National Development Plan would best be undertaken *ex ante* as part of the process of developing the plan itself. But this was a *rapid SEA* conducted in just four weeks: one week preparation, two weeks in Namibia, and one week writing this report. As a result, it can only provide an illustration (“scratching the surface” as one observer aptly put it) of environmental and social issues and concerns. Nevertheless, we believe we have been able to identify the key environmental and social issues linked to Namibia’s policy basket – the ones of most strategic importance in terms of NDP4 and associated sectors policies and plans.

During preparatory analyses and subsequent focus sessions on the main drivers of development in Namibia, reviews were undertaken of NDP4, Vision-2030 and associated sector policies and strategies in the context of sustainable development, taking into account the perspectives of Namibian stakeholders and experts (presented in Appendices 2.1–2.4 and 3). However, we have not had sight of draft sector implementation plans – some of which may well set out steps to address particular concerns addressed in this report.

The key objectives of the SEA were to (a) identify the likely *cumulative environmental and social impacts* of implementing NDP4, and critical environmental and social issues that are not adequately addressed, in order to (b) provide a basis for sectors to consider adjustments to policies, plans and programmes during NDP4 implementation. Our main conclusions are discussed in the following sections.

3.2 Cumulative impacts, policy antagonisms and synergies

As we interpret it, the function of each five-year NDP is to contribute to achieving the broad objectives of Vision-2030, addressing the big picture, trends and challenges facing the country, weighing progress to date, determining necessary ‘course’ corrections, and setting medium-term priorities for development.

Overall, NDP4 makes limited references to environmental issues that might be linked to its goals and implementation. There is brief reference to taking a precautionary approach to environmental challenges and climate change (p4), a recommitment to sustainable development objectives (p5), and a passing mention of the need for a healthy and clean environment to support tourism (93). However, Vision 2030 addresses environmental objectives and concerns reasonably well. and it is our understanding that National Development Plans are supposed to be read in conjunction with Vision 2030. Thus, whilst it is understandable that NDP4 is not explicit about environmental issues, it would be useful if future NDPs make reference to Vision 2030 in this regard.

NDP4 is focused on four priority economic sectors with the aim of creating the necessary momentum for economic growth and to ensure the impact and results of the country’s efforts are optimal: logistics, tourism, manufacturing and agriculture. But, as a purposive high-level document, whilst Appendix 2 of NDP4 is a “detailed action plan” with strategic initiatives and responsible institutions listed, it does not elaborate specific programmes on how to achieve its goals and targets. This is delegated to the various Offices, Ministries and Agencies (O/M/As) responsible for the relevant sectors.

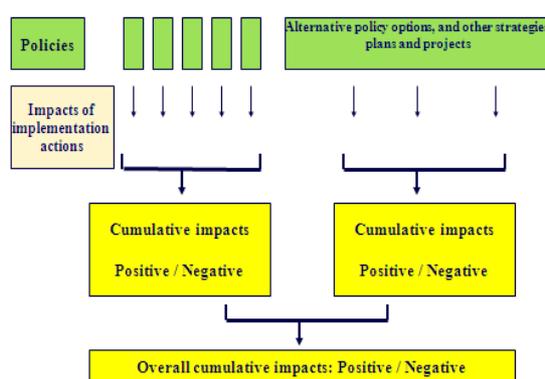
If implementation of NDP4 is effective, it will certainly provide **overall benefits to the national economy** through multipliers, and undoubtedly will generate some positive environmental and social impacts, e.g.: conservation improvements; improved economic viability of tourism operations; increased range of services in remote areas; increased employment, skills development and livelihood opportunities.

However, neither NDP4 nor Vision-2030 identify or discuss potential synergies or oppositions between sector objectives and thus **do not consider the possibilities of cumulative environmental and social impacts**, positive or negative, that may arise across key sectors in driving the four economic priorities (see Box 12). In sections 2.1–2.9, we identify some of the more obvious ones. But, clearly, the impacts of implementing NDP4 and future NDPs will be complex and inter-linked and would require a full SEA to assess thoroughly². Such an SEA, and particularly more focused SEAs of individual sector policies and plans, would be expected to identify likely direct (primary) impacts. There will also be a wider array of knock-on effects (secondary, tertiary, etc., impacts) which will be more speculative, with multiple outcomes possible. These possibilities can be conveyed in linkage diagrams – for both positive and negative linkages. Examples of such diagrams for an SEA undertaken of the central Namib Uranium Rush and shown in Appendix 6.

Box 12: Cumulative impacts

An individual sector policy will have a number of elements and linked associated actions (e.g. projects, changes in laws/regulations) to achieve a range of desired outcomes. Many of these actions are likely to have environmental and social impacts, whether positive or negative. Individually, the impacts of individual actions may or may not be important, but the cumulative impacts of all the actions may be significant. Other sector policies will also generate a similar flow of impacts (Figure 3). The compound effect of all these impacts may be extremely significant with potentially severe environmental, social and economic consequences.

Figure 3: Cumulative effects impacts



² The Environmental Management Act 2007 does not specifically mention the need for SEA to be undertaken for policies, plans or programmes. But clauses 23 and 24 of EMA describe the requirement to prepare Environmental Plan (Box 1). Whether or not this can be interpreted as equivalent to or implying an SEA is a matter for legal interpretation. One environmental lawyer consulted by the authors expressed the opinion that SEA is not legally required in Namibia until such time as specific SEA Regulations have been gazetted.

The NDP4 sets four priorities for the period 2012/13 – 2016/17. . It is understood that alternatives were considered but the NDP4 document does not indicate the selection and prioritisation process followed nor what comparative analysis was undertaken to support it. All alternatives would have associated cumulative environmental, social and economic consequences (positive or negative) which it would be important to take into account of to ensure that strategic planning is effective.

Similarly, whilst some sectors have looked at alternative options for harnessing resources (e.g. water) or generating energy, and done EIAs for individual proposed projects, the consideration of alternatives has largely been on the basis of *techno-economic assessments* with limited analysis of cumulative environmental issues. Also, there is still a tendency for *'in-the-box' thinking*, e.g. planning power generation within a national grid system rather than seriously considering a community-based approach, or even a household strategy. In addition, the 'go to' option for food security is estate-style, mono-crop green schemes rather than environmentally more sustainable conservation agriculture alternatives. With regard to farming, the 'go to' option is livestock ranching in a fenced paddock model rather than mixed livestock and wildlife in more open systems where mega herbivores can range more freely as required in arid areas prone to extreme climate variability and to climate change.

Analysis for this rapid SEA (see sections 2.1-2.9) shows a number of clear *conflicts within Namibia's overall policy 'basket'* (both within and between policies) which are likely to generate important environmental and social problems with *negative impacts* including: land degradation; loss of scenic value and sense of place, habit and biodiversity; pollution of land, water and air; over-abstraction of water from rivers and aquifers; livelihood insecurity, involuntary resettlement and health impacts. Examples of *policy oppositions* include: industrialisation versus tourism, irrigation versus other uses of water (e.g. for industry and urban growth); and mining versus fisheries. Neither Vision-2030 nor NDP4 addresses the linkages between sectors, identifying where synergies can be achieved, and policy antagonisms reduced, nor discusses cumulative environmental or social impacts (positive or negative). The same can be said for all the standing sector policies. This is a *key and compounding concern*. But equally, our rapid analysis has also highlighted a range of areas where such antagonisms can be reduced by investing in potential synergies which can lead to positive environmental and social outcomes (see sections 2.1 - 2.9). A fuller SEA process would identify many more such opportunities.

3.3 Improving inter-sectoral cooperation

Both Vision-2030 and NDP4 are conceived and structured (like all governments and international bodies) in ways that inevitably drive de facto *planning and policy implementation along sectoral lines*, such that sector policies, strategies, programmes, plans and projects are mainly independent, unaligned and unintegrated. Sector ministries are poorly equipped to (a) identify potential inter-sector antagonisms and synergies since they generally operate in isolation from each other – therefore the former largely remain unaddressed and the latter un-achieved; and (b) to seek opportunities for integration necessary to achieve sustainable development objectives (identified as the cornerstone of Vision-2030). Such sectoral can only undermine achieving Vision-2030 and delivering NDP4 aims effectively. Higher level mechanisms are needed (perhaps best driven by NPC) to provide for greater multi-stakeholder dialogue and reflection on key challenges (particularly environmental and social) and possible solutions, leading to better selection of policy priorities and implementation modalities. This would have the added benefit of generating wider stakeholder buy-in when agreeing the objectives of successive NDPs, lead to improved cooperation in implementation, and overcome the feeling of *alienation from NDP4* expressed at the focus sessions by representatives of some sectors not prioritised in NDP4 (eg land and mining). Such alienation will drive sectors further to pursue a

‘business-as-usual’ approach, leaving cumulative, inter-sector impacts unaddressed.

In order to bring practical realism to NDP4, we would argue that it is important to consider at NDP level the requirements to support achievement of the goals for NDP4’s four economic priorities, e.g. energy generation and transmission requirements to meet manufacturing goals. From sustainable development and environmental perspectives, it would be **better not to leave it to sectors** to work this out without consideration of alternatives and their full spectrum of cumulative impacts.

3.4 Focusing on development hubs

Policy inconsistencies are sometimes not obvious at national level, and cumulative environment and social impacts will always be difficult to identify at this level due the general and often vague nature of policies. But they become much clearer at more local levels where their translation into implementation becomes more specific - especially in areas that are fast-developing as **industrial hubs** (because of multi-sector growth) with many projects being developed at the same time.

Examples of such hubs include:

- Windhoek–Okahandja;
- Central Namib and coastline, and;
- North-central Namibia.

Smaller industrial hubs might include Mariental, Luderitz-Rosh Pinah and Orange River.

In addition to industrial hubs, there are **eco-hubs**, mostly in more remote areas and typically with a different set of challenges compared to industrial hubs. Examples of these include:

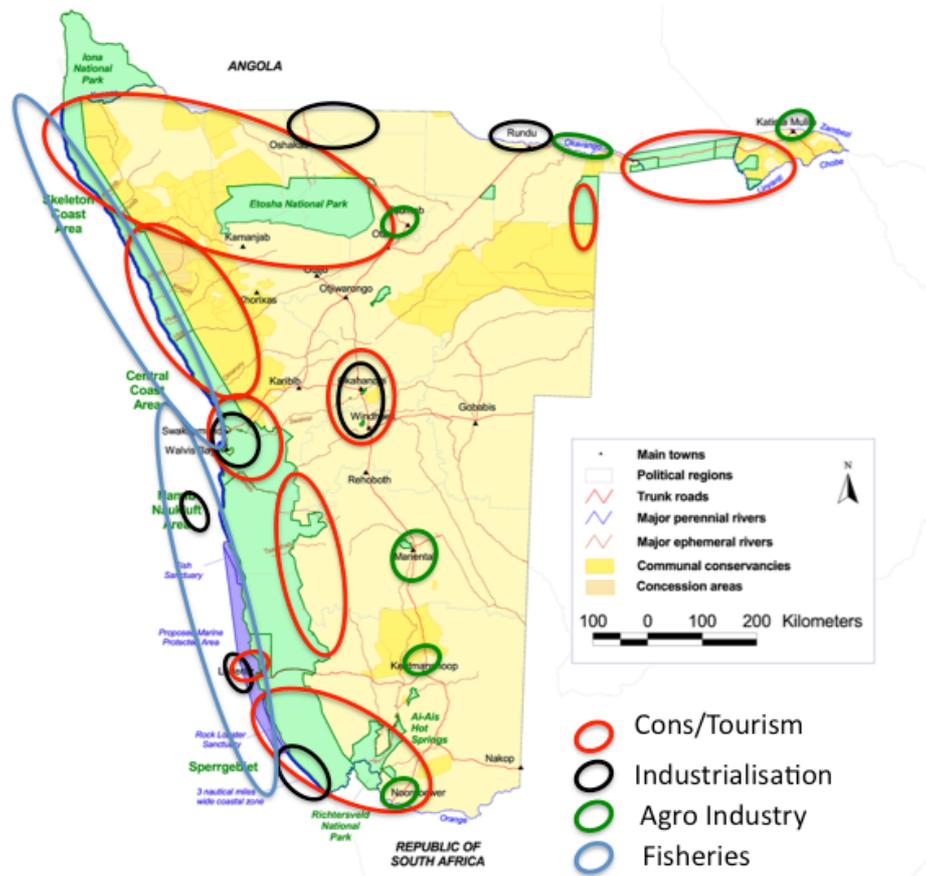
- Etosha-Kunene
- Central Namib
- Sperrgebiet
- Bwabwata
- Fish River-Orange
- Khaudum-Tsumkwe

Furthermore, one can identify the key hubs for irrigation (or agro-industry) as well as fisheries areas.

In some cases, there are overlaps (and conflicts) between two or all of these types of hub (Figure 4).

In these places, there are many projects being developed at the same time, and usually they are subjected to an EIA. Very often, the EIA identifies a range of issues that links back to policy inconsistencies (e.g. mining in protected areas).

Figure 4: Industrial, conservation, fisheries and irrigation hubs in Namibia



3.5 Recommendations

As part of implementing NDP4 so as to address sustainability more effectively, we suggest two steps:

Firstly, we recommend that a **high-level workshop** organised to present and discuss the results of this SEA to senior government officials, those responsible for preparing all sector implementation plans, other experts/stakeholders (to provide broader perspectives). This would be followed by facilitated sessions (a half-day per key sector) to unpack key antagonisms and potential synergies (within and between sectors), and to identify potential steps to reduce or build on these respectively. This could be undertaken as a part of developing and adjusting/finalising (where drafts have already been prepared) NDP4 implementation plans, involving those responsible for developing the plans and other stakeholders (to provide broader perspectives).

Secondly, as part of operationalizing NDP4, we recommend that NPC should pilot facilitate, **multi-sector roundtable consultations in selected major development hubs** (involving key driver sectors and sectors that are growth enablers, and other stakeholders) to strategise on how to reach overall national goals in those specific geographic areas. This coordinated approach is an alternative to sectors preparing – in isolation - stand-alone implementation strategies in response to NDP4. By working together as multiple sectors at local level, senior officials, parastatals, the private sector, civil society and development partners would be tasked to find ways of overcoming conflicts that might arise from implementing opposing policy aims or divergent initiatives identify opportunities to achieve synergies and reduce cumulative impacts of a range of projects in each hub. Such a pilot exercise would provide valuable lessons and may suggest an additional way of focusing future NDPs.

In trying to correct for the disappointing outcomes of earlier NDPs, **NDP4 might have driven the pendulum too far** towards a narrower highly focused canvas which insufficiently addresses environmental concerns, leaving unpainted the broader sector landscape and leaving unexplored the web of multiple and interacting linkages between sectors – and associated environment and social issues. Yes, prioritisation is necessary. A scattergun approach to include a very large array of desired goals will be counter-productive and unlikely to succeed. But, at the same time, it is vital to keep all sectors and stakeholders ‘on board’ rather than feeling of less importance. They need be part of discussing and agreeing the big picture, understand its complexities, and see clearly the role that all must play in the complex jigsaw of sustainable development and delivering Vision-2030 and periodic NDPs. This suggests that in prioritising, it **still remains necessary to discuss the full breadth of challenges, options and objectives** (and particularly the environment and social issues associated with them). It is unlikely that all actors will recall that they are covered by Vision-2030. Few people are likely to keep Vision-2030 and the latest NDP side-by-side and cross-reference during their work. Experience shows that the fundamentals need to be constantly reinforced to maintain understanding and buy-in.

Future NDPs will secure more understanding and support if they **set out the alternatives** that have been considered and the reasons for selecting particular priorities; and spell out more clearly not just who must take the lead on particular themes or key objectives, but role others must play – particularly (as regards cumulative environmental and social effects) to reduce antagonisms and to seek and achieve synergies.

We conclude that the best way to address the above concerns and to strengthen and support the development of future NDPs is to **incorporate a full SEA-type of process in their preparation** (as will be required by EMA 2007 once new SEA regulations are gazetted³), possibly as a parallel activity or, better still, one that is fully embedded within the process of NDP development. Some broad guidance for how to address environment and social issues through such an approach are provided in Appendix 7. Such an umbrella SEA would also provide a linking framework for the more

³ THE EMA became operational in 2012 when Procedures and Guidelines for SEA and Environmental Plan (EMP) were gazetted. Draft SEA regulations are now being developed by MET.

focused SEAs that would we would recommend should also be undertaken for individual sector policies, plans and programmes through which NDPs are implemented (as required by the EMA of 2007). We suggest that SEAs of future NDPs involve a return to using participatory, multi-stakeholder, cross-sector, *thematic working groups* on key issues - an approach that was successfully used during the development of NDP2.

Many developing countries, including others in Southern Africa, are now experimenting with or accelerating the use of SEA – particularly for sector policies, plans and programmes. But it is recognised that such efforts need to address a range of challenges: lack of awareness or acceptance/buy-in concerning the role, modalities and benefits of SEA; limited local experience, skills and capacity; and the need to tailor SEA to meet developing country needs, contexts and perspectives. In some countries in the region (eg Zambia and Tanzania), discussions are underway to establish National SEA Focal Groups and programmes to promote SEA uptake. This follows a recommendation at an Africa-wide workshop on SEA and Green Economy hosted by Zambia in January 2013. The workshop involved 117 participants from 18 African countries, donors and international organisations. It recommended that individual countries should set up national and collaborating counterparts to the OECD DAC SEA Task Team⁴. In promoting SEA uptake in Namibia, it would make sense to establish such a National Focal Group. Appendix 8 describes how such a group might operate.

⁴ The latter has been coordinated by a Technical Secretariat provided by the International Institute for Environment and Development.

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APPENDIX 1

GLOSSARY OF TERMS

Baseline data: Data that describe issues and conditions at the inception of the SEA. Serves as the starting point for measuring impacts, performance, etc., and is an important reference for evaluations.

Benchmark: A standard or point of reference against which things can be compared, assessed, measured or judged. Benchmarking is the process of comparing performance against that of others in an effort to identify areas of improvement.

Beneficiation: In mining, beneficiation, is a variety of processes whereby extracted ore is separated into mineral and gangue (the remaining worthless material), the former suitable for further processing or direct use. The term has occasionally used to describe the proportion of the value derived from asset exploitation which stays 'in country' and benefits local communities. For example, in the diamond industry, the beneficiation imperative argues that cutting and polishing processes within the diamond value chain should be conducted in-country to maximise the local economic contribution.

Biodiversity: the word 'biodiversity' is a contraction of biological diversity. It refers to variety within the living world and is commonly used to describe the number, variety and variability of living organisms. Strictly it is the degree of variation of life forms within a given species, ecosystem, biome, or planet. It has become a widespread practice to define biodiversity in terms of genes, species and ecosystems, corresponding to three fundamental and hierarchically-related levels of biological organisation: genetic diversity, species diversity and ecosystem diversity.

Bioprospecting: an umbrella term describing the process of discovery and commercialization of new products based on biological resources. Bioprospecting often draws on indigenous knowledge about uses and characteristics of plants and animals. In this way, bioprospecting includes biopiracy, the exploitative appropriation of indigenous forms of knowledge by commercial actors, as well as the search for previously unknown compounds in organisms that have never been used in traditional medicine.

Biotrade: the production of value-added goods and services derived from biodiversity, both for domestic and for international markets.

Bush encroachment: the invasion and/or thickening of aggressive undesired woody species resulting in an imbalance of the grass:bush ratio, a decrease in biodiversity, a decrease in carrying capacity and concomitant economic losses.

Capacity assessment: A structured and analytical process whereby the various dimensions of capacity are assessed within a broader context of systems, as well as evaluated for specific entities and individuals within these systems.

Capacity development: The process by which individuals, groups and organisations, institutions and countries develop, enhance and organise their systems, resources and knowledge; all reflected in their abilities, individually and collectively, to perform functions, solve problems and achieve objectives.

Carrying capacity: The carrying capacity of a biological species in an environment is the maximum population size of the species that the environment can sustain indefinitely, given the food, habitat, water and other necessities available in the environment. In population biology, carrying capacity is defined as the environment's maximal load, which is different from the concept of population equilibrium.

Civil society organisations: The multitude of associations around which society voluntarily organizes itself and which represent a wide range of interests and ties. These can include community-based organizations, indigenous peoples' organizations and non- government organisations.

Climate change: a significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years. It may be a change in average weather conditions, or in the distribution of weather around the average conditions (i.e., more or fewer extreme weather events). Climate change is caused by factors that include oceanic processes (such as oceanic circulation), biotic processes,

variations in solar radiation received by Earth, plate tectonics and volcanic eruptions, and human-induced alterations of the natural world; these latter effects are currently causing global warming, and "climate change" is often used to describe human-specific impacts.

Community-based natural resource management (CBNRM): CBNRM combines conservation objectives with the generation of economic benefits for rural communities. The three key assumptions being that: locals are better placed to conserve natural resources, people will conserve a resource only if benefits exceed the costs of conservation, and people will conserve a resource that is linked directly to their quality of life. When a local people's quality of life is enhanced, their efforts and commitment to ensure the future well-being of the resource are also enhanced,

Conservancy: Conservancies are legally-recognized (under the 1996 communal area conservancy legislation), geographically-defined areas, formed by local communities which have united to manage and benefit from wildlife and other natural resources. A range of activities are offered including visiting traditional villages, community campsites, safari and trophy hunting, sale of handicrafts, and operating community forests. As of 2011, there were 66 registered conservancies and 13 registered community forests. Conservancies and community forests form part of a growing community-based natural resource management (CBNRM) sector in Namibia

The Conservancies Association of Namibia defines a Conservancy as a "legally protected area of a group of bona fide land-occupiers practicing co-operative management based on: (i) a sustainable utilization strategy; (ii) promoting conservation of natural resources and wildlife; (iii) striving to re-instate the original bio-diversity with the basic goal of sharing resources amongst all members."

Cumulative effects/impacts: Incremental impact of an action when added to other past, present or reasonably foreseeable actions regardless of what agency or person undertakes such actions. Cumulative impact can result from individually minor but collectively significant actions taking place over a period of time.

Debushing: the eradication of bushes down to the optimal level in order to increase the carrying capacity of the pasture.

Decision-makers: Policy-making, planning and decision-making systems vary and the meaning depends greatly on national or agency circumstances and procedures. In Namibia, a decision-maker may be an official responsible for broad-scale or sectoral development plans, a Minister, a Governor or a Local Authority. There are in addition many other levels of decision maker, including Land Boards, Traditional Authorities, etc.

Desalination (also termed desalting): refers to any of several processes that remove some amount of salt and other minerals from saline water.

Ecosystem: A community of living organisms (plants, animals and microbes) in conjunction with the non-living components of their environment (eg air, water and mineral soil), interacting as a system. These biotic and abiotic components are regarded as linked together through nutrient cycles and energy flows. As ecosystems are defined by the network of interactions among organisms, and between organisms and their environment, they can come in any size but usually encompass specific, limited spaces (although some scientists say that the entire planet is an ecosystem).

Ecosystem services: Humankind benefits from a multitude of resources and processes that are supplied by ecosystems. Collectively, these benefits are known as ecosystem services and include products like clean drinking water, and processes such as the decomposition of wastes. While scientists and environmentalists have discussed ecosystem services for decades, these services were popularized and their definitions formalized by the United Nations 2005 Millennium Ecosystem Assessment (MA), a four-year study involving more than 1,300 scientists worldwide. This grouped ecosystem services into four broad categories: *provisioning*, such as the production of food and water; *regulating*, such as the control of climate and disease; *supporting*, such as nutrient cycles and crop pollination; and *cultural*, such as spiritual and recreational benefits.

Environment: Mostly used in an ecological sense to cover natural resources and the relationships between them. But, social aspects (including human health) are also often considered part of "the environment". Issues relating to aesthetic properties as well as cultural and historical heritage (often in "built" environment) are frequently included.

Environmental Assessment (EA): The umbrella term for the process of examining the environmental risks and benefits of proposals. Interpretations of the scope of EA also vary, particularly regarding the social dimension. It is usual to consider the physical/biological impacts of development on directly affected groups (e.g. impacts on downstream water supply, displacement, and local communities or vulnerable groups). But many institutions routinely include consideration of social impacts that are mediated by the environment (such as the human impacts of water pollution). Some agencies undertake “environmental and social assessments” or separate “social assessments” to identify adverse social impacts and promote other social goals, such as social inclusion or poverty reduction. The relative importance of the different dimensions varies depending on the issue involved. In the case of a dam it is increasingly routine in EA to consider both physical/ecological and social impacts.

Environmental Impact Assessment is a process, applied mainly at project level, to improve decision-making and to ensure that development options under consideration are environmental and socially sound and sustainable. EIA identifies, predicts and evaluates foreseeable impacts, both beneficial and adverse, of public and private development activities, alternatives and mitigating measures, and aims to eliminate or minimise negative impacts and optimise positive impacts. A subset of tools has emerged from EIA, including social impact assessment, cumulative effects assessment, environmental health impact assessment, risk assessment, biodiversity impact assessment and SEA. In Namibia, EIA is required identify, predict and evaluate significant environmental affects for categories of development activities prescribed under the Environmental Management Act 2007.

Eutrophication or more precisely **hypertrophication**, is the ecosystem response to the addition of artificial or natural substances, such as nitrates and phosphates, through fertilisers or sewage, to an aquatic system. One example is the "bloom" or great increase of phytoplankton(microscopic lifeforms) in a water body as a response to increased levels of nutrients. Negative environmental effects include hypoxia, the depletion of oxygen in the water, which induces reductions in specific fish and other animal populations. Other species (such as Momura’s jellyfish in Japanese waters) may experience an increase in population that negatively affects other species.

Ex-post assessment: an evaluation of the results after implementation of a policy, plan or programme (PPP). This stands in comparison to **ex ante assessment** where the results are assessed that a plan, programme or policy is expected or intended to have, i.e. based on prediction and extrapolation; it is a way of assessing whether a proposed PPP or project is feasible and leaves the opportunity to consider alternatives and adjust the plan, programme or policy to avoid or enhance the results.

Good governance: Governance is the exercise of political, economic and administrative authority necessary to manage a nation’s affairs. Good governance is characterized by participation, transparency, accountability, rule of law, effectiveness, equity, etc.

Green schemes: schemes in Namibia aimed at developing irrigation-based agronomic production, mainly of maize, wheat, rice, vegetables, bananas, dates and grapes. They are located in Karas, Kavango, Caprivi and Omusati regions. MAWF has set a target of putting 27,000 ha of land under irrigation over a 30 year period.

Indicator: A signal that reveals progress (or lack thereof) towards objectives: provides a means of measuring what actually happens against what has been planned in terms of quantity, quality and timeliness.

ISO 14001: a family of standards related to environmental management that aim to help organizations to: (a) minimize how their operations (processes etc.) negatively affect the environment (i.e. cause adverse changes to air, water, or land); (b) comply with applicable laws, regulations, and other environmentally oriented requirements, and (c) continually improve in the above. ISO (International Standards Organisation) 14000 is similar to ISO 9000 quality management in that both pertain to the process of how a product is produced, rather than to the product itself. As with ISO 9000, certification is performed by third-party organizations rather than being awarded by ISO directly. The iso 109011 audit standard applies when auditing for both 9000 and 14000 compliance at once. The requirements of ISO 14001 are an integral part of the European Union’s Eco-Management and Audit Scheme (EMAS). EMAS’s structure and material requirements are more demanding, foremost concerning performance improvement, legal compliance and reporting duties.

Land degradation: According to UNEP, land degradation is the temporary or permanent lowering of the productive capacity of land. It covers the various forms of soil degradation, adverse human impacts on water resources, deforestation, and lowering of the productive capacity of rangelands. **Desertification** is land degradation in arid, semi-arid and dry subhumid areas resulting from adverse human impact.

Land use planning: FAO guidelines define land-use planning as the systematic assessment of land and water potential, alternatives for land use and economic and social conditions in order to select and adopt the best land-use options. Its purpose is to select and put into practice those land uses that will best meet the needs of the people while safeguarding resources for the future. All kinds of rural land use are involved: agriculture, pastoralism, forestry, wildlife conservation and tourism. Planning also provides guidance in cases of conflict between rural land use and urban or industrial expansion, by indicating which areas of land are most valuable under rural use.

Logistics: the management of the flow of resources between the point of origin and the point of consumption in order to meet some requirements, for example, of customers or corporations. The resources managed in logistics can include physical items, such as food, materials, equipment, liquids, and staff, as well as abstract items, such as time, information, particles, and energy. The logistics of physical items usually involves the integration of information flow, material handling, production, packaging, inventory, transportation, warehousing, and often security.

Mainstreaming: Integrating environment into development planning processes.

Mariculture: a specialized branch of aquaculture (the farming of aquatic organisms) involving the cultivation of marine organisms for food and other products in the open ocean, an enclosed section of the ocean, or in tanks, ponds or raceways which are filled with seawater. An example of the latter is the farming of marine fish, including finfish and shellfish e.g. prawns, or oysters and seaweed in saltwater ponds. Non-food products produced by mariculture include: fish meal, nutrient agar, jewelry (eg cultured pearls), and cosmetics.

National Development Plan: A fixed-term, national-level plan (in Namibia lasting 5 years) aiming to provide strategic direction for economic development and setting out key actions to be taken in key sectors.

National ownership: The effective exercise of a government's authority over development policies and activities, including those that rely - entirely or partially- on external resources. For governments, this means articulating the national development agenda and establishing authoritative policies and strategies. For donors, it means aligning their programmes on government policies and building on government systems and processes to manage and coordinate aid rather than creating parallel systems to meet donor requirements.

Natural resources: materials and components (something that can be used) that can be found within the environment. A natural resource is often characterized by the amounts of biodiversity and geodiversity existing in various ecosystems. Some natural resources are essential for our survival while most are used for satisfying our wants. A natural resource may exist as a separate entity such as fresh water, and air, as well as a living organism such as a fish, or it may exist in an alternate form which must be processed to obtain the resource such as metal ores, oil, and most forms of energy. There is much debate worldwide over natural resource allocations, this is partly due to increasing scarcity (depletion of resources) but also because the exportation of natural resources is the basis for many economies (particularly for developed nations such as Australia). Some natural resources such as sunlight and air can be found everywhere, and are known as ubiquitous resources. However, most resources only occur in small sporadic areas, and are referred to as localized resources. There are very few resources that are considered inexhaustible (will not run out in foreseeable future) – these are solar radiation, geothermal energy, and air (though access to clean air may not be). The vast majority of resources are exhaustible, which means they have a finite quantity, and can be depleted if managed improperly.

Policies, Plans and Programmes (PPP): have different meanings in different countries according to the political and institutional context. Here these terms are used generically. *Policies* are broad statements of intent that reflect and focus the political agenda of a government and initiate a decision cycle. They are given substance and effect in *plans* and *programmes* (schemes or sets of usually linked actions designed to achieve a purpose). This involves identifying options to achieve policy objectives and setting out how, when and where specific actions will be conducted.

Policy Reform is a process in which changes are made to the formal 'rules of the game' - including laws, regulations and institutions - to address a problem or achieve a goal such as economic growth, environmental protection or poverty alleviation. Usually involves a complex political process, particularly when it is perceived that the reform redistributes economic, political, or social power.

Protected areas: locations which receive protection because of their recognised natural, ecological and/or cultural values (eg National Parks). There are several kinds of protected areas, which vary by level of protection depending on the enabling laws of each country or the regulations of the international organisations involved. The term "protected area" also includes marine protected areas, the boundaries of which will include some area of ocean. Protected areas are essential for biodiversity conservation. They are the cornerstones of virtually all national and international conservation strategies. They are areas set aside to maintain functioning natural ecosystems, to act as refuges for species and to maintain ecological processes that cannot survive in most intensely managed landscapes and seascapes. Protected areas act as benchmarks against which we understand human interactions with the natural world. Today they are often the only hope we have of stopping many threatened or endangered species from becoming extinct.

Renewable energy: energy that comes from resources which are continually replenished such as sunlight, wind, rain, tides, waves and geothermal heat.

Sectoral policy/strategy: A policy framework, for the long- and/ or medium-term, which has been adopted by a government as a plan of action for a particular area of the economy or society.

Stakeholder: Those who may be interested in, potentially affected by, or influence the implementation of a policy, plan or programme. Stakeholders may be primary (directly affected) or secondary (indirectly affected) and include government (national to local levels), the private sector, civil society (communities, NGOs, etc).

Strategic environmental assessment: Analytical and participatory approaches that aim assess the environmental impacts (positive and negative) of policies, plans and programmes (PPP), evaluate the inter linkages with economic and social considerations, and integrate these into PPP development to inform and improve and decision-making.

Sustainable city (also called eco-city): a city designed with consideration of environmental impact, inhabited by people dedicated to minimization of required inputs of energy, water and food, and waste output of heat, air pollution (CO₂, methane) and water pollution. A sustainable city should be able to feed itself with minimal reliance on the surrounding countryside, and power itself with renewable sources of energy. The crux of this is to create the smallest possible ecological footprint, and to produce the lowest quantity of pollution possible, to efficiently use land; compost used materials, recycle it or convert waste-to-energy, and thus the city's overall contribution to climate change. will be minimal, if such practices are adhered to. Contrary to common belief, urban systems can be more environmentally sustainable than rural or suburban living. With people and resource located so close to one another it is possible to save energy and resources through better managing things such as food transportation and developing mass transit systems. Finally, cities benefit the economy by locating human capital in one relatively small geographic area where ideas can be generated.

Sustainable development: refers to a mode of human development in which resource use aims to meet human needs while ensuring the sustainability of natural systems and the environment, so that these needs can be met not only in the present, but also for generations to come. The Brundtland Commission coined the most often-quoted definition of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Sustainable development ties together concern for the carrying capacity of natural systems with the social challenges faced by humanity. The concept is often considered as having three constituent parts or pillars: environmental sustainability, economic sustainability and social sustainability, although interpretations sometimes include other dimensions, eg cultural, institutional..

Tiering: addressing issues and impacts at appropriate decision-making levels (e.g. from the policy to project levels).

APPENDIX 2.1

OBJECTIVES AND STRATEGIES OF VISION-2030

DRIVER	MAIN OBJECTIVES	STRATEGIES
<p>Overall</p> <p><i>“We fully embrace the idea of sustainable development” (S13). [but no discussion of how environment underpins SD]</i></p> <p><i>“The concept of SD is the cornerstone on which this work was based” (14).</i></p> <p><i>“We will continue to keep our environment clean” (S14).</i></p> <p>Goal includes: <i>“Namibia maintains a healthy, productive land and mineral cycling, leading to infrequent, low-level drought and flooding. Rivers run permanently and clear. No atmospheric pollution emanates from croplands and rangelands, and only minimal pollution from urban and industrial areas is experienced. Farms and natural ecosystems are productive, efficient, diverse, stable and sustainable – socially, economically and ecologically” (S15).</i></p> <p><i>“It is imperative to seek viable options to poverty reduction and social upliftment that ensure environmental sustainability” (S28).</i></p> <p><i>“We have re-directed investment patterns to open up a greater range of more environmentally friendly economic opportunities and livelihood options for the poor” (S28).</i></p> <p><i>“In order to ensure the sustainable use of environmental resources, it is necessary to strike a proper balance between short-term needs and</i></p>	<ul style="list-style-type: none"> • To guide NDPs (S7). • Planning on basis of median population of 3.5m (S20). • Create diversified open market economy, with a resource-based industrial sector & commercial agriculture, with emphasising skills development (S8). • Promote competitive export sector (S8). • Balance supply and demand in labour market, and achieve full employment (S8). • Overcome extreme inequalities (S9). • Improve on various issues: access to productive resources (including land), environmental degradation, growing poverty and economic stagnation (S10). • Considerable reduction in poverty (S27). • Capacity-building (private + public sector) (S8). <p>Driving forces: (S10)</p> <ul style="list-style-type: none"> • Education, Science & Technology. • Health & development. • Sustainable agriculture. • Peace & social justice. • Gender equality. 	<p><i>“At the end of each NDP cycle of 5 yrs, all implementers of V-2030 should be able to answer 2 related questions: a) are we on course with V-2030? and b) what alternative strategies are in place to divert or stop this development?” (S67).</i></p> <ul style="list-style-type: none"> • Creating a national commitment to SD (212). • Promote enabling environment (political stability & freedom, sound legal system, economic resources & opportunities, social norms conducive to SD) (S8). • Strengthen human resource information management systems (S8). • Monitor internal/external development in information and technology (S9). • Partnership between government, communities & civil society, private sector, NGOs, urban/rural, etc (S9-10, S28). • Establish domestically-determined procedures that integrate environment and development issues into decision-making at all levels (S39). • Institutional restructuring & building (S8). • Human resource development (S8). • Integrated, unified, high quality education & training system (S8).

<p><i>long-term sustainability and, thereby, give priority to a more environment-friendly form of growth” (S87).</i></p> <p>Vision 2030 sets milestones and targets (S57 onwards). For NR & environment, these cover (only): marine resources; water demand & freshwater; and CBNRM (this only with key indicators).</p>		
	<p>(Official objectives as on p40):</p> <ul style="list-style-type: none"> • Ensure Namibia is a fair, gender responsive, caring and committed nation, in which all citizens are able to realise their full potential, in a safe and decent living environment. • Create and consolidate a legitimate, effective and democratic political system (under the Constitution), and an equitable, tolerant and free society, that is characterised by sustainable and equitable development and effective institutions, which guarantee peace and political stability. • Develop diversified, competent and highly productive human resources and institutions, fully utilising human potential, and achieving efficient and effective delivery of customer-focused services which are competitive not only nationally, but also regionally and internationally. • Transform Namibia into an industrialised country of equal opportunities, which is globally competitive, realising its maximum growth on a sustainable basis, with improved quality of life for all Namibians. • Ensure a healthy, food-secured and breastfeeding nation, in which all preventable, infectious and parasitic diseases are under secure control, and in which people enjoy a high standard of living, with access to quality education, health and other vital services, in an atmosphere of sustainable population growth and development. • Ensure the development of Namibia’s ‘natural capital’ and its sustainable utilisation, for the benefit of the country’s social, economic and ecological well-being. • Accomplish the transformation of Namibia into a knowledge-based, highly competitive, industrialised and eco-friendly nation, with sustainable economic growth and a high quality of life. • Achieve stability, full regional integration and democratised international relations; the transformation from an aid- 	<p>(Official strategies as on p41)</p> <ul style="list-style-type: none"> • Maintaining an economy that is sustainable, efficient, flexible and competitive. • Operating a dynamic and accessible financial sector. • Achieving full and gainful employment. • Providing excellent, affordable health care for all. • Mainstreaming HIV/AIDS into development policies, plans and programmes. • Creating access to abundant, hygienic and healthy food, based on a policy of food security. • Providing full and appropriate education at all levels. • Leveraging knowledge and technology for the benefit of the people. • Promoting interpersonal harmony among all people. • Operating a morally upright and tolerant society that is proud of its diversity. • Ensuring an atmosphere of peace, security and hope for a better life for all. • Maintaining stable, productive and diverse ecosystems managed for long-term sustainability. • Establishing and sustaining business standards of competence, productivity, ethical behaviour and high trust. • Upholding human rights and ensuring justice, equity and equality in the fullest sense for all, regardless of gender, age, religion, ethnicity, ability or political affiliation. • Maintaining a low-level, responsive bureaucracy. • Implementing a land and natural resource policy that ensures fair access by all to the means of production. • Establishing and operating a fiscal policy that distributes wealth fairly, and encourages production, employment and development of wealth in a stable and sustainable economic climate. • Operating a responsive and democratic government that is truly

	<p>recipient country to that of a provider of development assistance.</p>	<p>representative of the people, and able to adhere to transparent, accountable systems of governance, proactively.</p> <ul style="list-style-type: none"> Achieving collaboration between public, private and civil society organisations in policy formulation, programming and implementation. Maintaining sound international policies that ensure effective cooperation, favourable trade relations, peace and security.
<p>Land and Agriculture</p> <p><i>“Access to land is rationalised, with emphasis on individual tenure systems. New lands continue to be opened for settlement, but land located in communal areas, for seasonal grazing, becomes increasingly restricted. Land reform has expanded access to land in the southern and central areas of the country, at the level necessary to meet the pressing needs of all rural households, since effective land use plans have been implemented throughout the country” (S37).</i></p> <p><i>“Agricultural activities are modernised and carried out appropriately ... contributing towards high incomes and food security at household and national levels, and supporting the sustainable and equitable growth of Namibia’s economy, whilst maintaining & improving land capability” (S42).</i></p>	<ul style="list-style-type: none"> All citizens who are able have equal opportunity to access and utilise the natural resources in the country (land, minerals, water, fisheries and marine resources, forestry, and wildlife) for their own benefit and the benefit of their families, communities and the nation (S37). Off-farm livelihood options are created so that subsistence agriculture is almost non-existent (S28). Integrated urban-rural development (S44). Improved access to urban land (S45). Effective integration of domestic agricultural market (S43). <p>Land & agricultural production (142):</p> <ul style="list-style-type: none"> Ensure all Namibians have equitable access land & other natural resources, and that these resources are sustainably and efficiently used, while maximising Namibia’s comparative advantages. <p>Forestry (146)</p> <ul style="list-style-type: none"> Equitable access to, and appropriate tenure over, land, woodland and forest resources, as well as their sustainable utilisation. 	<ul style="list-style-type: none"> Integrated cross-sector planning and land-use planning (S40). Equitable land distribution (S40). Incentives to invest in and develop land through systematic proclamation of smaller towns and new National Housing Policy (S45).. Removal of Red Line vet fence (S43). Cultivation of high value crops (S43) Avoidance of dangerous pesticides & replacement by IPM (S43) <p>Land & agricultural production (selected) (142):</p> <ul style="list-style-type: none"> Economically & ecologically rational land use plans. Emphasis of manufacturing, service provision and other secondary/tertiary activities. Local processing of meat products. Land redistribution policies that promote equity Agricultural & resettlement policies aimed at ‘serious’ farmers & rural poor. Focus on food security – not self-sufficiency (eg import crops that require intensive use of scarce NR - water). Thorough environmental assessment: Securing tenure over all NR to be assigned to communities. Rehabilitate degraded land & water bodies. Rapid destocking & marketing of livestock to reduce pressure on rangelands during droughts. Effective and sustainable use of land & NR which do not threaten their future productivity. <p>Forestry (selected) (150)</p> <ul style="list-style-type: none"> Coordination between community-based initiatives, GRN and NGOs. Improving knowledge, education, professional competence Protect existing natural woodlands (increase their productivity by declaring Forest Reserves or Managed Areas (especially in

		<p>uninhabited land).</p> <ul style="list-style-type: none"> • Extend protected area network to include natural wetlands & river systems as soon as possible. • Rehabilitation of forest & vegetation in particular river catchments (Chobe, Kwando, Okavango) & deforested ephemeral rivers. • Use bush encroachment species for charcoal/wood chips, etc. • Afforestation programmes to use indigenous or harmless exotic species. • Combat deforestation through pushing appropriate technology (eg wood efficient stoves). • Incentives for sustainable forest management.
<p>Water</p> <p><i>“All Namibians enjoy a steady supply of good water for direct consumption. The water supply is appropriate to the requirements of the household, agriculture and industry, while taking cognizance of the arid environment in which we live and the duty we have to conserve this scarce resource for the benefit of all” (S41).</i></p>	<ul style="list-style-type: none"> • Continued water supplies from groundwater, perennial surface waters and dams on ephemeral rivers (S44). • Continuous improvement in the management of human, agricultural and industrial water demand; this leads to access to potable water for the rural poor (S41). • Promote rational and efficient use of water resource. • Increased water supply does not threaten environmental integrity, nor limit goods and services provided by natural wetlands & water-ways. (S42). <p>Freshwater & associated resources (139):</p> <ul style="list-style-type: none"> • Achieve equitable access to potable water & freshwater resources by all. 	<ul style="list-style-type: none"> • Greater user participation and community-level water management (S42). • Desalination plants & new dams (S44). • Accessing alternative sources of water (S44). • Reducing water stress, through management of human, agricultural & industrial water demand, and by improving access to potable water for rural poor (179). <p>Freshwater & associated resources (selected) (139):</p> <ul style="list-style-type: none"> • Water policies focused on demand management principles, appropriate pricing & water-efficient technology, and which recognises that natural environment is a user of water and natural water resources & wetlands are important providers of vital processes & services. • Promote sustainable, equitable & efficient water use (away from expanding water supply to meet demand). • Discourage production of unsuitable cash crops in favour of imports by charging for ‘free’ water. • Participation thru rural water point committees. • Use Natural Resource Accounts and SEA. • Improve catchment, river & aquifer management. • Implement IPM for disease control. • Joint management of river basins.
<p>Conservation & tourism</p> <p><i>“The integrity of ecological processes, natural</i></p>	<ul style="list-style-type: none"> • Continued growth in direct use of biodiversity, contributing to 	<ul style="list-style-type: none"> • Implementation of appropriate policies and programme (S45).

<p><i>habitats and wildlife populations throughout Namibia is maintained” (S44).</i></p> <p><i>“The solitude, silence and natural beauty that many areas in Namibia provide are becoming sought-after commodities that must be regarded as valuable natural assets. Preserving these assets is fundamental to developing tourism as a sustainable economic sector, and helping Namibia to maintain a comparative advantage within the global market. Tourism has more potential as a sustainable industry than virtually any other form of economic development in Namibia” (S29).</i></p>	<p>GDP (S45).</p> <ul style="list-style-type: none"> • Indirect uses associated with natural ecosystem values (ie provision of ecosystem services) (S45). • Encouragement of high quality, low-impact and non-consumptive tourism (S43). • Development of mining tourism (S43). • Increase in nature tourism (eg low impact whale/seal and bird watching) (S44). <p>Wildlife & tourism (157):</p> <ul style="list-style-type: none"> • Advance sustainable management of wildlife & tourism for the social & economic well-being of the people of Namibia. <p>Biodiversity (169):</p> <ul style="list-style-type: none"> • Diminished rates of biodiversity loss & ensure equitable access of all to, and appropriate tenure over, all natural resources. 	<p>Enhance biodiversity conservation through improvement in policy environment, extension of protected area network, improvement of biodiversity information (179).</p> <p>Wildlife & tourism (selected) (157):</p> <ul style="list-style-type: none"> • Improving & accelerating income-generation on conservancies to lessen dependency on Government & other providers of support. • Facilitating opportunities for people to derive economic value from wildlife species that impact on farming & livelihoods • Updating State-owned park management & tourism development, while placing strong emphasis on high-value, low-impact tourism. • Developing/enforcing <i>appropriate environmental & tourism legislation</i> <p>Biodiversity (169)</p> <ul style="list-style-type: none"> • Improve policy environment regarding land-use management: <ul style="list-style-type: none"> ○ Land use plans identify most suitable land-use options for 13 regions, set clear guidelines for zoning. ○ Implement Environmental Management Act. ○ Develop legislation to assist conservancies with IRMPs. ○ State parks to include representative parts of all important biodiversity. ○ Improve park management planning. ○ Update management and tourism infrastructure • Economic instruments to help finance SD options and/or discourage environmentally unfriendly practices (eg tax reforms, subsidies). • Improve knowledge base regarding natural resources & biodiversity. • Initiatives aimed at transboundary management of North East and Namib desert. • Combat deforestation & habitat loss through land degradation – by providing rural communities with electricity and/or renewable energy sources.
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<p>Mining and industry</p> <p><i>“Namibia’s mineral resources are strategically exploited and optimally benefited while ensuring that environmental impacts are minimised” (S43).</i></p>	<ul style="list-style-type: none"> • Mining continues to make significant contribution to socio-economic development (S43). • Small-scale mining grows (S43). • Equitable opportunities for all Namibians to participate in mining (S43). • Become industrialised nation with viable natural resources export sector (S33). • Manufacturing & service sector constitute 80% of GDP (S16). • Processed goods are >70% total exports (S16). • Reduced export of raw materials (S16). • SMEs contribute >30% GDP (S16) <p>Non-renewable resources (164)</p> <ul style="list-style-type: none"> • Exploit non-renewable resources optimally for benefit of all 	<ul style="list-style-type: none"> • Improving development planning & reducing negative impact of industrialization, by preparing economically and ecologically rational development plans (179). <p>Non-renewable resources (164)</p> <ul style="list-style-type: none"> • Setting targets in environmental management plans to be met by management, and indicators that track progress towards a more sustainable mine. • Enact/implement Pollution Control Bill. • Hazardous waste handled/disposed in safest way. • Mines have ultimate responsibility for cleaning up their own polluting waste. • Mines to obtain ISO 14001 certificate.
<p>Fisheries</p> <p><i>“Namibia’s marine species and habitats significantly contribute to the economy and equitable socio-economic development, whilst maintaining biodiversity and the functioning of natural ecosystems in a dynamic external environment” (S43).</i></p> <p><i>“Freshwater resources are available to support sustainable socio-economic development for poverty eradication and improved standards of living, and to maintain natural habitats” (S44).</i></p>	<ul style="list-style-type: none"> • High growth in fish harvesting – to maximum sustainable yields (S43). • Increasing export of high-value fish (S44) • Export of marine products to SADC region (S44). • Expansion of mariculture (S44). <ul style="list-style-type: none"> • More efficient freshwater aquaculture and fish farming (S44) <p>Fisheries & marine resources (161):</p> <ul style="list-style-type: none"> • Increasing & sustainable yields of fisheries & marine resources for the development of the economy & the benefit of the people. 	<ul style="list-style-type: none"> • Supported by research, education, direct investment (S44). • Commercial aquaculture (catfish, tilapia) in Hardap Dam (S44). • Small-scale operations raising fingerings (S44). • Culture-based fisheries (S44). • Integrated farming systems - strengthening links between agriculture and inland aquaculture (S44). • Develop appropriate technologies for promoting freshwater fishing (139). <p>Fisheries & marine resources (161)</p> <ul style="list-style-type: none"> • Setting total allowable catches at conservative levels to promote sustainability of resources. • Integrated Coastal Zone Management Plan to limit unnecessary coastal degradation, without restricting coastal development (reduce conflicts of interest in resource utilisation).

		<ul style="list-style-type: none"> • Careful planning & use of EIA. • Incentives for sustainable fishing. • Port facilities for disposal of oily ballast water & other wastes. • Research on marine environment/biodiversity. • Investment for environmentally-friendly economic & livelihood options. • Cost-effective, flexible/adaptable management & national disaster responses to potential impacts of sea-level rise and climate change – affecting marine resources.
Infrastructure	<ul style="list-style-type: none"> • Establish national network of infrastructure such as road, rail, telecommunications and port facilities (S16) and water & electricity (S27). • Transport infrastructure serves rural + urban communities (S27). • Namibia becomes a regional transport hub (S27). • Use ICT to enhance social & economic transformation (S31) <p>Transport (selected only):</p> <ul style="list-style-type: none"> • Draw up/implement master plan for airports (68). • Revise/promulgate new maritime legislation (68). <p>Production technology (selected) (87):</p> <ul style="list-style-type: none"> • Achieve energy supply through appropriate diversity of economically competitive & reliable sources (87). • Ensure all households and communities have access to affordable and appropriate energy supplies (87). • Achieve enhanced local technological development with focus on appropriate technology (87). <p>Urban environment (173):</p> <ul style="list-style-type: none"> • Achieve integrated urban & rural development in which there are opportunities for innovative & sustainable employment, with well planned, well managed, clean, safe & aesthetically pleasing urban areas. 	<ul style="list-style-type: none"> • Comprehensive ICT policy fully implemented (S32) <p>Transport (selected):</p> <ul style="list-style-type: none"> • Implement policies of Transport White Paper (68). • Ensure prevention of marine pollution (68). <p>Production technology (selected) (87):</p> <ul style="list-style-type: none"> • Basing industry & major projects on natural resources (eg power generation from ‘Kudu Gas’ at Oranjemund; a national water transfer and management system to optimise sustainable water use, including social and ecological needs; and use of lime & gypsum resources). • Investing in mining, food-processing and service sector. • Promoting renewable energy sources & implementing projects for production from these sources to meet industry demand. • Establishing duty-free corridor network along roads joining capitals of SADC countries & ports on E & W coasts. • Adhering to sound environmental standards in distribution & consumption of energy. <p>Urban environment (selected) 173):</p> <ul style="list-style-type: none"> • Incorporate clear urban development plan in NDP – to reduce land conversion, improve infrastructure for water supply, provide opportunities for energy savings, make recycling of waste & water more cost effective. • Improve urban environmental management (more effective

		<p>waste collection, implement strict legislation on treating hazardous wastes, adopt sustainable energy policies).</p> <ul style="list-style-type: none">• Improve urban governance (LA21 action plans, decentralised responsibilities, partnership between civil society actors, local authorities accountable to citizens, public participation in development decisions).
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APPENDIX 2.2

OBJECTIVES AND STRATEGIES OF NDP4

DRIVER	MAIN OBJECTIVES	STRATEGIES
<p>Note: NDP3 = 21 goals, but NDP4 only 3 goals</p> <p>Detailed programmes and how to achieve goals/targets left to sector offices, ministries, agencies (OMAs) – OMA plans to be scrutinised by NPC (x).</p>	<p>3 main goals+ target values (vii):</p> <ul style="list-style-type: none"> • Faster & sustainable economic growth. • Creation of employment opportunities. • Enhanced income equality <p>4 foundation issues:</p> <ul style="list-style-type: none"> • Logistics. • Tourism. • Manufacturing. • Agriculture <p>M/E structure formalised.</p>	
<p>Land and Agriculture</p>	<ul style="list-style-type: none"> • 4% growth per year (xviii). • Increase household food security (65.67). • Large-scale development of agri-business and agro-industrial; sectors (106). <ul style="list-style-type: none"> • Increase land carrying capacity (xviii) 	<ul style="list-style-type: none"> • Expand green scheme (xviii). • Focus on cereals, horticultural produce & fruit (106). • Establish fresh produce markets ((xviii, 109). • Assist access of communal areas to cattle markets (109) • Speed up procedures to acquire & own land for business & housing development / expedite land reform programme (39). • Establish agricultural infrastructure (silos, agricultural research stations) (xviii). • Investigate establishment of fertilizer-mixing plant. <ul style="list-style-type: none"> • Debushing (increase productive farmland and increase grazing land (106).
<p>Water</p>	<ul style="list-style-type: none"> • Increased access to safe drinking water (xvi, 71). • Address water constraint (76). 	<ul style="list-style-type: none"> • Desalination (76). • Aquifer recharge (76). • Recycling and re-use in industry (76). • Large dams [also for green scheme] (76). • Water-saving technologies/actions.
<p>Conservation & tourism</p> <p><i>[Note: focus is all on tourism – none on conservation]</i></p>	<ul style="list-style-type: none"> • Namibia to become leading tourism destination (xvii, 90). 	<ul style="list-style-type: none"> • Increase tourism arrivals (94). • Reduce seasonality of tourism (94). • Encourage geographical spread (94). • Provide attractive investment climate & reduce bureaucracy & regulations (94). • Increase marketing for eco-/community-/adventure-tourism) (94).

		<ul style="list-style-type: none"> • Reassess/improve land tenure law & regulations (re: investing in tourism in communal lands) (94). • Increase budget for National Parks maintenance and development (95).
Mining and industry	<ul style="list-style-type: none"> • Increased mining and quarrying (rapid growth) (22). • Expand agro-processing (22). • Focus on strategic manufacturing businesses (mineral beneficiation, agro- & fish-processing) (101). • Increase manufacturing. 	<ul style="list-style-type: none"> • Increase supply of locally cut/polished diamonds (101). • Manufacture of mining inputs (101). • Direct subsidies to SMEs for machinery, tax subsidies (98). • Preferential Government procurement of local goods (100).
Fisheries		
Nothing specific		
Infrastructure	<ul style="list-style-type: none"> • High quality transport linked to Walvis Bay (WB) (xvi, 71). • Increase % modern housing (xvi, 71). • Improve ICT infrastructure. • Enhance power generation (20), and ensure adequate base-load energy infrastructure (71) • Promote Namibia as logistics hub (84). 	<ul style="list-style-type: none"> • Expand WB port, upgrade/expand port storage facilities (87). • Double WB cargo-handling and rail-transported cargo (71). • Upgrade roads, some new roads (74). • Replace sections of rail infrastructure (74). • Upgrade airport facilities. • Increase supply of residential serviced land (71). • Gas- OR coal-fired power station (Nampower projects in pipeline) (75). • Promote electricity-saving technologies (75). • Invest in desired energy mix (78). • Prepare national infrastructure development plan (89).

APPENDIX 2.3

OBJECTIVES AND STRATEGIES OF KEY SECTOR POLICIES

Policy	Main objectives	Strategies
Constitution (1990)	<ul style="list-style-type: none"> • Supreme law of Namibia. • Establishes the main organs of State (Executive, Legislature, Judiciary). • Guarantees various fundamental rights and freedoms. • Establishes Principles of State Policy (including people's welfare, sustainable utilisation and environmental protection, 	<ul style="list-style-type: none"> • Constitution acts as a guide to Government policy regarding the enactment and application of legislation. This is made clear in article 101 of the Constitution. • See also specifically duties placed on GRN in terms of article 95(1)), which has resulted in the following strategies and plans being drafted: <ul style="list-style-type: none"> ○ National Biodiversity Strategy and Action Plan. ○ Namibia's Climate Change Strategy and Plan (2009). ○ Aquaculture Strategic Plan (2004). ○ Strategic Action Plan for renewable energy policies. ○ Forestry Strategic Plan.
National Agricultural Policy (MAWF, 1995) Also refer to National Rangeland Policy and Strategy (2012)	<ul style="list-style-type: none"> • Agricultural productivity > than population growth, • Improve food security and nutritional status, • Livelihoods, living standards and employment in rural areas, • Improve agricultural investment & profitability, • Value-added for agricultural products, • Promote the sustainable land & natural resource utilisation, • Rural and regional development based on comparative advantage. 	<ul style="list-style-type: none"> • Maximise broad-based participation. • Reduced dependence on GRN. • Focus: communal farmers (grain & meat). • Promote product diversification & value adding. • Phase out subsidies. • Facilitate independent marketing, move away from price-setting. • Integrate agriculture activities with other sectors. • Inter-agency co-operation, co-ordination (e.g. irrigation, water, natural resource management, rural and regional development, land use and land tenure reform, food security/nutrition, drought/ disaster management). • Do not cause environmental degradation. • Facilitate secure land tenure – enabling access to credit. • Introduce land tax to discourage multiple farms. • Food Security and Nutrition Policy is the default - food self-sufficiency pursued only when economically viable. • Encourage drought preparedness through long-term planning, appropriate relief, rehabilitation and responsive 'coping' strategies. Make use of participatory and self-help initiatives where possible.

<p>National Drought Policy and Strategy (MAWF, 1997)</p>	<ul style="list-style-type: none"> • Ensure household food security not compromised by drought. • Encourage/support farmers to adopt self-reliant approaches to drought risk. • Keep adequate reproductive livestock herds during droughts. • Continually supply potable water (schools, clinics, livestock). • Minimise NR degradation during droughts. • Enable farmers to recover quickly following drought. • Ensure health of Namibians not threatened during droughts. 	<ul style="list-style-type: none"> • Create an enabling environment through the decentralisation of decision-making and the use of civil society institutions. • Promote the establishment of land user rights to give land-users control over their natural resources. • Government will move away from regular financial assistance to large numbers of freehold and communal farmers, but GRN will institute measures that support on-farm risk management and reduction of vulnerability to drought in the longer term. • Finance drought relief programmes efficiently and effectively through independent, permanent Drought Fund.
<p>Green Scheme Policy (MAWF, 2004 and revised in 2008)</p>	<ul style="list-style-type: none"> • Namibia will grow 50% of its own cereal requirements . • Enable the small-scale farmers to achieve self-sustainability. • Socio-economic development, jobs. 	<ul style="list-style-type: none"> • GRN facilitates (through subsidies) commercially viable irrigation farms in communal areas. • Enable small-scale irrigation farmers to benefit from the services of large scale operator (mentorship and training). • 27,000 ha by 2020.
<p>Water Supply and Sanitation Policy (MAWF, 1993 and revised in 2008)</p>	<ul style="list-style-type: none"> • The first priority for water provision is domestic (economic activities is lower priority). • Essential water supply and sanitation services affordable and available to all Namibians. • Water to be used efficiently and environmentally sustainably. 	<ul style="list-style-type: none"> • Services based on community participation, decentralization (i.e. establishment of village Water Point Committees), partnership between government and beneficiaries. • Outsource services under GRN supervision. • Communities must set service priorities, and pay the cost. • Implement rising block tariffs, rebates, and cross subsidization. • Industrial, commercial or mining activity pay full cost recovery tariff, taking future scarcity and cost of supply augmentation into account. • Cost and economic value added must inform priorities.
<p>Water Resources White Paper – and Management Act (2004, presently being revised)</p>	<ul style="list-style-type: none"> • Equitable access to water for all, for health and productive life. • Safe drinking water is a basic human right. • Harmonise human needs with ecosystems needs. • Manage water resources for sustainable development. • Recognise the economic value of water and make water developments cost-effective. 	<ul style="list-style-type: none"> • Access for every citizen to enough good quality water within a reasonable distance from their home. • Integrate planning and management of water resources, both surface and underground, that recognizes economic, social and environmental dimensions. • Openness and transparency - information available to public. • Develop human resources and competency in water sector. • Improve water awareness and public participation. • Prevent water pollution, apply the polluter pays principle. • Meet international obligations with regard to shared water resources, especially abstracting for beneficial use and not polluting. • Promote decentralization to lowest competent level. • Separate policy-making from operational/regulatory roles.

Forestry Development Policy (MAWF, 2001) and Forest Act (2001)	Practice and promote the sustainable and participatory management of forest resources and other woody vegetation, to enhance socio-economic development and environmental stability.	<ul style="list-style-type: none"> • Empower farmers and local communities to manage forest resources on a sustainable basis. • Increase benefits from woodlands through research and development, silvicultural practices, protection, and economic support projects. • Attract investment in small and medium industries based on forest raw materials. • Implement innovative land-use strategies including multiple use conservation areas, protected areas, agro-forestry, to yield greater forestry benefits. • Compile and maintain a national forest inventory (of all forest reserves, community forests, classified forests, etc). • Management plans for all classified forests; state forest reserves; regional forest reserves; community forests; and forest management areas.
Wildlife Mgt, Utilisation and Tourism in Communal Areas Policy (MET, '95), Amendment to '75 NC Ord. ('96)	<ul style="list-style-type: none"> • Give communal area farmers conditional and limited rights over wildlife. • Link conservation with rural development. 	<ul style="list-style-type: none"> • Enable communal area farmers to establish conservancies, and then derive direct financial income from tourism and the sustainable use of wildlife. • Provide an incentive to rural people to conserve wildlife and other natural resources through shared decision-making and financial benefits.
Tourism Policy (2008)	<ul style="list-style-type: none"> • Promote tourism as a key industry. • Position GRN as facilitator/ enabler, with private sector the main implementer. • Spread tourism investments and benefits more broadly. 	<ul style="list-style-type: none"> • Maintain strategic physical and other 'infrastructure' – roads, communications, air-links, safety, stability, predictability, investment incentives. • Encourage ongoing / improved conservation in Namibia generally, especially State-owned National Parks. • GRN – sponsored marketing (internationally, regionally and locally). • Support CBNRM and conservancies. • Support transfrontier conservation area initiatives. • Encourage inclusivity – e.g. BEE in concessions. • Conduct research and monitoring (e.g. Tourism Satellite Accounts). • Promote good environmental practices.
National Land Policy (MLR, 1998)	Based on constitutional principles and on the national commitment to redress the social, and economic injustices inherited from the colonial past regarding land ownership.	Calls for amongst others, establishment and proclamation of urban areas, and strives to promote decentralization and community involvement. Proposes financial and tax incentives for protection and rehabilitation of natural environments etc.
National Resettlement Policy (MLR, 2001)	Sets out aims and objectives of resettlement policy, the main target groups, selection of beneficiaries and occupational rights. Regulates that resettlement must be institutionally, socially, economically and environmentally sustainable to enable beneficiaries to become self-supporting.	Vision that resettlement scheme should become part of local political administration, i.e. the Regional Council. Crucial that Councils become involve in the planning and implementation phases. Various government and NGOs are cited as supporting agents of resettlement.

<p>Agricultural (Commercial) Land Reform Act (1995)</p>	<ul style="list-style-type: none"> • State to acquire commercial farmland for the purpose of resettlement. • This Act provides for the acquisition of agricultural land by the GRN for the purposes of land reform, and for its redistribution to Namibians “who do not own or otherwise have the use of agricultural land or adequate agricultural land, and foremost to those Namibian citizens who have been socially, economically or educationally disadvantaged by past discriminatory laws or practices”. 	<ul style="list-style-type: none"> • compulsory acquisition (expropriation) by the State of any commercial agricultural land classified as: <ul style="list-style-type: none"> ○ under-utilised; ○ held in excessive amounts – > 2 ‘economic units’; ○ foreign owned. • compensation to be paid for expropriated land • State has the right of first refusal where commercial freehold farmland is offered for sale. • lessees of State-owned commercial land must occupy the farm within three months and beneficially use it for agricultural purposes (good animal husbandry, proper care and maintenance, improvements). • Minister has set a land tax. • Establishes a Land Reform Advisory Commission and a Lands Tribunal.
<p>Communal Land Reform Act (2002)</p>	<ul style="list-style-type: none"> • Provide residents access common grazing lands subject to conditions (e.g. stock numbers, grazing areas) To be read in conjunction with Traditional Authorities Act of 2000. • Empower Chiefs, Traditional Authorities and Communal Land Boards to allocate communal land. • Regulate the tenure relationship between the State and those occupying communal land. 	<ul style="list-style-type: none"> • Traditional rights to be converted to 99-year leasehold rights. • land sub-division by way of inheritance and other land distribution systems in communal areas regulated to prevent excessive fragmentation. • No new fences may be erected without authorisation. Existing fences (when Act enters into force) to be removed, unless permission has been formally applied for and obtained. • The primary power to allocate or cancel customary land rights lies with the Chief or the TA. These decisions to be ratified by the CLB. • Mechanisms established to investigate (inter alia) compensation claims for improvements; unlawful occupation and fences, prospecting/mining, combating/prevention soil erosion, limitation and control of grazing stock.
<p>Environmental Management Act (2007)</p>	<ul style="list-style-type: none"> • Apply precautionary and preventative principles; • Ensure renewable resources utilised sustainably for current and future generations; • Promotes fair and equitable access to natural resources • Ensure functional integrity of ecosystems; • Pollution avoided/minimised; 	<ul style="list-style-type: none"> • EAs for listed PPPs and projects • Public participation in decision making (through EAs) • Reduction, re-use and recycling shall be promoted; • The polluter pays principle shall be applied; • Environmental Commissioner, Environmental Officers, Sustainable Development Advisory Council established. • GRN agencies must develop Environmental Plans for policies, plans & programmes that affect the environment.

<p>Marine Resources Act (27 of 2000)</p>	<ul style="list-style-type: none"> Control, management, protection, and utilisation marine resources within the Namibian territory and exclusive economic zone 	<ul style="list-style-type: none"> Scientifically-determined quotas Harvesting of marine resource for commercial purposes only with license Fees and levies fund research and observers stipulated fishing gear, restricting fishing of certain species, regulation of importation of live marine resources; Establishing marine reserves. Penalties for dumping of fishing gear, waste, by-catch, other offences. Control over dredging and mining.
<p>Petroleum (Exploration and Production) Act, 2 of 1991</p>	<ul style="list-style-type: none"> State has all exploration and production rights State may issue licences for reconnaissance, exploration and production of petroleum, and ensure control of environmental pollution caused by such activities. 	<ul style="list-style-type: none"> Two EIAs (exploration and production) prior to any activity Strict standards, guidelines and penalties in place Site restoration required after activity completion Provision for oil spill and fire contingency plans. Requirement for establishment of a trust fund for decommissioning.
<p>Minerals (Prospecting and Mining) Act, 33 of 1992</p>	<ul style="list-style-type: none"> State owns all minerals MME may issue licences to companies/individuals to explore for, and mine minerals 	<ul style="list-style-type: none"> Once licence lapses/cancelled, holder must remedy environmental damage. Pollution events must be reported and remedied timeously Multi-sector Minerals Prospecting and Mining Rights Committee provides input into granting of mineral licenses. EIAs mandatory for prospecting and mining GRN may demolish structures, remove debris and rehabilitate mining area, and recover costs from proponent. GRN may demand financial guarantees (e.g. Trust) for reparation of environmental damage and post-mining rehabilitation.
<p>Industrialisation policy 2012</p>	<ul style="list-style-type: none"> Reiterates Vision 2030, that Namibia will be a developed and industrialised nation by 2030. Stresses importance of aligning NDPs to the industrial policy. Overall objective is economic growth, job creation, poverty alleviation 	<ul style="list-style-type: none"> Selecting sectors with potential for creating linkages Maintain macroeconomic stability and sound fiscal policy. Stresses need for openness, regional and global economic integration. When and where necessary, infant industry protection. Promotes the principle of integrated development (market integration, infrastructure development, and industrial development) Promotes equitable and broad-based economic empowerment, including breaking the divide between rural and urban disparities. Recognises the importance of environmental safeguards. GRN will in some cases be proactive (incentives such as export development programmes, and support schemes like spatial industrial zones or economic zones, tax regime) but generally intervene only where necessary (e.g. in the broader public interest). Advocates for public-private partnerships. Promote SMEs.

APPENDIX 2.4

OBJECTIVES AND STRATEGIES OF THE NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN 2

DRIVER	MAIN OBJECTIVES	STRATEGIES
<p>OVERALL</p> <p><i>“Biodiversity and the natural environment are of special significance to Namibia. Natural resource-based sectors including mining, fisheries, agriculture and tourism are the basis of the Namibian economy, and around 70% of Namibia’s population is directly dependent on the natural resource base for income, food, medicinal and health needs, fuel and shelter” (1).</i></p> <p><i>“Biodiversity is a vital national asset that needs to be used on a sustainable basis” (1).</i></p>	<p>4 strategic goals – each with targets (total 19) and performance indicators (p ii):</p> <ul style="list-style-type: none"> • Address underlying causes of biodiversity loss by mainstreaming biodiversity across government & society. • Reduce direct pressures on biodiversity & promote sustainable use of biological resources. • Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity & enhancing benefits to local communities. • Enhance implementation of NBSAP2 through participatory planning, knowledge management and capacity-building. 	<ul style="list-style-type: none"> • 39 strategic initiatives. • Dedicated biodiversity mainstreaming strategy throughout NSBAP2 (7): <ul style="list-style-type: none"> ○ Improved communication, education & public awareness on biodiversity issues. ○ Valuations of ecosystem services. ○ Economic incentives to promote biodiversity conservation & sustainable use. ○ Biodiversity-friendly & resource-efficient practices.
<p>Land and Agriculture</p>	<ul style="list-style-type: none"> • Sustainable management practices adopted & mainstreamed in agriculture and forestry sector (target 2.3) (12). • Genetic diversity of cultivated plants & farmed animals & their wild relatives has been maintained & genetic erosion prevented (target 3,3) (16). 	<ul style="list-style-type: none"> • Promote agricultural practices which minimise negative impacts of agricultural production on biodiversity & ecosystem functioning. (12). • Promote sustainable forest management practices (12). • Support communities to diversify their livelihoods through biodiversity-friendly enterprises which ease pressure on the resource base (12). • Effective in-situ and ex-situ conservation measures & safe use of biotechnology to improve food security & climate resilience of agriculture (16). • Capacity strengthening to enforce Biosafety Act, 2006 (16).
<p>Water</p>	<ul style="list-style-type: none"> • Nothing specific on this. 	<ul style="list-style-type: none"> • Promote sustainable use of water (9).
<p>Conservation & tourism</p>	<ul style="list-style-type: none"> • Value of biodiversity and ecosystem services to the economy and 	<ul style="list-style-type: none"> • Develop & utilise biodiversity and ecosystem services valuation

	<p>people's livelihoods is quantified, monitored and mainstreamed to support sectoral policy-making, planning, budgeting and decision-making frameworks (target 1.2) (8).</p> <ul style="list-style-type: none"> • Appropriate incentives for biodiversity conservation and sustainable use are in place and applied (target 1.3) (8). • Reduce rate of biodiversity loss (target 2.1) (10). • All living marine and aquatic resources are managed sustainably and guided by ecosystem approach (Target 2.2) (11). • Assess threats to biodiversity from alien species (Target 2.5) (13). • Protected areas conserved through effectively & equitably managed, ecologically representative and well-connected systems and for the socio-economic benefit of Namibians (Target 3.1) (14). • Extinctions of threatened species have been prevented and conservation status of vulnerable species has been improved (Target 3.2) (15). 	<p>tools.</p> <ul style="list-style-type: none"> • Develop economic instruments to encourage activities enhancing biodiversity and discourage those that impact negatively on biodiversity (8). • Environmental taxes and levies and market-based instruments as part of environmental fiscal reform programme (8). • Improved land and resource use decisions and land use planning (10). • Strengthen institutional capacity to promote informed & integrated decision-making, harmonised policy frameworks & coordinated action on issues relating to biodiversity (10). • Develop mechanisms/measures to prevent establishment & introduction of alien invasive species & to control/eradicate existing ones (13). • All protected areas (Pas) managed using participatory and science-based site planning processes that incorporate biodiversity objectives, targets, management strategies and monitoring programmes. (14) • Enhance infrastructure and natural resource base of all PAs to make them attractive destinations for tourists & investors (14). • Fill gaps in PA network to conserve priority vegetation types, habitats, landscapes, seascapes, species & genetic diversity, and unique cultural features (14). • Consolidate community conservancy programme (14). • Promote all Pas as core drivers for nature-based tourism and viable land use options for SD (14). • Manage all rare, endangered, endemic, restricted range and valuable species so that they are protected & enhanced & so they contribute economically to their maintenance and to society (15). • Pioneer a holistic & inclusive approach to law enforcement (focusing on intelligence, interception & prosecution) re illegal trade in wildlife (15).
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	<ul style="list-style-type: none"> Wetland ecosystems providing essential services are being sustainably managed, and where necessary, restored, taking into account environmental, economic & social needs (Target 3.4) (16). Degraded ecosystems identified and programmes in place to contribute to improving their resilience (Target 3.5) (17). Legislation to implement Nagoya Protocol on equitable sharing benefits from conservation and sustainable use of biodiversity (Target 3.6) (18). 	<ul style="list-style-type: none"> Integrated management of perennial and ephemeral river catchments that takes into account the economic, environmental & social consideration in all decision-making (17). Strengthen mechanisms for protection & restoration of critical wetland ecosystems (17). Rehabilitation of land degraded through mining and unsustainable land management practices (17) Promote & regulate bioprospecting and biotrade for benefit of all (18).
Mining and industry	<ul style="list-style-type: none"> Adopt sustainable consumption and production practices (Target 1.4) (9). Impacts from pollution, waste and anthropogenic pressures on biodiversity and ecosystem health and functioning are managed and minimised (Target 2.4) (12) 	<ul style="list-style-type: none"> Promote sustainable use of energy (9). Develop/strengthen existing certification schemes for sustainably-produced goods & services (9). Monitor/manage pollution levels (12). Manage all forms of waste in an effective & efficient manner (12). Minimise impact of other anthropogenic pressures on biodiversity (13) Rehabilitation of land degraded through mining (17).
Fisheries		<ul style="list-style-type: none"> All living marine resources are conserved and utilised sustainably based on ecosystem approach to fisheries (EAF) principles. Sustainable management of aquaculture and mariculture industries as vehicles for socio-economic development.
Infrastructure	<ul style="list-style-type: none"> Nothing specific on this. 	

APPENDIX 3

STAKEHOLDER VIEWS ON KEY SECTOR POLICIES

3.1 Land and agriculture:

Main elements of policy	How to improve each element to help achieve Sustainable Development, V2030 and DNP4
(a) Land and resettlement	
Land redistribution & reform	<ul style="list-style-type: none"> • Minimum fenced farm sizes (2500ha) – too small and economically unviable for livestock and for wildlife in many parts of Namibia, but small units could be OK for rain-fed cropping and irrigation. Thus, the policy needs to be specific and contextualised per type of farming/land capability and area. Unfenced farms, with owners/custodians collaborating through herding stock across multiple units at the right stocking densities for available forage would be an appropriate way of managing smaller livestock farming units. Not all the people wanting land need it for farming. Some people only want land for residential, industrial or other purposes; or to have property in their portfolio – many for cultural as much as economic reasons (and these are all legitimate aspirations). Policy needs to be more flexible. • Economic analysis of alternative development options needs to be institutionalised – see Box 13. • Land reform (redistribution of land) should be better informed by land-use planning (LUP) that assesses land capability, infrastructure, compatibility with neighbouring areas, and economic viability of proposed uses. LUP needs to combine local level planning with regional planning. A “shelled“ approach to land rights is needed (explained below in comments on policy element on improving equitable land rights to enable security and investment). This would combine individual (crops), group (grazing areas) and devolution of rights with appropriate controls and incentives by Conservancies and Community Forests (which also have group rights). • Improve coordination in GRN (especially in the land and agriculture sectors) for planning, pre-settlement and post-settlement support and extension services. This will improve the success/ sustainability of resettlement projects. • Monitor post-settlement land use, to ensure land is used productively and sustainably. However, no one can force people to use their land “productively”. In the same agro-ecological zone, some people may earn N\$5/ha and others over N\$80/ha because of different land uses, efficiencies, etc. Post-settlement land use monitoring should be aimed at supporting resettled people to articulate their goals (with some guidance and reality checks) and turn these into appropriate activities and outcomes. • Better selection of land recipients, to ensure that the needy are the ones who get land, rather than elite capture. Also, recipients should be in a position to use the land (above bullet). However, many of the needy may not have adequate skills for farming; and if they receive minimal support and are resettled on land in a remote area outside of their cultural context, their chances of making a success will be constrained. • On one hand, land prices are often out of sync with the productivity of that land (e.g. for conventional farming). But, on the other hand, alternative land use (e.g. wilderness-based tourism), is more economically viable (in some places), provides more jobs and is valuable to the economy. • Land use plans (e.g. for regions, districts, prescribed areas such as parks and conservancies) need to have legal status – and they must be integrated with development plans so there is no duplication of conflicting plans. These regional plans then become the plans around which the Regional Council, Regional Land Boards, line ministries, service providers and developers do

	<p>their planning, and against which their projects and programmes are assessed.</p> <ul style="list-style-type: none"> • The land issue cannot be solved if production per ha of crop fields and rangelands is in decline in the communal and private lands. The widescale adoption of CBNLM and Namibia-specific conservation agriculture is required.
Establish urban areas	<ul style="list-style-type: none"> • Flexible Land Tenure (FLT) Act needs to be implemented, so people have easier access to serviced land, and get title quickly. • Improved coordination is needed between ML (responsible for land) & MRLGH (oversees urban areas) to ensure effective implementation of the FLT Act. • Namibia must plan and allocate more resources for urbanisation – since the population is rapidly urbanizing anyway, in spite of rural development initiatives. By 2030, some 70% of Namibians will live in towns, by 2050 probably 85%. People seek to live and work in cities, so we need to be pro-active (e.g. promote sustainable cities) to accommodate them and provide services and economic opportunities. <ul style="list-style-type: none"> ○ make serviced plots affordable, or even free for first-time owners falling into the “needy” category and who intend to reside on such property – in the same way that 2,500 ha farms units are provided free. 100 people (families) can be settled in urban areas with their title deeds for every 1 settled on farmland. There is no better way to help people, and no better way to entice people to invest and upgrade their property than to hand over the title deeds. Needy people will not be able to pay even a modest amount. Far better for them to put any savings into improvements. This is an area where government can be really innovative and get things done for poor people at relatively little cost.
Decentralisation	<ul style="list-style-type: none"> • Capacity building of institutions is needed in Regions and at lower level, so they can effectively implement their mandates (e.g. Land Boards). An alternative solution would be a mobile, professional Land Board with a fixed, experienced and properly trained team of members, that moves from region to region (like a circuit court) where it meets in each region with a local advisory body. It can spend 3 days per region per 3 months, make decisions, issue leaseholds, etc • Clarify/rationalise roles and responsibilities of various institutions and office-bearers, mainly at regional level, so as to avoid duplication of services, and conflicting land use decisions. • Implementing decentralisation is slow, as some sectors are not ready for it, or they are actually resisting decentralisation. Funding might also be insufficient. It appears that that decentralisation is too costly, too inefficient (results in an extra layer of bureaucracy) and there is inadequate capacity to implement it properly. Decentralisation under a system of mixed central and part decentralised government, with very weak, inefficient and ineffective systems, does the opposite of bringing decisions and administration closer to the people – it adds an impervious layer.
Supporting resettled people (providing infrastructure, breeding stock, etc)	<ul style="list-style-type: none"> • Pre & post-settlement support is inadequate – people are often ‘dumped’ on the land, forgotten and left to fend for themselves. This leads to disillusionment and people eventually abandoning farming (renting out the land, returning to other employment). • Need better coordination by support organisations, so that support interventions are more efficient, more integrated and with better outcomes. • MAWF and MLR need to adopt clear approaches to rangeland (apply principles in Namibia Rangeland Policy and Strategy and Namibia-specific agriculture – and build an extension service that is production-oriented and ensures that production/ha increases in key sectors is achieved over time.
Improving equitable land rights to enable security and investment	<ul style="list-style-type: none"> • There needs to be greater clarity on how land rights are devolved to individuals or groups of people (e.g. a community) – this would help people/groups to obtain loans, enable increased investment and economic growth, and encourage custodianship over the land and resources. Probably the best approach would be similar to the conservancy model. An outer boundary (“shell”) for the area over which land rights would be devolved would be established based on social context i.e. people who currently work together comfortably across their landscape (same approach as used to identify conservancy boundaries). Within this “shell” there could be “nested” rights. Some would be group-based other would be individual/family. They would be guided by a local land-use zonation plan.

	<p>Group rights could partly or totally overlap, e.g. grazing areas, forestry areas, wildlife & tourism areas, multiple use areas, etc. The individual rights would be long-term leaseholds (and in some cases title deeds) for homesteads, crop fields and businesses. These individual leaseholds could be traded, sold, used for collateral, etc. There is enough experience in Namibia (including within communities) to get this model up and running now.</p>
(b) Agriculture	
(i) Green Schemes	
<ul style="list-style-type: none"> • Produce 50% of Namibia's own cereals needs • 27,000 ha under GS by 2020 	<ul style="list-style-type: none"> • Before GSs are established, there needs to be certainty that water is available for use on a sustainable basis, both in the context of that GS, and cumulatively. However, water must not be locked into GS supply when more valuable uses for the water emerge. • Political interference in enforcing payments for water and other services needs to be stopped, since it leads to non-payment and non-adherence to conditions set for the scheme. This undermines good governance and can lead to abuse (e.g. over abstraction of water). • More consistent use of EIAs and EMPs is needed (as required by law) – and also of SEA in cases where the GSs are located in a cluster, so that cumulative effects are properly understood. • There may be an over-emphasis on cereals – perhaps consider high value crops (e.g. fruit, nuts), as they generate more jobs and better returns per ha – and more efficient use of water. • There could be synergy between GSs and the ideas of Conservation Agriculture in order to: (a) reduce clearing of trees; (b) use less damaging ploughing methods; (c) integrate the GS with traditional farming methods and crops; (d) respond better to local needs in terms of crops grown; and (e) improve yields. • At a strategic level, the development of GSs in areas where there is no obvious comparative advantage (e.g. poor Kalahari Sandy soils), needs further interrogation. The main question is whether this is the best way to use water and land, compared to other uses. Economic analysis feeding into Natural Resource Accounts would be a useful tool in this analysis. • Involuntary resettlement is an issue, as people are required to give up their land. Usually they receive cash compensation, but this is not an enduring solution. More innovative solutions are needed to ensure that displaced people are not worse off as a result of the GS than before it. • Proper land use planning is needed, with due consideration of comparative advantage, so that the placing of GSs does not result in antagonisms (e.g. with conservation) and opportunity costs (e.g. with tourism). • Promote private sector involvement and investment in the GSs (including local people), so that objectives such as employment, empowerment and economic advancement are better met. – ultimately for efficiency reasons. • Undertake an overall SEA of GSs to date and pay attention to results. E.g. Etunda designed for high value crops and canning, but used for grain with exorbitant water use. Hardap used for lucerne.
Sustainability for small-scale farmers	<ul style="list-style-type: none"> • Inadequate security of tenure and difficulties in raising capital (e.g. loans) is a barrier for communal area farmers who may want to “graduate” from subsistence land use to more commercial.
Economic development	<ul style="list-style-type: none"> • As noted above - Inadequate security of tenure and inability to access credit is suppressing economic development in communal areas. • Conduct economic analysis and develop natural resource accounts to ensure economically efficient planning - see earlier comments about the best use of water and land from an economic perspective.
(ii) General agriculture	
Rates of food production must exceed those of population growth	<ul style="list-style-type: none"> • Actual performance in the agriculture sector has been negative in the recent past – decline by over 3% and this during a phase of above-average rainfall. Similarly, in 2010, number of people employed in the agricultural sector had fallen to less than half of those in 1990. The reasons need to be understood. – in reality, people don't get the returns from farming, so they invest in better

	<p>alternatives. Does Namibia want to change this, or let market forces prevail? Better to make good returns per ha and then buy in food from rain-fed cropping areas at cheap rates than spend large amounts subsidising marginal areas, replacing more viable alternatives and causing environmental degradation.</p> <ul style="list-style-type: none"> • Food production targets are unrealistic, given that Namibia is subject to escalating land degradation, ongoing climate variability, and vulnerability to climate change. Climate change projections show that rain-fed cropping will not be viable in the North-Central region in the future, and large stock farming will no longer be viable for most places south of the current Red Line. • The rates of adoption of CBNRM and Namibia-specific agriculture are not adequate. They need to be adopted fully and scaled up at a national level.
Improve livelihoods & jobs	<ul style="list-style-type: none"> • Current policy discourages sheep exports to RSA (section 1:6), resulting in farmers reducing sheep herds but increasing cattle in areas not suited to cattle. This accelerates rangeland degradation. • Undermining of free market principles • Conservancies should be viewed as “Integrated Livestock and Biodiversity Production Systems”, where game and stock are farmed together. This improves livelihood security because it provides a broader spectrum of grazers and browsers, and income opportunities. In this context, there needs to be greater synergy between MET and MAWF in providing services and promoting integration of these respective sectors/farming approaches. Also, MET needs to move from a “protectionist” mindset to the “production” mindset as regards both conservancies and freehold land. • Conflicts between resettlement, land distribution and farming practices need transparent management. Illegal fencing in communal areas is severely compromising the ability of poor farmers to survive on ever-shrinking communal rangelands. • Develop professional herder training schools in each region to enable herders to play the role required in both the communal and private farms.
Add value to agricultural products	<ul style="list-style-type: none"> • Don’t do it by means of restrictions (e.g. block export of live animals) but rather by incentives.
Promote sustainable land & NR utilisation	<ul style="list-style-type: none"> • Sustainable land use & rangeland management is under-emphasised in NDP4, in spite of the fact that land degradation is widespread and escalating, and that this will undermine the objectives in the agriculture sector. • A key issue receiving inadequate attention is the need to combat bush encroachment. This is severely undermining agricultural output, as well as biodiversity, tourism potential and aquifer recharge. Incentives for herding and thus job creation (e.g. tax rebates for herders employed) would help with bush encroachment as well as incentives for burning. • MAWF needs to provide greater support/encouragement for Conservation Agriculture, as CA is shown to be far better from a conservation, land productivity and community involvement perspective. The National Rangeland Policy needs to be implemented, since it advocates a holistic approach towards rangeland management. However, this policy needs to address carrying-capacity in an appropriate way, where flexibility is followed, rather than setting a carrying capacity value for a certain area without acknowledging the need to adjust this in light of climate variability and other natural phenomenon. • There should be better land use planning at various levels (regional and local), so that there are fewer land use conflicts. LUP processes provide a good opportunity for stakeholders to propose trade-offs that are acceptable to communities, and that do not unduly compromise ecological processes. Trade-offs need to be examined for their economic merits. • Recent Land Tax introductions are placing farmers under increasing pressure, and the unintended consequence may be that they overuse their land in order to maintain profits.
Drought preparedness: Forecasting Support Scheme to de/re-stock,	<ul style="list-style-type: none"> • The definition of drought needs to be addressed - the current definition/interpretation is problematic in the context of sustainability. • Livestock farmers need to plan pro-actively and measure fodder availability in relation to the

Drought fund	<p>number of animals they have to ensure that the principles of sound rangeland management will be applied. Fodder production varies according to how the rain falls within the season. In contrast, fodder use (grazing) can be monitored on an ongoing basis, and farmers can estimate how long it will last. This makes de-stocking and re-stocking planning easier and more pro-active. Incentives to encourage these practises need to be developed and implemented.</p> <ul style="list-style-type: none"> • Marketing infrastructure and mechanisms need to be revised/improved so that farmers can more easily de-stock. This is particularly important when national and regional animal numbers exceed fodder availability. In this scenario, markets collapse and farmers do not sell and land degradation follows. Also, opening/facilitating access to markets in African countries (to the north of Namibia) would help alleviate marketing constraints. • Drought Policy is regarded as good, but not applied well in practice.
Decentralised support for drought response	Addressed earlier.
Continuous supply of potable water	<ul style="list-style-type: none"> • Essential that this is done in a carefully managed way. Emergency drought boreholes often contribute to Land Degradation. Refer to DEA 1997 - <i>A retrospective Assessment of the Environmental Impacts of Emergency Borehole Supply in the Gam and Khorixas areas of Namibia.</i>
Keep reproductive livestock herds during droughts	<ul style="list-style-type: none"> • Essential concept to be understood – we must not destroy reproductive elements of herds to maintain numbers (where old, weak animals are preserved).

Box 13: The need for economic analysis in NDPs

Comprehensive economic analysis needs to be applied as a common thread in planning at all levels in all the sectors and across all the sectors.

The private and corporate sectors invest in economic activity with the aim of making positive net returns, and will not invest if the conditions do not allow this. They carry out financial analysis to determine whether investments are profitable for them. The government and public sector invest generally to ensure that, with minimal financial cost, such conditions do exist. Ideally public and private policy-makers and planners should try to ensure that their investments are environmentally, socially and economically sound. The SEA has identified the need for improved planning in all the sectors analysed.

For policies and investments to be economically sound they need to have been analysed along with all alternative options, to determine which one or which combination results in the most favourable positive net benefits for national society. These economic net benefits can best be encapsulated through the measure of contribution to the net national income.

Currently economic analysis is conducted throughout the economy. But its coverage is incomplete, it is often restricted to financial budgeting rather than value to the national economy, and alternative options are often not examined. In addition the national accounts do not account for the economic capital asset values of most natural resources, which form the basis for much activity in the Namibian economy. The result is that economic efficiency and sustainability tend to be compromised.

3.2 Water

Main elements of policy	How to improve each element to help achieve Sustainable Development, V2030 and NDP4
(a) Water Supply and Sanitation Policy	
Where there are competing demands, first priority is subsistence use (domestic and livestock use), - economic activities lower priority.	<ul style="list-style-type: none"> • There is a need for a National Bulkwater Masterplan (e.g. looking 50 years ahead), so that Namibia can anticipate what water is needed where, when, for what, at what standard, etc. This will enable NamWater and partners (e.g. NamPower) to plan well ahead, and to prioritize budgets for the nation’s most pressing needs. In the absence of this, projects are frequently funded on an ad-hoc basis. Also, a strategic masterplan would enable the environmental issues to be examined well ahead of time, this enabling better understanding of cumulative impacts, consideration of alternatives, and the commissioning of long-lead studies that may be required in the project-specific EIAs. Financial analysis as conducted in bulk water planning needs to be expanded to full economic analysis where the economic costs and benefits of different options are examined. • In practice, water is frequently allocated without consideration of its sustainability of supply, other users, and value adding potential. There are many examples where the elite have received preferential treatment in being supplied. • As a consequence of the above, those in most need (e.g. the most vulnerable parts of the community) are often marginalised in the allocation of water. • The politicization of water supply is increasing, and this undermines good governance in this sector. An example is when a community’s water service is stopped because of non-payment, and then politicians lobby for the service to be resumed even though there is non-payment. This undermines the policy of cost-recovery and undermines NamWater’s finances and ability to manage the resource sustainably. • Illegal connections and informality in the administrative process is also undermining NamWater’s ability to manage the sector properly. • Improved communication between proponents and water resource authorities is needed to ensure better planning and alignment between needs and available resources – e.g. mines and industries request water at short notice.
Essential water supply and sanitation services affordable and available to all Namibians.	<ul style="list-style-type: none"> • Water is unaffordable to the majority of Namibians– requires major subsidization. Mines and industries particularly must pay full cost recovery (and possibly assist with capital projects) to ensure ongoing investment in this sector, and subsidization. • Achieving the target may not be possible because of (a) urbanisation (which is escalating) and (b) the cost of maintaining current (decaying) infrastructure. Not keeping pace with demand is resulting in escalating health issues in many urban areas. • In many areas, sanitation services are declining – often because waterborne sewerage services are installed where they should not be (politicization in some cases). • Protection measures from possible pollution of the water schemes from sanitation facilities must be introduced. • There is variable performance of water point committees (WPCs) – political interference in some cases. WPCs are important (and appropriate) institutions, and they need consistent support to be successful. The trend is towards private connections, so the WPCs may become redundant in the future.
Water to be used efficiently and environmentally sustainably.	<ul style="list-style-type: none"> • Strategic Environmental Assessments (SEAs) should be undertaken for bulkwater supply plans, so that the allocation of water to various types of use are carefully considered well ahead of time. This point is similar to bullet 1 – see above. • Need a better understanding of the value of ecosystem services and determining the environmental reserves of particular water resources (e.g. groundwater and rivers), so that they can be accounted for economically, socially and ecologically. Once environmental water needs are established and ring-fenced, and primary water needs for human consumption, livestock, strategic uses and other core needs determined, then the remaining water supply should be placed on the open market in a “stock exchange” type system. This would allow water units to be traded, and would result in water being used in the most efficient way. • Need a better understanding of impacts of water pollution on water supply and security (e.g. the upper Swakop basin).
Water will be provided to	<ul style="list-style-type: none"> • The current practice is to bring water to where there is development, but a more efficient approach would be to encourage/facilitate industries to be developed nearby water sources.

stimulate economic development	For example, towns like Keetmanshoop, Rundu and Oranjemund could be development hubs. This idea needs to be taken up by the Industrial Policy as well as Regional Councils.
(b) Water Resources White Paper and Management Act	
Equitable access to water for all, for health and productive life	<ul style="list-style-type: none"> Namibia needs to invest in improved rangeland condition (e.g. address bush encroachment) as a key strategy for improving water resources. Recent research shows that well managed rangelands (intact ecosystems) result in much better aquifer recharge, than degraded and bush-infested lands. Poor land management is compromising water quantity and quality – with health and cost implications.
Safe drinking water is a basic human right	<ul style="list-style-type: none"> A disease-ridden population will automatically be both unproductive and a drain on social services (thus a double-negative socially and economically). In many areas, groundwater resources are degrading in quality, and GRN needs to develop guidelines that can help farmers and rural communities to reduce the risks of contaminating their water.
Harmonise human needs with ecosystems needs	<ul style="list-style-type: none"> Some examples of good practice, but trend is to compromise ecosystem needs when water demand increases. This reinforces the earlier-mentioned point about the need for a long-term bulkwater masterplan, which should achieve a reasonable balance between human and ecosystem needs. There are other examples of poor practice, even flouting of permits and rules. An example is when DWA required NamWater to cease abstraction from the Omdel Aquifer by a certain date (and switch to desalination), but NamWater continued pumping from the Omdel Aquifer for some years. In many instances, water is abstracted without knowledge of sustainable yields, and in other cases, there are unknown cumulative impacts on a system.
Manage water resources efficiently for sustainable development	<ul style="list-style-type: none"> Water is a strategic resource, so there needs to be a strategic plan that prioritises: water needs over the V2030 period, which resources can be used, how those resources need to be managed, what institutions and infrastructure needs to be in place and by when, what bilateral negotiations are needed, and what the environmental and cost/economic implications are likely to be. See earlier reference to the National Bulkwater Plan. In concert with the National Bulkwater Plan, other sectors should similarly be projecting forwards, and integration is required to achieve the necessary synergy. NPC should be facilitating. Monitoring at strategic level needs to be improved – sectors are not adequately directed, and overall big picture analysis is lacking (Department of Monitoring and Evaluation in NPC). NPC receives Project Identification Forms (PIFs), and these are reflected upon from time to time. However, the PIFs never provide a big picture, and consequently, NPC is not aware of national trends for many key resources (e.g. water) or cumulative environmental impacts.
Recognise the economic value of water and make water developments cost-effective	<ul style="list-style-type: none"> Improved resource accounting is needed to improve forward planning – DWA should continue to use, update, and upgrade its own set of water resource accounts. There is a general need to resurrect the MET Natural Resource Accounts Programme. This used to be housed in MET, but it may be more strategic to place it in the NPC? Important to regularly publicise results of NRAs – the public need to know.

3.3 Conservation and tourism

Main elements of policy	How to improve each element to help achieve Sustainable Development, V2030 and NDP4
(a) Conservation (Nature Conservation Ordinance, Wildlife Management Act, People & Parks Policy)	
Protect biodiversity (NPs etc) & protected spp	<ul style="list-style-type: none"> • There are still a number of jurisdictional gaps & overlaps, which hamper progress in national conservation efforts, and which result in inefficiency and unnecessary extra costs being incurred during management activities (such as law-enforcement patrols). These include the impasse between MET and MFMR regarding the intertidal zone, and the management/conservation of seals and seabirds (amongst others). Another example is the fact that conservancies cater only for rights over wildlife and tourism, excluding fish and water resources. • Penalties for environmental crimes (including poaching) are inadequate and the police and judiciary are regarded as being inadequately sensitized regarding the national importance of conservation. • Enforcement of the Nature Conservation Ordinance in-and outside of Protected Areas is considered inadequate. MET is under-resourced and in some cases, unmotivated. The appointment of Honorary Wardens could alleviate the problem, and MET is urged to do this. • Global/regional syndicates are on the increase, which further complicates law-enforcement efforts. This relatively new phenomenon further underlines the need for Honorary Wardens. • Green schemes are a threat to biodiversity, as they are typically located near large rivers, which are important biodiversity areas. Green Schemes should be subject to SEAs (where they are clustered – e.g. on north-eastern rivers), and they should be located as far as possible from riverbanks and areas where conflicts with wildlife are likely. • The biggest problem is that there is inadequate capacity in MET and the structure does not make anyone accountable for biodiversity monitoring and follow-up actions. To compound this, MET is not reaching out to its partners and potential partners to improve the situation.
Essential ecological processes, life support systems maintained, rehabilitated	<ul style="list-style-type: none"> • The Parks and Wildlife Management Bill needs to be finalised – the process has dragged on too long and latest versions are severely retrogressive in terms of conservation. The new bill needs to build on successes, understand the drivers behind them, and modernise & liberalise the legislation to create and further strengthen the right incentives. • MET needs to be more proactive in engaging with regional land use planning processes underway in Namibia (under the auspices of MLR), to ensure that conservation needs are adequately addressed and that land use options proposed are not in conflict with conservation. The resettlement plans adjacent to Khaudum NP are an examples of such plans that could result in cumulative impacts that are antagonistic with conservation. • Mining in Protected Areas remains a concern, and MET must engage MME more proactively on this. The finalisation of the Policy on Mining in Protected Areas is long overdue. MET needs to be more creative in seeking biodiversity offsets, though it must also insist that <i>in situ</i> environmental damage is adequately mitigated. • The EMA needs revision, as it is deficient in many respects. For example, it needs to be clearer on ‘small-scale’ EIAs/EMPs, and it needs to be more explicit regarding EMPs. Also, there needs to be more consistency in the way that Environmental Clearances are issued by MET, and the content of these clearances needs to be much ‘tighter’. • Conservation and tourism are undervalued in Namibia, including at political level. MET needs to do much more to highlight the importance and economic value of these two inter-related sectors, and embrace the assistance of local and international partners who could help with this task. • The Research Act is regarded as counter-productive, as Namibia is a data-poor country and we need to encourage and facilitate a wide range of research activities – rather than creating barriers. • A good way to improve appreciation of the value of our natural environment is to introduce Natural Resource Accounts (NRAs). MET had an NRA programme in the past, but this ended – needs to be revived. • Another (complimentary) way to nurture appreciation for the environment and the value of ecosystems, is to re-introduce the Natural Economy as a subject in Namibian schools. It was offered previously, but then discontinued. This is a crucial subject given Namibia’s reliance on natural resources, both at local and national levels. • Game farms and Parks are degrading from a rangeland perspective. The importance of well-managed livestock as a tool to improve the environment and biodiversity in a sustainable manner is not recognised. A change in mindset by the wildlife sector is required to utilise

	<p>livestock in a manner that improves the resource base. This applies to wildlife farms and game parks, where wildlife is over-stocked or under-stocked and many of these tracts of land are degrading as a result. If combined herding and planned grazing is used as the tool, then synergies with wildlife and tourism can be developed, the resource base can be improved and money made at the same time.</p>
Equitable access to benefits from wildlife & genetic resources	<ul style="list-style-type: none"> • The new Parks and Wildlife Act needs to recognise freehold conservancies, as these areas are vital for conservation. However, this issue is politically sensitive because some in GRN believe that freehold conservancies are a mechanism for farmers to resist land redistribution. • The lack of affordable access to, and accommodation in parks is an ongoing concern, and many Namibians therefore feel isolated from their parks. As a result, support for conservation is eroding.
Delegate authority over wildlife to lowest level possible	<ul style="list-style-type: none"> • MET needs to ensure that the Parks and Wildlife Management Bill is consistent with CBNRM policy and practice. There is a feeling of unease that conservative elements in MET may be lobbying for reduced community rights, and increased control by MET. Any policy reversal in the context of CBNRM will roll back the positive gains since Independence and result in negative attitudes towards wildlife in rural communities. In turn, this will result in poaching and biodiversity loss. • Whilst Namibia's CBNRM policy and programme have rightfully been acclaimed, benefits to households remain low. The next priority in the CBNRM programme should be striving to improve this • There needs to be better governance and accountability within conservancies. There are some that are performing well on all aspects, but, in other cases, corruption and mismanagement has allegedly occurred. Poor practices tarnish the image of an otherwise admirable policy direction. • The wildlife sector needs to better integrate into the activities/plans/policies of the other line ministries in the communal areas – as antagonisms are developing between the various sectors.
Regulates harvesting, tpt, utilisation of resources./	<ul style="list-style-type: none"> • MET should consider delegating responsibility to NAPHA for implementation and enforcement of ethics and standards in the industry (similar to the medical and legal professions). This would reduce pressure on MET and improve management of the hunting industry. • GRN should establish standards for shoot and sell (e.g. by trophy hunters) in communal conservancies, as there may be a danger in Namibia undermining genetic materials (trophy sizes). If only big males are consistently removed by hunters, their genetic input (potential to breed) is curtailed and trophy sizes will gradually get smaller.
Ownership conditions (incl traditional knowledge)	<ul style="list-style-type: none"> • Current law requires game proof fences to be erected and maintained if landowners (on freehold farms) wish to claim full rights over wildlife. Whilst the reasons for this are understood, fences are bad for biodiversity. A better alternative is for MET to recognise and encourage the formation (and expansion) of freehold conservancies, so that landscapes gradually become more open, with fewer physical barriers in place. Strong incentives are needed for this. One such is to reduce bureaucracy to allow open freehold conservancies that deliver more than, say 100,000 ha of open landscape, to set their own quotas (against a management plan and monitoring system) and issue own permits.
Regulates trade/movements	<ul style="list-style-type: none"> • Trade in most species of wildlife is permitted, but an example of a policy disincentive is trade in disease-free buffalo. The latter are high value assets. If game farmers in Namibia would be allowed to have them in their farms, this would add 25% to their profitability. Currently they can be sold to game farmers in RSA, but Namibians cannot purchase them.
Rights of people living within parks	<ul style="list-style-type: none"> • The policy of people living in parks needs to be finalised and implemented.
(b) Tourism	
Promote tourism as key industry - GRN facilitator/ enabler, Private Sector main implementer	<ul style="list-style-type: none"> • There is a need to intensify marketing of Namibia as a tourism destination, as there are a number of untapped (or under-tapped) markets (e.g. USA, Scandinavia, China). However, marketing using tax-payers money via NTB should be done in a more balanced way and not only in a way that favours NRW. • Reliable and regular air access is a key constraint, and whilst Air Namibia is regarded by the tourism industry as a key partner, it is also considered a weak link and a major risk. Issues of concern are that Air Namibia changes routes and flight schedules without consultation and sometimes with seemingly inadequate justification. They are also notoriously unreliable. Local tourism operators have lost millions of \$Na in recent years because of underperformance and poor communication from the airline. • Whilst Namibia is recognised as having good infrastructure, there has been a marked deterioration of physical infrastructure (e.g. roads) in recent decades, and other types of infrastructure needed to achieve this NDP 4 goal are inadequate (e.g. friendliness of officials, prompt law-enforcement, inefficient management of park entry points (notably Sossusvlei), health services, increasingly dirty towns and government offices, insufficient airports (e.g. Sossusvlei), and no progress in the idea of seamless cross-border movement in strategic regional tourism areas (e.g. Kwando, Okavango, Zambezi). • GRN undermines tourism in some areas (e.g. allowing mining in key tourism areas, proposed

	<p>harbour at Cape Frio, Baynes hydro scheme). The tourism sector holds the view that GRN undervalues tourism as a key contributor to national development (even though it is a focus area in NDP4). This is evidenced by many decisions which seem to promote unsustainable, invasive developments at the expense of the environment and tourism. GRN and the industry should identify critical tourism areas, and these should receive protection against competing (but less sustainable and less viable) land use.</p> <ul style="list-style-type: none"> • As with many industries that operate on a narrow profit margin, the tourism sector is very sensitive to increases in operating costs. For this reason, new taxes/levies being implemented (e.g. paying lease fees to a Conservancy and also to MLR for the same lease) are undermining the viability of lodges and the competitiveness of Namibia as a destination. • Lodges in communal areas are hampered by the fact that they cannot obtain Title Deeds (long-term leasehold would be fine, and if in name of conservancy, then ability to sublease), and this limits their ability to raise capital needed for improving their infrastructure. However, there are other options for offering collateral, and even a lease agreement should suffice. There is political resistance to giving private sector operators (many of whom are foreigners) title on communal land.
Spread tourism investments and benefits more broadly (CBNRM)	<ul style="list-style-type: none"> • This is an important policy direction and a focus in NDP4. However, there is a growing concern that MET is not as committed as it should be regarding CBNRM. Also, incentives for investment are weak at best. It is currently far more profitable to invest in tourism on freehold land than in communal areas. This is why only 4% of beds are in the communal areas which covers over 40% of the country and has the best cultures, scenery, wildlife & landscapes. People would flock to invest there and create local jobs if the investment climate and associated investment security was in place. To address this requires nothing more than policy reform.
Promote good environmental practices	<ul style="list-style-type: none"> • The implementation of environmental safeguards in the tourism sector is inconsistent, resulting in escalating environmental impacts. Namibia is marketed as an “eco destination”, but there are still too many operations that are not eco-friendly. GRN should embrace/endorse/enforce the home-grown Eco Awards system as the National standard, and offer incentives (e.g. preferential marketing) of establishments that achieve and maintain an above-average Eco Award status. • One area of particular concern is liquid and solid waste management by NWR in national parks. There are many examples of waste dumps (e.g. Etosha) that pose a hazard to wildlife, and that attract human scavenging.
Exploit market selectively; stress uniqueness of various tourism products	<ul style="list-style-type: none"> • Every country needs to position its tourism industry to remain competitive. Given the fact that Namibia is far from its markets, it needs to make an extra effort compared to others (e.g. East Africa), which may be closer to the market. Namibia needs to maintain the integrity of its attractions and uniqueness (attributes such as relatively unspoilt natural beauty, wildlife and habitat diversity, historical and cultural assets, CBNRM, personal safety, ease of travel). As noted elsewhere, GRN should be mindful not to undermine these important attributes, but rather to enhance them.
Preservation & restoration of historical sites, cultural festivals, art forms, natural scenic sites, etc.	<ul style="list-style-type: none"> • As above
develop high quality low impact tourism products	<ul style="list-style-type: none"> • As above
Domestic tourism?	<ul style="list-style-type: none"> • Namibians are increasingly alienated from their parks and resorts because of pricing.

3.4 Mining and industry

Main elements of policy	How to improve each element to help achieve Sustainable Development, V2030 and NDP4
(a) Mining	
State owns all minerals - issue licences for exploration and mining	<ul style="list-style-type: none"> No comments
licence holder must remedy environmental damage (GRN may do so & recover cost)	<ul style="list-style-type: none"> The emergence of GRN as a mining operator (through Epangelo), presents a conflict of interests, as GRN is at the same time custodian of environmental safeguards. There is concern that the need to support Epangelo will override the need to protect the environment, and that GRN will be less strict with its own company than it will be with the private sector.
Multi-sector Minerals Prospecting and Mining Rights Committee.	<ul style="list-style-type: none"> This committee is supposed to ensure that all the relevant government ministries are involved (or at least consulted) when prospecting and mining licenses are awarded. Apparently, there is not enough commitment to involvement by MFMR and MET in this committee, leading to many decisions being made without their input, and belated protests after the fact. This must change. Circumvention of procedures is a concern and, in some people's opinion, this phenomenon is increasing. There needs to be more transparency and mechanisms must be put in place to reduce opportunities for corruption. There are still a number of "conflict areas" between mining and conservation/fisheries/tourism, and these need to be resolved at a national level (e.g. NPC facilitation). Examples are the northern portions of the Namib-Naukluft Park, intertidal and sub-tidal areas off the Sperrgebiet coastline, and north-western Kunene. Evidently, MME is not adverse to withdrawing certain areas from future mineral license allocations (as evidenced by no new mineral allocations in the Skeleton Coast Park or the World Heritage Site (NSS)). A key recommendation is that MET and partners need to properly motivate MME to agree to no-go zones for mining. MET and partners need to be more creative regarding offsets/like-for-like alternatives. For example, if a mine is established in the Namib, perhaps the offsets can be in a conservation-worthy area in the Kwando, or elsewhere in the same environment, e.g. Namib: the Welwitschia Flats and Messum Crater.
EIAs mandatory for prospecting and mining	<ul style="list-style-type: none"> There is a need for improved coordination between key ministries that have laws regarding the conducting of EIAs – in this case, notably between MME, MET, MFMR and MAWF. As noted earlier, the Standing Committee for Mineral Rights (located within MME) is a good place to start the coordination, and this institution must be more effective so that environmental impacts can be better anticipated/ avoided/ mitigated. As with other sectors, EIAs are frequently inadequate. A combined effort is required by all partner ministries to ensure better standards are maintained (quality assurance requires a team effort). GRN should consider regulating entrance requirements for Environmental Practitioners (e.g. formalising EAPAN criteria), and maintaining vigilance regarding their adherence to best practice (e.g. through regular external reviews of EIAs). Access to information is a concern, as there are barriers to the public receiving information regarding EIAs. EMA provides for the public having access to EIAs and Records of Decision, but one has to physically go to the DEA office to get this – why not make this available on the website? EIAs and SEAs for mining should include economic as well as social analysis, and this should be linked to the revision and further development of national mineral resource accounts, as part of a revised natural resource accounts programme.
GRN requires financial guarantees (e.g. Trust Fund) for environmental rehabilitation.	<ul style="list-style-type: none"> There is a need for clarity on this issue, as it is unclear who should administer these funds and in what form they should exist. The best option may be to establish an overall "Environmental Rehabilitation Fund", where developers deposit funds gradually. But, the funds must retain their 'corporate label', meaning that no-one else may access the funds except for the specific project for which they are labelled. There also needs to be a clear mechanism for allowing/triggering the funds to be accessed. There must be a good system for governance, which does not allow someone else to access the fund, or the fund to be used for something other than their original intention.

	<ul style="list-style-type: none"> • The fund (and the conditions stated in the Environmental Clearance Certificates issued by MET) needs a set of incentives and disincentives that ensures that developers continuously undertake responsible environmental management throughout the life of their project. There is a danger that the environment will be neglected because developers know they can abandon an un-rehabilitated property, since the fund is available to clean up once they are gone. This should not be the intention of the fund. • As developers generally do not like to have their funds administered by Government, and Government is not in the business of investment banking and therefore does not have the expertise, proper and very clear legislation could also be introduced that forces developers to have such a fund, but administer it themselves.
(b) Petroleum	
State has all resource rights – may issue licenses	<ul style="list-style-type: none"> • No comment on this issue.
Act requires control of environmental pollution caused.	<ul style="list-style-type: none"> • There are a number of GRN agencies with some responsibilities regarding pollution avoidance, mitigation and disaster response. This highlights the need for integration (or at least coordination and cooperation) between agencies. • There is inadequate capacity within MET to ensure that environmental safeguards are implemented – the EIA unit is under-resourced.
Multiple EIAs are needed (for exploration and also production)	<ul style="list-style-type: none"> • The standard of EIAs in Namibia is variable. Since MET is under-resourced, it has difficulty ensuring that EIAs conform to an acceptable standard. As noted above, there are many GRN agencies with some responsibility regarding EIAs, with MET overall in charge. There is frustration in various ministries (e.g. MFMR, and even at local levels within MET), that involvement in guiding and reviewing EIAs is inadequate and that, as a consequence, important issues are overlooked or ‘fall through the cracks’.
Strict standards, guidelines and penalties in place	<ul style="list-style-type: none"> • Compliance monitoring is inadequate, since government officials seldom have the opportunity to inspect projects, especially those offshore.
Site restoration required after activity	<ul style="list-style-type: none"> • No comments.
Provision for oil spill and fire contingency plans.	<ul style="list-style-type: none"> • MWT has an oil spill contingency plan, but there is a need for updating and integration in the BCLME area.
Require trust fund for decommission	<ul style="list-style-type: none"> • See comments in mining section – issues are the same.
(c) Industry	
Industrialised nation by 2030 (econ growth & jobs)	<ul style="list-style-type: none"> • The industrial policy is vague in many respects, but it the Industrial Sector Implementation Strategy provides more detail.
NDPs to be aligned with the industrial policy.	<ul style="list-style-type: none"> • Whilst the industrial policy suggests that future NDPs fall in line with it, all policies in Namibia are expected to fall under the umbrella of Vision 2030 and support the goals of NDPs. Whilst V2030 certainly emphasises the need for industrialisation, it also stresses (<i>inter alia</i>) the need for environmental protection. • Thus, there is a need to tackle the “battle of the policies” in a creative and progressive way. Currently, the policy fault-lines are exposed reactively in EIA processes for individual projects (e.g. new power station in Walvis Bay, industrial park north of Swakopmund), but EIAs are not the appropriate level to resolve strategic issues. Such issues should be addressed at national level. All policy analysis at national level and below should include comprehensive economic analysis of options and alternatives.
Select sectors with potential for creating linkages	<ul style="list-style-type: none"> • This is an important aspect of the policy, in that it suggests achievement of synergies, which also implies eliminating/reducing antagonisms and thus minimising negative cumulative impacts. Perhaps a good way to achieve this in practice would be to identify ‘development hubs’ in the country, and plan these in a way that achieves optimal efficiency and with cumulative impacts that are within acceptable limits. A Hub approach will also encourage sectors to work together to achieve a common, do-able objective within a defined geographical area. This is more practical than expecting intersectoral integration at national level.
Regional and global economic integration.	<ul style="list-style-type: none"> • This aspect of the policy tries to break the “self sufficiency” philosophy that has influenced various other GRN policies (e.g. food and energy). The idea of ‘global connectivity’ sits well with the approach advocated in many sectors – e.g. tourism (Namibia would be well served by co-developing regional tourism products - e.g. with RSA, Botswana, Zambia and Zimbabwe). The same is true for fisheries, which needs a regional approach (ecosystem approach), for the effective management of fish stocks that move freely within the Benguela

	system, and even beyond.
When and where necessary, infant industry protection	<ul style="list-style-type: none"> No comments.
Promotes BEE, including rural and urban disparities.	<ul style="list-style-type: none"> No comment.
Recognises the importance of environmental safeguards.	<ul style="list-style-type: none"> This has been discussed previously in these tables, e.g. in the context of mining and petroleum.
GRN proactive (export development programmes, and support schemes like spatial industrial zones or economic zones, tax regime)	<ul style="list-style-type: none"> This is perhaps the most important aspect of the policy, in that it implicitly supports the idea of “Hub Developments”, where synergies can help reduce negative cumulative impacts, improve output and efficiencies and promote inter-sectoral planning and management. These types of “Hubs” would be well served by SEA approaches.
Promote SMEs.	<ul style="list-style-type: none"> As in most developing countries, the informal sector and SMEs are disproportionately more important from a social (jobs) and economic perspective than larger more formal institutions. It is understood that the terms “informal sector” and “SMEs” are not interchangeable, but they are often the same thing in practical terms. In areas where SMEs and especially informal operations cluster (e.g. on the edge of large cities), cumulative impacts are the inevitable consequence and SEA is the best tool for understanding these impacts. Given the fact that urbanisation is escalating, it is inevitable that informal activities and formal SMEs will become established on the fringes of cities such as Windhoek, Walvis Bay, Oshakati etc. This reality further supports the idea of “Hub Planning” so that the needs (and impacts) of this sector can be better anticipated.
Value adding	<ul style="list-style-type: none"> See earlier comments about “Hub Planning”.

3.5 Fisheries

Main elements of policy	How to improve each element to help achieve Sustainable Development, V2030 and NDP4
Control, management, protection, and utilisation marine resources in EEZ	<ul style="list-style-type: none"> Needs to be a more consultative arrangement between the fishing industry and GRN. Recent trends are that MFMR is acting unilaterally. Co-management is needed. Also, MFMR is secretive with information – all information regarding stocks, biodiversity surveys, quotas etc., should be in the public domain and easily accessible. There are inadequate transboundary mechanisms regarding the management of shared fish stocks – the BCC is a move in the right direction in this regard. The SADC Protocol on Fisheries enables countries to fish (shared stocks) in other country waters, but there still needs to be bilateral agreements to give full effect to the SADC agreement – this still needs to be done (ref Art 7 of the SADC Protocol). The Marine Resources Act is under revision – MFMR wants to increase powers of inspectors and Honorary Fisheries Inspectors. This should help improve capacity, especially in the coastal area. MFMR has a predominantly commercial focus, and general biodiversity protection is under-emphasised. A case in point is the protection of seabirds or the prevention of seabirds being killed as by-catch (RSA has recorded significant improvements, but Namibia has not).
Establishes and enforces exclusion zones	<ul style="list-style-type: none"> No comment.
Scientifically-determined quotas & seasons	<ul style="list-style-type: none"> There are concerns that quotas are sometimes unrealistic – scientific advice is sometimes ignored so that short term political objectives can be achieved. Whilst political needs must be acknowledged, overriding scientific advice sets a dangerous precedent and undermines the concept of sustainability. A further concern is that many additional quotas are allocated to newcomers who have not invested and who do not demonstrate commitment to the management of the sector (the cake is being sliced into ever smaller pieces). GRN is unable to control the recent trend of over-capitalisation in the fisheries sector – this increases pressure on MFMR to allocate quotas and further undermines the concept of sustainability. The Marine Resources Act (under revision) intends to adopt the Precautionary Principle regarding allocation of quotas and enabling new fisheries/species. MFMR has inadequate capacity to provide the science/knowledge needed to underpin quota setting – too few staff, fast turnover, professional frustration. The EMA requires EIAs for a range of resource extraction activities, but not fisheries. Consideration should be given to requiring EIAs for fishing quota's, possibly at 3-year intervals.
Fees and levies fund research and observers	<ul style="list-style-type: none"> Revision of the Act is trying to make this better managed/clearer/more transparent/more efficient/better utilised/more equitable, and promote value-addition. Is there a need for arms length between the fishing companies and the observers? – current arrangement seems open to corruption.
stipulated fishing gear, restricting fishing of certain species, regulation of importation of live marine resources;	<ul style="list-style-type: none"> No comments – general feeling is that non-compliance is minimal (in the marine sector), but this is not the case in inland fisheries, where law enforcement is weak.
Establishing marine reserves.	<ul style="list-style-type: none"> No provision for transboundary marine reserves (is legal provision really needed?)
Penalties for dumping of fishing gear, waste, by-catch, other offences (e.g. transshipment at sea).	<ul style="list-style-type: none"> Penalties are too low – not an effective deterrent to prevent dumping.
Control over dredging and mining.	<ul style="list-style-type: none"> Inadequate transboundary mechanisms regarding the management of environmental impacts caused by developments at sea or on land, in any country. Need to accede to the Abidjan Convention (The Convention for the Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region).

	<ul style="list-style-type: none"> • Need for pro-active and ongoing research to better establish correlations between seismic surveying and fish declines or avoidance of areas they normally frequent. The main question is the extent to which fish are impacted negatively by seismic surveying. • Needs to be an agreement between the tuna fishery and petroleum/mining sectors so that seismic surveys only take place during periods when tuna are not in the area. • MFMR does not allow large-scale fishing in waters shallower than 200 metre depth (excluding lobster, small-scale line fishing and recreational fishing) in order to protect fish stocks. However, mining and dredging (and seismic surveying) is allowed within these waters. Thus, there is policy inconsistency.
Namibianisation of fishing industry	<ul style="list-style-type: none"> • Inability to use quotas for collateral is a barrier to emerging companies – reinforces foreign domination in the fisheries sector.

APPENDIX 4

WHAT IS SEA – A PROFILE

Purpose

SEA is an umbrella term for analytical and participatory approaches applied at the very earliest stages of decision-making to integrate environmental considerations and evaluate the inter linkages with economic and social considerations. It thus helps to formulate policies, plans and programmes and assess their potential development effectiveness and sustainability. An SEA can be initiated due to administrative or legal requirement in a country, or following a request from donor agency or initiative on part of government champion. In donor agencies, the stimulus can be an administrative or policy requirement or an initiative of environmental specialist, country or strategy manager.

Background facts

SEA is a rapidly evolving field that emerged in the 1990s in several developed countries as a separate process from EIA which is usually focuses on specific projects but is less easily and less effectively applied to policies, plans and programmes. It is now the subject of an immense literature and framed and guided by widely supported principles and performance criteria⁵.

Currently, SEA systems are in place in many countries and jurisdictions (including all EU member states) with an increasing number of developing countries gaining experience of the tool. Their scope of application collectively encompasses policy, legislation, plans, programmes and other strategies across a range of different sectors. But SEA is still most commonly applied to plans and programmes, with a particular focus on the energy, transport, waste and water sectors, and on spatial or land use plans. Recently multilateral and bilateral development agencies and other international organisations have emphasised the use of SEA (most notably the World Bank), particularly as aid modalities focus less on projects and more on budget and sector support and poverty reduction. The OECD Development Assistance Committee has published guidance on SEA application in development cooperation⁶.

SEA is also now formalised in several international legal instruments, most notably the EC Directive 2001/42/EC which entered into force in July 2004 and applies to plans and programme. It has been transposed into national legislation in EU member states. Non-EU countries are also seeking to align their SEA arrangements with the EU framework. The Directive also influenced the SEA Protocol to the UNECE Convention on EIA in a Transboundary Context adopted in 2003 which, once ratified, will be legally binding on signatories with regard to plans and programmes, and discretionary regarding policy and legislation.

Brief description of the main steps involved in application of the tool:

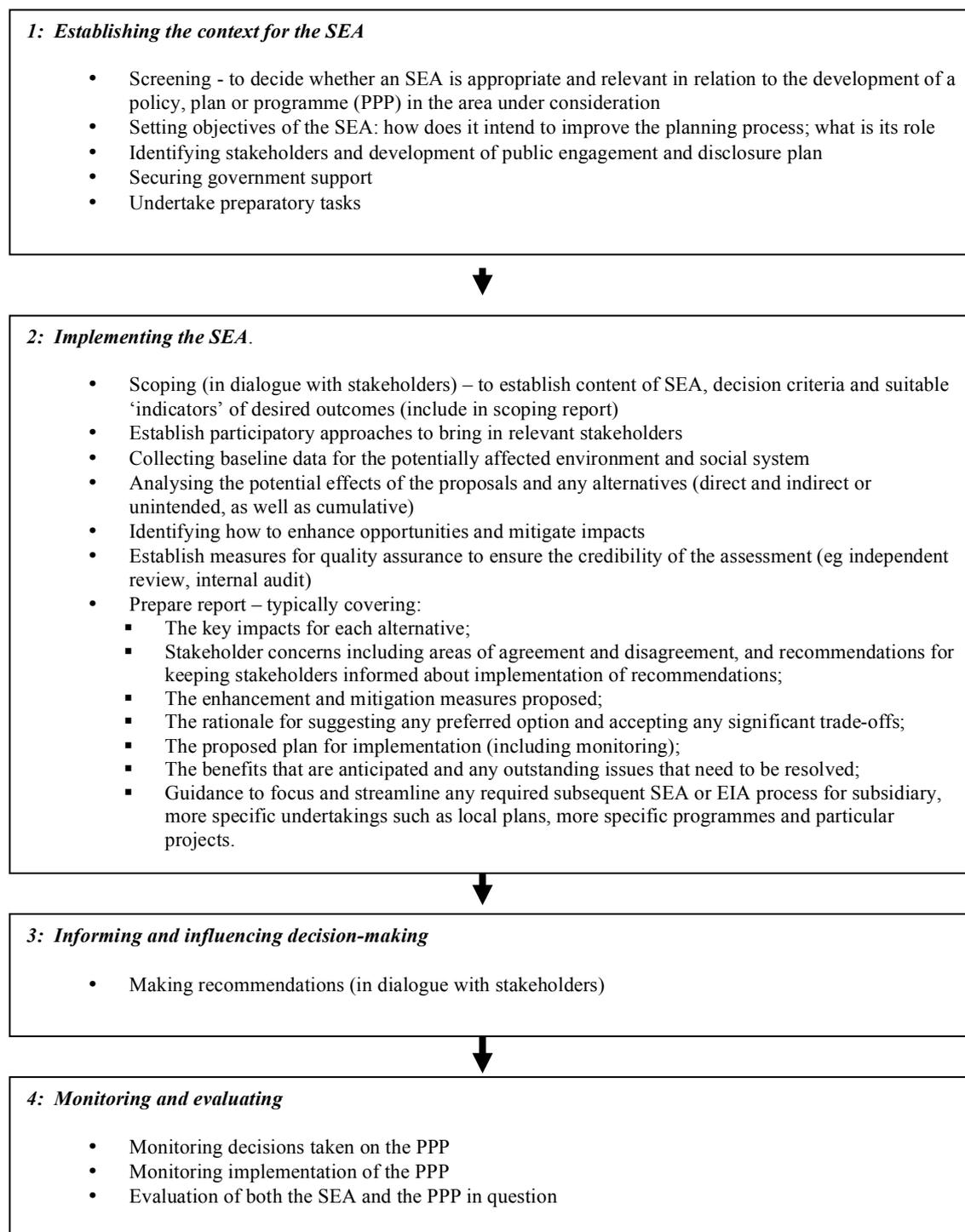
There is no prescriptive, ‘one size fits all’ approach to SEA. It needs to be adapted and tailor-made to the context in which it is applied. But at the plan and programme level, good practice SEA usually involves the four stages shown in Figure 5, adapted from the characteristics of EIA. In policy-making, usually this will not be possible, because of the complex, non-linear character of this process.

Effective SEA also depends on an adaptive and continuous process focused on strengthening institutions and governance rather than just a simple, linear, technical approach, as is often found in EIA. This is a significant challenge.

⁵ For principles, see, for example, Dalal-Clayton & Sadler (2005, Chapter 2, p15) – available at www.iied.org/Gov/spa. For performance criteria, see IAIA (2002) – available at www.iaia.org

⁶ See OECD DAC (2006) - available at: www.seataskteam.net

Figure 5: Basic stages in SEA



Expected outputs

Perhaps the most important outcome of a good quality SEA is that it has significantly influenced the achievement of positive development results and has helped to enhance the effectiveness of development. But development involves complex processes and it is not easy to isolate those outcomes that are solely due to the application of SEA. Equally, it is not possible to be certain that unsustainable outcomes of a PPP would have been avoided by undertaking an SEA. In most SEA systems there is a requirement that decision-makers should confirm how the SEA has affected the outcome of their deliberations. This step is often omitted but is an important indicator of the value of the process

Basic requirements

Understanding the Political Economy: Unlike EIA, most SEAs deal with broad concepts and relationships between different PPP components and the actors who are involved in developing and implementing policies, plans and programmes. This calls for detailed knowledge and understanding of the roles and interests of the players and an ability to engage them all in the SEA process.

Data needs. SEA needs to be based on a thorough understanding of the potentially affected environment and social system. This must involve more than a mere inventory, e.g. listing flora, fauna, landscape and urban environments. Particular attention should be paid to important ecological systems and services, their resilience and vulnerability, and significance for human well-being. Existing environmental protection measures and/or objectives set out in international, national or regional legislative instruments should also be reviewed.

The baseline data should reflect the objectives and indicators identified in the 'scoping report'. For spatial plans, the baseline can usefully include the stock of natural assets, including sensitive areas, critical habitats and valued ecosystem components. For sector plans, the baseline will depend on the main type of environmental impacts anticipated, and appropriate indicators can be selected (e.g. emissions-based air quality indicators for energy and transport strategies). In all cases, the counterfactual (or no-change scenario) should be specified in terms of the chosen indicators.

Cost: the cost of an SEA is difficult to estimate and will vary due to the length of the process and the complexity of chosen design: from as little as US\$ 20,000 to US\$2 million. Comprehensive SEAs typically average around US\$ 200,000-300,000.

Skills and capacity: Effective SEA application faces two key challenges:

- lack of knowledge amongst decision-makers and relevant administrations regarding the potential value of SEA to development effectiveness;
- lack of institutional experience of using systematic decision-making tools such as SEA.

A growing number of SEA training workshops are now offered, eg at the annual meeting of the International Association for Impact Assessment (IAIA) (see www.iaia.org) and by various donors (see www.seataskteam.net).

Flexibility

SEA is a flexible tool – the approach adopted should be customised so that it dovetails with and supports the particular relevant strategic decision-making or planning process relevant. It is intended as a fully participatory and transparent process

Pros (main advantages) and Cons (main constraints in use and results)

SEA can:

- provide the environmental evidence to support more informed decision-making,

- identify new opportunities by encouraging a systematic and thorough examination of development options,
- prevent costly mistakes, by alerting decision-makers to potentially unsustainable development options at an early stage in the decision-making process,
- build stakeholder engagement in decision-making for improved governance,
- safeguard the environmental assets for sustainable development with poverty reduction,
- facilitate trans-boundary co-operation and contribute to conflict prevention

But there is:

- still limited interest in many government agencies in subjecting policy and planning proposals to assessment, reinforced by fear of losing control, power and influence by opening up such processes;
- limited appreciation of the potential utility of upstream assessment among senior staff (in both governments and donor agencies), and doubts about the robustness of results;
- a perception that SEA will add significant costs and increase work loads;
- concern that SEA will increase the time frame for decision-making or delay development
- an absence of a single, 'recipe' approach
- unclear lines of accountability and responsibility for undertaking SEA
- a lack of practitioners with expertise in SEA approaches

Box 14: Case example: SEA of Ghana's Poverty Reduction Strategy processes

Background and objectives

Ghana's Poverty Reduction Strategy (GPRS), published in February 2002, identified environmental degradation as a contributory cause of poverty. However, overall, the GPRS treated the environment as a sectoral or "add on" matter rather than as a cross-cutting issue. This presented major problems as many of the policies relied on utilisation of the country's rich natural resources whose future yield was threatened by significant negative environmental impacts resulting from implementation of the policies themselves.

Ghana's Government decided to carry out an SEA so that environmental issues could be mainstreamed in a revised GPRS. The SEA aimed to assess the environmental risks and opportunities represented by the policies encompassed by the GPRS, and to identify appropriate management/mitigation measures to ensure that sound environmental management contributed towards pro-poor sustainable growth and poverty reduction in Ghana.

Approach

The SEA was led by the National Development Planning Commission and Environmental Protection Agency (EPA) and undertaken in collaboration with the Netherlands Embassy in Accra with technical advice from the UK Department of Foreign Investment (DFID) and the Netherlands Commission for EIA. The full SEA commenced in May 2003 and comprised two distinct elements: a top-down assessment of the impact of the policies contributed by 23 Ministries to the GPRS and a bottom-up exploration of the issues raised by implementation of policies at district and regional levels. The SEA focused on:

- Reviewing the extent to which environmental opportunities and risks were recognized and addressed under the five linked GPRS themes of macro-economy, production and gainful employment, human resource development, the vulnerable and excluded and governance;
- Detailed analysis and discussion on each policy leading to recommendations for revision, replacement and addition;
- Examination of the sustainability of district level plans - the principal vehicles for implementing the GPRS.

Outcomes

All the key ministries were exposed to SEA processes and guided on how to incorporate environment in policy formulation. Benefits of SEA included refinements to development policy, alterations of district level plans and revision to planning guidelines to include environmental considerations in planning at Sector and District levels. National planning guidelines are now formally required as part of policy formulation and budgeting in the GPRS process. Active participation of stakeholders (including politicians, the finance sector and NGOs) and use of SEA at all levels of decision-making has led to greater emphasis on the role of SEA in improving the processes whereby the policies themselves are translated into budgets, programmes and activities. This harmonised development objectives, including alignment with the MDGs and other regional and national

strategies. SEA also changed of attitudes of officials responsible for planning and budgeting, seeking win-win opportunities in integrating environment in PPPs. The 2006-2009 GPRS was drafted with direct inputs from the SEA team.

Source: OECD DAC (2006)

Key sources of further information and useful web-links

Dalal-Clayton D.B. and Sadler B. (2005): *Strategic Environmental Assessment: A Sourcebook and Reference Guide to International Experience*. International Institute for Environment and Development, London, OECD and UNEP in association with Earthscan Publications.

OECD DAC (2006) *Good Practice Guidance on Applying Strategic Environmental Assessment in Development Co-operation*. Organisation for Economic Cooperation and Development, Paris.

Therivel R. (2004) *Strategic Environmental Assessment in Action*, Earthscan, London

OECD DAC Task Team website: (www.seataskteam.net). Provides information on working groups, resources, tools, biographies and includes provision for on-line discussions.

CIDA: Various publications on SEA and environmental assessment are available at www.acdi-cida.gc.ca/ea (click on publications).

European Union: <http://europa.eu.int/comm/environment/eia/home.htm>. Provides information on environmental assessment and the European SEA Directive, policies, integration, funding, resources, news and development.

International Association for Impact Assessment (IAIA) (www.iaia.org) – provides information on the IAIA, resources, publications and reference materials (including SEA performance criteria and key citations for EA topics), and training.

Netherlands Commission for Environmental Impact Assessment (NCEIA): is developing an SEA database which will provide a broad array of easily accessible information (www.eia.nl).

Regional Environment Centre for Central and Eastern Europe (REC): provides services for national SEA capacity building and assists in implementation of pilot SEAs in countries in Central and Eastern Europe. (www.rec.org/REC/programs/environmentalassessment)

Transport Research Laboratory (TRL), UK: The SEA Information Service website (www.sea-info.net), provides a gateway to information on Strategic Environmental Assessment (SEA) and Sustainability Appraisal (SA).

UNECE: Information on EIA and SEA in the context of the Espoo Convention of Environmental Impact assessment in a Transboundary Context and its Protocol on SEA can be found at www.unece.org/env/eia.

UN University: www.onlinelearning.unu.edu provides a link to an SEA Course developed for the UN University, describing range of SEA-tools and providing case materials and other valuable information.

World Bank: (www.worldbank.org/sea/) – provides information on: SEA structured learning programme; understanding SEA; SEA guidance, general reference documents, and country and sector specific documents; external SEA links; news and events; and questions and requests.

APPENDIX 5

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APPENDIX 6

LINKAGES IN ASSESSING CUMULATIVE IMPACTS IN RELATION TO NAMIBIA'S URANIUM RUSH

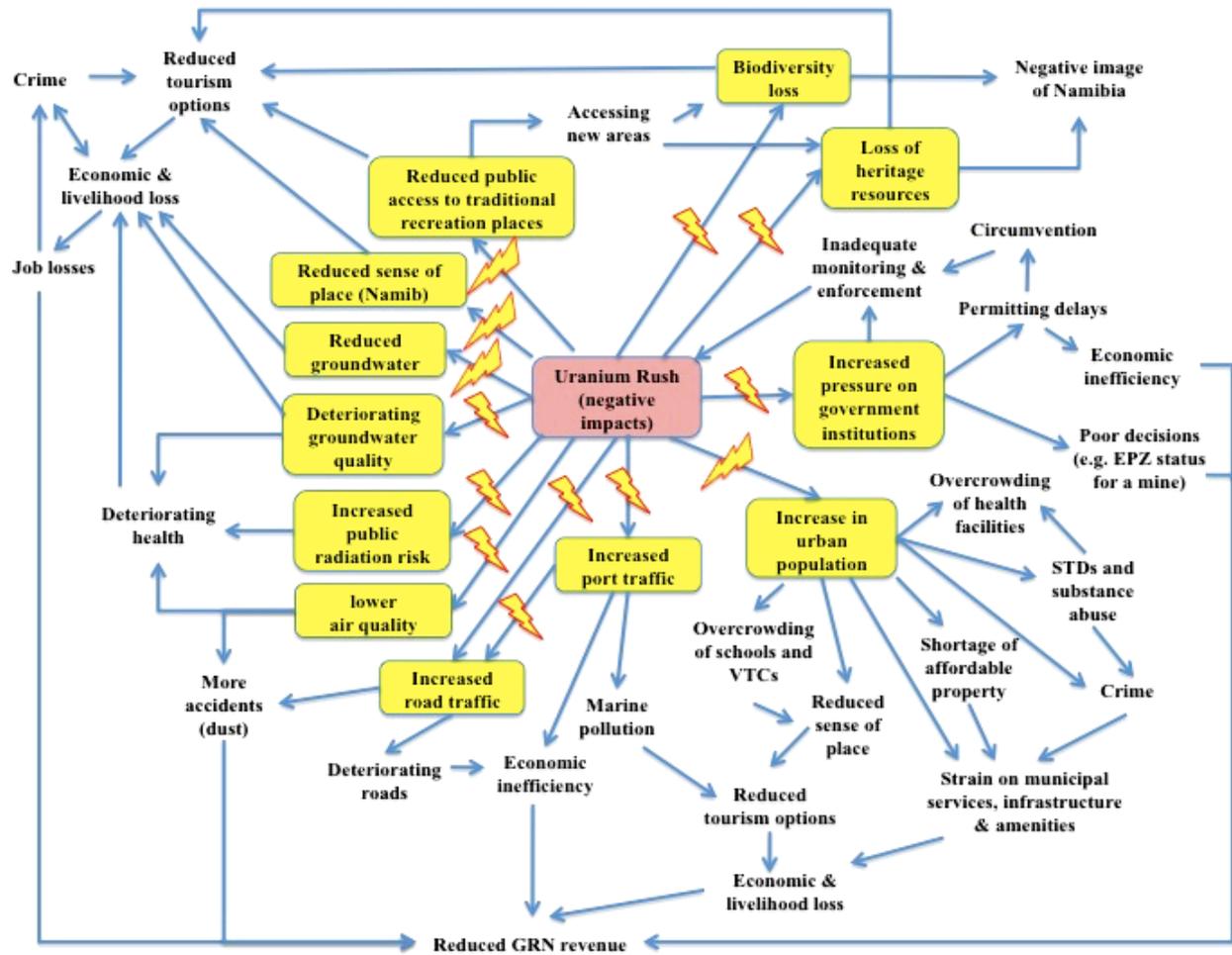
A difficulty in predicting the impacts of the Uranium Rush is that the impacts are extremely complex and inter-linked. While the direct (primary) impacts may be fairly obvious, the knock-on effects (secondary, tertiary etc. impacts) become more speculative, with multiple outcomes possible. As part of an SEA of the Uranium Rush, an attempt to convey this complexity was made through linkage diagrams for both negative and positive impacts (Figures 6 and 7). From the central box (the Uranium Rush – in its totality), the direct impacts are identified in yellow boxes. Each one of these then becomes a 'cause', which has one or more 'effects'. The diagrams are populated by asking 'if-then' questions. For example, *if* there is increased pressure on government institutions to deal with the Uranium Rush, *then* there may be delays in obtaining permits. *If* there are delays in permitting, *then* projects could be delayed (economic inefficiencies) *and/or* companies may be tempted to circumvent due process. *If* companies do not comply with the necessary legal permit requirements, *then* there will be a reduction in government revenue (from non-payment of permits, delays in project commissioning etc), *and/or* Namibia will get a poor reputation for bureaucratic delays and/or a lax legal environment – neither of which support a good Namibian 'brand'.

The bottom line is that poor management of the Uranium Rush (at whatever level) will ultimately have a profound negative impact on government revenues – either directly through a reduction in the tax base, reputational risks or there may be the need to spend more money on fixing problems retrospectively (rather than spending less through proactive implementation). If the government has a reduced revenue stream, it will have less to spend on addressing other pressing societal needs in Namibia, such as meeting its obligations in terms of the Millennium Development Goals. All of this will tarnish Namibia's reputation and it may become another casualty of the 'Resource Curse'.

On the other hand, with careful planning, good management and proactive decision-making, the Uranium Rush could become the catalyst for significant economic development, which in turn could contribute to the national fiscus. If, as recommended in this SEA, the GRN sets up some form of 'Sovereign Wealth Fund' for sustainable spending on social upliftment projects, Namibia could go a long way towards meeting its MDG obligations in both the short- and long-term. This will ultimately result in an improved quality of life for all Namibians and help realise Vision 2030.

Thus the aim of the linkage diagrams is to demonstrate that one action can have a complex, ripple effect with several unforeseen consequences. The difficulties lie in managing these effects and trying to ensure that the unforeseen negative consequences do not occur or that the impacts are minimised, or that the positive effects are maximised and opportunities taken. The problem is that the responsibilities for managing these disparate effects largely do not lie with the mining companies; the responsibilities rest with a multitude of institutions such as: national government agencies and parastatals, local government, industry and commerce and even NGOs and the research community. Thus management will require strong, multi-disciplinary coordination and sound governance to ensure that the negative consequences are avoided or minimised and the positive effects are maximised.

Figure 6: Negative linkages



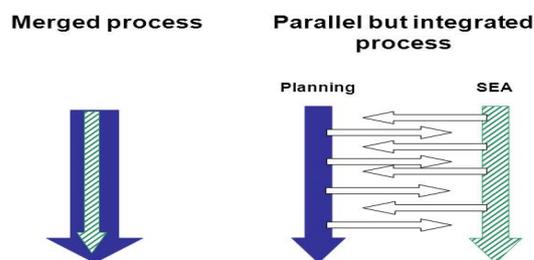
APPENDIX 7

GUIDELINES FOR ADDRESSING ENVIRONMENTAL AND SOCIAL ISSUES IN FUTURE NDPs

1 Integration and inclusivity

In our recommendations (section 3.5), we suggest that the best way to address environmental and social issues in developing and implementing future NDPs is through a full SEA process. In this regard, there are two fundamental options: SEA in parallel to NDP development; SEA fully embedded in NDP process (see Figure 6).

Figure 6: Options for positioning SEA and NDP development



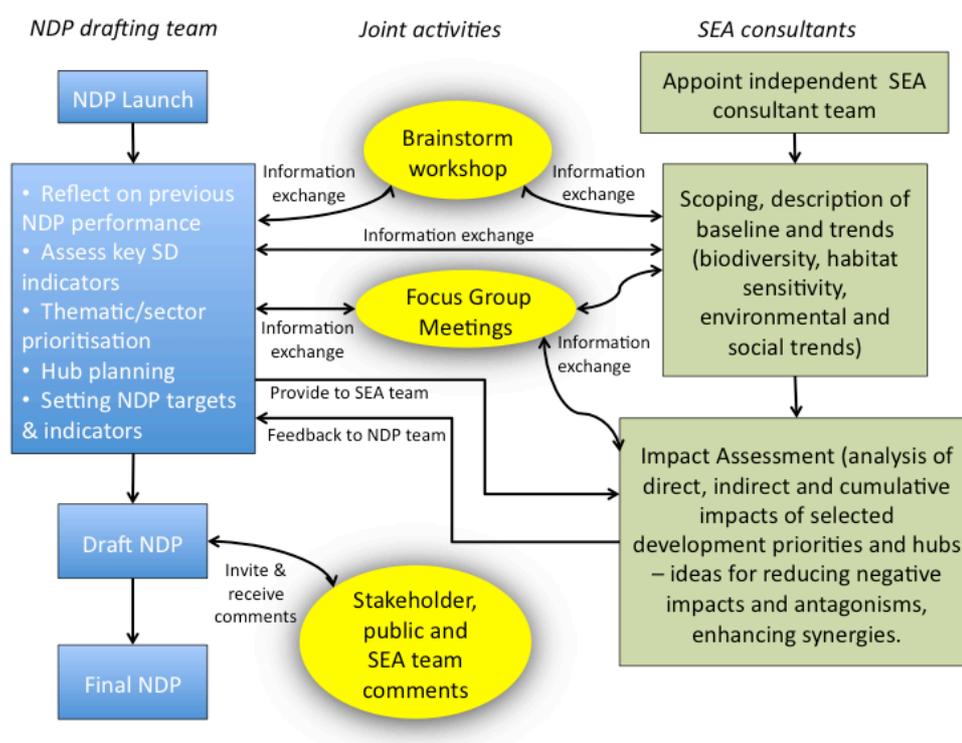
A separate and parallel SEA could be commissioned. To be effective, this would require (a) a concerted effort to ensure that all those involved in developing the SEA are fully aware of and understand the role and purpose of the SEA, work with the SEA team, and feed into the SEA process; and (b) that integration points are established at the appropriate steps in the NDP process to ensure full cross-fertilisation of evolving proposals, ideas, analyses, outcomes, etc. to beneficially support planning and decision-making. This parallel SEA approach would normally result in a stand-alone SEA report. However, if the integration requirements listed in (a and (b) are not assured, the SEA report will be an ‘external’ document seeking to influence the NDP.

Alternatively, and in many ways far better, is to fully embed the SEA process within the NDP process so that they form a harmonious common effort, planned and executed together, with those individuals leading the SEA work working side by side with those developing the plan, occupying the same ‘office’ and interacting informally and formally on a daily basis. Therefore, because of the proximity and close interaction between the two teams, the NDP team would be fully aware of the issues arising during the SEA and would be able to consider and respond to them as they emerge rather than ‘at the end’ of the SEA process. Whilst a separate SEA report could be prepared, the outcome could equally be just an improved planning process and NDP document.

Whichever of the above two approaches is adopted, the environmental and social assessment work will need to be undertaken by a team of appropriately qualified and experienced practitioners. Where an embedded approach is followed, there will be more potential for the SEA core team to be appointed as full-time members of NDP staff – building NDP capacity on environment and social issues and able to work through successive NDPs and during implementation to drive environmental and social monitoring.

Achieving sustainability at a national planning level requires optimum input from a wide range of stakeholders (GRN, parastatals, private sector, civil society, etc), and the NDP process should therefore strive for inclusivity whilst still being efficient. Whichever approach to SEA is adopted (parallel or embedded), we would propose that this is modelled around focus group meetings and team brainstorming, as already trialled during NDP2 formulation but not repeated subsequently. Figure 7 illustrates how this might be organised. For both the NDP and SEA processes, a communication strategy should be developed at the outset to keep all stakeholders fully informed.

Figure 7: Incorporating SEA in NDP development



Whilst the NDP drafting team and the SEA team will have different roles and responsibilities, they should undertake a number of joint activities to ensure that environmental and social issues are ‘embedded’ into the NDP and that the evolving thinking on options for the NDP are available to the SEA team. At the outset, we suggest that a joint brainstorm workshop be organised to kick-start the process – akin to an inception workshop where the teams agree on approach, timelines, roles and responsibilities, methodology, strategies for achieving integration, communication, etc.

The NDP and SEA teams would jointly analyse the impacts (positive and negative) of the previous NDP cycle, and diagnose key learning points. A joint understanding of major economic, social, ecological, political and other (e.g. regional and global) trends provides a good platform for future integrated planning. As indicated in Figure 7, the NDP team would thereafter propose the development priorities (eg sectoral, intersectoral, development hubs, etc.) and begin articulating these (and their alternatives) in broad terms, while the SEA team would thereafter provide input regarding cumulative impacts, antagonisms and synergies (see below). At this point, a series of carefully facilitated Focus Group Meetings would be held (nationally and in key hub areas) to solicit expert opinion and perspectives on chosen thematic topics (e.g. water resources development, industrialisation, natural resources management). By exchanging ideas, the two teams would

gradually compile a draft national development plan that can be shared with the public, who would have an opportunity to provide broader input. Finalisation should only occur after this has been done.

2. Impact Assessment

The assessment of impacts can be done at two levels – national and within the contexts of specific development or eco hubs. These are discussed below

2.1 Addressing cumulative impacts, antagonisms and synergies

By making use of tables, the NDP and SEA teams can ‘unpack’ the key elements of preferred / intended development objectives and priorities, assess their major impacts, and consider alternatives. Examples of this kind of analysis are provided in sections 2.1 – 2.9 of the main report for various policy clusters and a sample is shown in Table 2. These analyses were done in the context of a rapid SEA. As part of a full SEA for an NDP, they would be more thorough and detailed.

Table 2: Cumulative impacts, antagonisms and synergies for green schemes

Key cumulative impacts	Key antagonisms	Key synergy options
<p><u>Positive</u></p> <ul style="list-style-type: none"> Overall benefit to national economy through multipliers. Stimulates ancilliary industry and services (engineering, chemicals, transport, banking, etc.). Provides jobs, income opportunities, skills training. Attracts expatriate expertise. <p><u>Negative</u> If number of GS increases significantly, then:</p> <ul style="list-style-type: none"> Over-abstraction of water (cumulatively by GS and with other sectors). Habitat and biodiversity loss (through land clearing and pesticide use). Eutrophication (through excess use of artificial fertilisers). Involuntary resettlement (through displacement of people to make way for GS). 	<ul style="list-style-type: none"> <i>GS versus subsistence agriculture</i>: Land previously used for Traditional agriculture alienated for GSs. <i>GS versus conservation and tourism</i>: Many GSs located adjacent to major rivers that are important for biodiversity and already utilised for tourism. 	<ul style="list-style-type: none"> <i>Conservation agriculture and multi-cropping within GS</i>: maintains more habitat diversity, reduces need for fertilisers, reduces risk if one crop fails. <i>Local involvement in GS</i>: involvement of local people and small-scale farmers in GSs would improve livelihoods whilst reducing their dependence on unsustainable farming. <i>GS and industrialisation</i>: where possible, locate new GS near industrialisation and urbanisation hubs (closer to labour, markets, social infrastructure, and reduces transport impacts).

Ideally, this ‘unpacking’ process would take place within focus group meetings, supplemented by in-depth expert analysis by the SEA team. It is very helpful if such analytical tables can be shared with a wider group of resource persons to achieve multi-sector validation of the key conclusions and recommendations.

Once the tables are completed and validated, the team can go back to the key sectors (preferably in a larger multi-sector workshop) to explore ways of reducing cumulative impacts and antagonisms, enhancing synergies and achieving better integration. In such a workshop, different ministries can

engage in round-table discussions as they seek synergies and improved efficiencies, all with the overall objectives of poverty alleviation, food security, employment creation, economic stimulation and environmental sustainability. By doing this before the drafting of the NDP, policy options and activities can be screened out that will have overall negative consequences whilst at the same time seeking maximum positive impacts. Also, the inclusivity of the process substantially improves buy-in and traction.

As noted in section 3.4 of the main report, policy inconsistencies are sometimes not obvious at national level, but they become much clearer at regional or local levels, especially in areas that are fast-developing as industrial hubs because of multiple-sector growth (see Figure 3 in section 3.4). In these places, there are many projects being developed at the same time, and usually they are subjected to an EIA. Very often, the EIA identifies a range of issues that links back to policy inconsistencies (e.g. mining in protected areas).

As part of NDP planning, we have suggested that NPC could usefully facilitate multisector consultations in each major hub (see section 3.5), and request the key driver sectors, as well as sectors that are growth enablers, to jointly strategise on how to reach overall national goals in their specific geographic area. This proposed approach is complimentary to the multi-sector dialogue that occurs at national level, but it will likely include a different layer of personnel. By working together as multiple sectors at local level, senior officials, parastatals, the private sector and development partners will have to find ways of overcoming antagonisms, creating synergies and reducing cumulative impacts of a range of projects. The results of this pilot exercise will provide valuable lessons, and it may be a useful way to approach NDPs in the future.

2.2 *Generic questions that the SEA process should address*

Box 15 lists some generic questions (adapted from OECD DAC 2006) that should be addressed in conducting an SEA of an NDP.

Box 15: Generic questions to be addressed by an SEA

Principles and scope

- Have adequate principles, criteria and indicators been defined for the SEA?
- Has the spatial and temporal scope of the SEA been adequately defined?
- Have alternatives (to the proposed options and priorities in the NDP and sector policies, plans and programmes (PPP)) been identified and considered?

Linkage to other strategies, policies and plans

- Have all relevant strategies, policies and plans - at national to local levels - been reviewed (e.g. sector level, regional and district plans) and are these supportive of and consistent with the proposed goals of the NDP (and vice versa)? What are the potential antagonisms/conflicts or areas of possible synergy?

Effects

- Have the potential direct, indirect and cumulative negative and/or positive effects (short-, medium- and long-term; environmental and social) of the proposals in the NDP and associated sector PPPs been predicted and analysed?
- Have relevant, specific measures been identified and included to counteract/mitigate these? Alternatively, is it made clear how other national policies/programmes are mitigating the potential negative effects?
- Is there potential for enhancing positive effects? Have these opportunities been maximised?
- Has the quality of the assessment been independently reviewed?

Stakeholder engagement

- Have all relevant stakeholders had an opportunity to engage in the SEA process and to identify

potential impacts and management measures?

- In particular, have the views of civil society, particularly affected communities, being included? What has been their influence in the development of the NDP or associated sector or spatial policies and plans?

Capacity

- Is there sufficient capacity within institutions and agencies, at national and sub-national levels, to implement the NDP and associated policies (e.g. to enable them to apply an environmental management framework for sub-elements); and to manage, regulate and be accountable for use of natural resources? How can these institutions be strengthened?
- Is there an institutional framework to manage environmental impacts and major environmental resource policy and institutional failures?
- Is the environmental policy framework and legislative authority in place to respond to any problems that might arise?

Influence of SEA

Are there specific points in the process to develop the NDP where the SEA can have influence over decisions or design?

Data, information and monitoring

Are there significant data and information deficiencies and gaps? How can these be filled?

Are measures proposed for monitoring? Are these clear, practicable and linked to the indicators and objectives used in the SEA? Are responsibilities clear?

2.3 Key questions to be addressed for individual sector policies

An NDP will be implemented by individual sectors. We have recommended that key development sectors should also apply SEAs to their policies, plans and programmes (PPPs). Box 16 lists key questions should be asked in each case (adapted from OECD DAC 2006).

Box 16: Key questions for sectors

Decision/Activity

- What are the objectives and proposed key strategies/mechanisms of the sector PPP?
- Have the main policy instruments that steer the development of the sector been clearly identified?
- What are the main environmental and social impacts and risks traditionally associated with this sector?
- Is the sector a priority issue in the NDP, Vision-2030 or national-level policies and strategies? If not, does the sector programme contribute to the development and integration of sector-based issues within national policy and strategy?
- How does this sector programme contribute to sustainable development objectives within NDP, Vision-2030 and national policies and strategies?
- What are the alternatives to the sector's PPPs?
- What are the key decision points in designing, consulting with relevant stakeholders, and agreeing the sector PPPs? Are there any environmental checkpoints? What kind of environmental analyses are required for approval at such key decision points?

Linkages/Impacts

- What are the key linkages between the sector PPP elements and the environment?
- How might social, environmental and natural resource issues in the sector influence favourably, or affect, national development priorities?
- Have environmental and social direct and indirect effects and opportunities been considered in the sector PPPs? How will these effects and opportunities be managed and implemented?
- Who are the relevant stakeholders for the sector PPP? Are their priorities and environmental

concerns well understood in relation to the sector PPPs?

- Are there any potential areas of conflict, either within the sector or with other sector PPPs?
- Has there been a review of environmental expenditure for the sector?
- Is institutional capacity within and outside the sector able to deal with, adapt to, and take advantage of, the environmental and social effects and opportunities that may arise because of the sector's PPPs?
- Do the sector's PPPs involve dialogue and co-ordination with other ministries for cross-sectoral interventions?

Institutional/Implementation

- Is there a need for sector ministry co-ordination in the conduct of the SEA?
- Have the use of participatory methods and processes been formally adopted? Have weak and vulnerable stakeholders made their voices heard? Are communities involved in decision-making?
- Have appropriate indicators for monitoring and development been included within the sector's PPPs?
- Is there capacity in the sector ministry to integrate sector-specific issues into NDP and national strategies?
- Is there capacity for planning for conflict resolution and mediation?
- Do the sector PPPs promote education and awareness raising?

APPENDIX 8

OPTIONS FOR A NATIONAL SEA FOCAL GROUP

In common with discussions being held in other countries in Eastern and Southern Africa, a National SEA Focal Group would be charged with assessing the country's challenges and needs regarding SEA uptake, and agreeing a strategy and programme to address this. Priorities will depend the country context, the state of play and commitment regarding SEA use, the legislative requirements and institutional arrangements, and other factors. Nevertheless, experience to date and issues identified during SEA and environmental mainstreaming workshops suggests that such a Focal Group will be likely to set its priorities from amongst the following menu of challenges:

- Provide forum for debate and promoting action on SEA uptake;
- Develop links between SEA, sustainable development and green economy communities and experts in countries – which currently tend to be isolated from each other, as well as promote SEA uptake amongst a wide range of stakeholders
- Raise awareness of nature, role and potential of SEA:
 - Identify and work with champions (and support them in promoting SEA), media, academic and educational institutions;
 - Making a strong business-case for SEA uptake;
 - Promote the value and benefit of SEA to support key development objectives, eg sustainable development, green economy, environmental mainstreaming;
- Organise round tables and facilitate inter-ministerial knowledge sharing on SEA.
- Build domestic capacity for SEA:
 - Undertake a needs assessment for training;
 - Identify/broker and coordinate development of locally-relevant and appropriate SEA training programmes;
- Capture SEA experience:
 - Track application (database);
 - Review SEA quality;
 - Develop case studies;
- Promote/foster the development/improvement of national systems;
- Contribute to preparation of guidance and other materials;
- Share learning with other National Focal Groups and with other organisations;
- Liaise with OECD DAC ENVIRONET SEA Working Group;
- Liaise with national professional organisations.

Membership

The National SEA Focal Group should be open to any interested organisations or individuals, But a core membership will be required to engage and drive the work of the Focal Group – representing key stakeholder groups and likely to be drawn from:

- Those organisations and individuals with an existing or emerging formal responsibility for environmental impact assessment (EIA) or SEA;
- Key government ministries/departments (finance, planning, sector ministries, etc);
- Parliamentarians;
- Academics and academic institutions with an interest in the environment;
- NGOs and environmental/social networks, professional societies or groups concerned with environmental management;
- Private sector organisations (particularly major industries companies and investors).

Modalities

The Focal Group would determine its own operating modalities according need, context and practicalities, etc. But it is anticipated that ***a Secretariat*** will be required to service the Focal Group. The organisation assuming the Secretariat function will need to have the necessary capacity, organisational/convening experience, interest or mandate, and broad respect and acceptability necessary for the role.

Initiation:

It is suggested that a ***scoping workshop*** be convened on issues such as: the need for and interest in establishing a Focal Group; its role(s) and modalities; potential key/focus issues and activities. The report of this workshop would set out:

- A record of the workshop discussions;
- Draft terms of reference for the Focal Group;
- Agreement on Secretariat details (which organisation, roles and responsibilities);
- Initial membership details;
- An initial programme of actions and activities (say for Year 1) – identifying roles and responsibilities:
 - It may be that the Focal Group will identify the need for some activities that require their own budgets to implement. These will need to be projectised and dedicated funds raised.

Meetings:

The Focal Group would meet on an ‘as required’ basis (but prospectively quarterly) and will be kept updated on activities and progress by the national Secretariat (via an electronic Newsletter and a dedicated website).

The National Focal Group would hold an ***annual workshop*** when key issues can be discussed, progress monitored, cases presented, etc. These events will be open to all and will serve to promote SEA awareness and uptake.

National work programmes

The National Secretariat would coordinate the implementation of the work programme activities.

Duration of Focal Group

Hopefully, by the end of two years, the Focal Group will have achieved its main aim – to raise awareness and secure a path of SEA uptake. There may be a need and value of the Focal Group to continue functioning beyond two years. But the hope is that, by then, it will have demonstrated its value and be able to be operate on a voluntary basis and raise funds for particular tasks from domestic or other sources.