

Sustainable tourism options for the coastal zone of Namibia and refinement of available data on coastal natural resource use practices

Final report

**Jonathan I Barnes and Moira Alberts
Design & Development Services cc**

15 October 2007

Acknowledgements

This study was funded by the Global Environment Facility (GEF) Trust Fund within the Namibian Coast Conservation and Management (NACOMA) Project, through the World Bank.

We wish to thank the NACOMA team, in particular Rod Braby, Wilhelmina Mberira, Timo Mufeti, and Nico Willemse for their support with this project. We also thank the members of the NACOMA Steering Committee for their help.

We are grateful to the tourism operators and natural resource users (too numerous to mention by name) who provided data, information, and responses to questionnaires.

Our gratitude is also due to the World Bank Team, particularly Christophe Crepin and Gabriele Rechbauer, who provided advice and support.

And finally, special thanks go to Sophia Swiegers of the Namibia Tourism Board, who assisted by providing updated and valuable data on registered tourism enterprises for the entire coastal zone.

Cover design:	Caroline de Meersseman
Photographs:	Miguel Niamey
Language editing:	Sandie Fitchat

TABLE OF CONTENTS

List of abbreviations	iv
1. Introduction.....	1
1.1 Background.....	2
2. Objectives and methodology	4
2.1 Objectives	4
2.2 Methodology	4
2.2.1 Literature review	4
2.2.2 Action research.....	5
2.3 Study area.....	5
2.3.1 Physical setting.....	6
2.3.2 Socio-economic setting	7
2.3.3 Demographic characteristics	8
3. Refinement of indicators	11
3.1 Baseline scenario OI 2	11
3.2 OI 2 monitoring framework for the indicators.....	12
3.2.1 Current and future methodology for economic valuation.....	20
4. Sustainability of tourism	23
4.1 Current tourism use practices.....	24
4.1.1 Coastal tourism economic values and expansion potential.....	24
4.1.2 Accommodation sector.....	26
4.1.3 Tour operator sector	29
4.2 Tourism profiles in the four Regions with coastal areas.....	33
4.2.1 Skeleton Coast Park.....	33
4.2.2 Cape Cross Seal Reserve	33
4.2.3 The ‘dune belt area’ between Swakopmund and Walvis Bay	34
4.2.4 Walvis Bay Nature Reserve.....	36
4.2.5 Sandwich Harbour Bay	37
4.2.6 The Namib–Naukluft Park	37
4.2.7 Meob–Conception Area.....	38
4.2.8 Sperrgebiet	38
4.3 Review of the current legal tourism framework	42
4.3.1 Kunene River Mouth.....	43
4.3.2 Skeleton Coast Park and adjacent conservancies	44
4.3.3 West Coast Recreation Area and the Swakopmund–Walvis Bay area	44
4.3.4 Walvis Bay Wetlands	45
4.3.5 Sandwich Harbour.....	46
4.3.6 Namib–Naukluft Park.....	47
4.3.7 The Islands	47
4.3.8 Lüderitz	47
4.3.9 Sperrgebiet	47
4.3.10 Orange River Mouth.....	48
4.4 Recommendations for tourism sustainability.....	48
4.5 Strategic directions towards sustainability.....	50
4.5.1 Ecotourism certification scheme: Potential and challenges.....	50
4.5.2 Cleaner production for the hospitality industry	52
4.5.3 The handicraft industry (specifically related to shell harvesting).....	53

5.	Sustainability of natural resource uses	55
5.1	Fisheries	55
	5.1.1 Recreational angling	55
	5.1.2 Artisanal fishery	65
	5.1.3 Commercial fishery	66
5.2	Other biological resources	72
	5.2.1 Mariculture	72
	5.2.2 Inara harvesting	73
	5.2.3 Other non-fishery biological resources.....	75
	5.2.4 Minerals.....	77
6.	Conclusions.....	81
7.	Overall recommendations	82
7.2	Sustainable coastal tourism.....	82
	7.2.1 Strategic directions for sustainable tourism development	82
	7.2.2 Long-term recommendations for data capture.....	85
7.3.	Sustainable coastal natural resource use.....	86
	7.3.1 Practical steps for sustainable natural resource use development	86
	References.....	91
	Glossary	98
	Appendix A: Terms of reference	103
	Appendix B.1: Online Survey: Tourism sustainability evaluation	109
	Appendix B.2: Online Survey: Tour operator use practices	111
	Appendix B.3: Tourism establishment data.....	113
	Appendix B.4: Demographic data.....	122
	Appendix C: Financial and economic lodge model.....	123
	Appendix D.1: Tool for monitoring sustainability shift	135
	Appendix D.2: Indicator report cards adapted from TOMM.....	138

List of abbreviations

BAT	best available technology
BCLME	Benguela Current Large Marine Ecosystem
CBNRM	community-based natural resource management
CRIAA SA-DC	Centre for Research Information Action in Africa – Southern Africa Development and Consulting
DRFN	Desert Research Foundation of Namibia
EIA	environmental impact assessment
EMB	Environmental Management and Assessment Bill
GDP	gross domestic product
GEF	Global Environment Facility
GNI	gross national income
GNP	gross national product
LAC	limits of acceptable change
M&E	monitoring and evaluation
MCA	Millennium Challenge Account
MET	Ministry of Environment and Tourism
MFMR	Ministry of Fisheries and Marine Resources
NACOMA	Namib Coast Biodiversity Conservation and Management
NBSAP	Namibia Biodiversity Strategy and Action Plan
NGO	non-governmental organisation
NTB	Namibia Tourism Board
OI	outcome indicator
PCO	Project Coordinating Office
SAM	social accounting matrix
SC	Steering Committee
SEA	strategic environmental assessment
SG	Scientific Group (on Coastal Biodiversity)
TAC	total allowable catch
TOMM	Tourism Optimisation Management Model
TSA	Tourism Satellite Account
WBNR	Walvis Bay Nature Reserve

1. Introduction

This document reports on the Study on Sustainable Tourism Options for the Coastal Zone of Namibia and Refinement of Available Data on Coastal Natural Resource Use Practices (*the study*) commissioned by the Namib Coast Biodiversity Conservation and Management (NACOMA) Project (*the project*). Design and Development Services cc, represented by Dr Jonathan Barnes and Ms Moira Alberts, were commissioned by the Ministry of Environment and Tourism, through NACOMA, to undertake the study.

The Government of Namibia secured a grant, through the World Bank, from the Global Environment Facility (GEF) Trust Fund for the project. The project's development (and global) objective (PDO/GDO) is to *strengthen conservation, sustainable use, and mainstreaming of biodiversity in coastal and marine ecosystems in Namibia*. The project aims to enhance coastal and marine biodiversity conservation through the mainstreaming of biodiversity conservation and sustainable use into coastal policy, a legislative framework, and institutional and technical capacity, and by supporting targeted investments for biodiversity conservation in critical ecosystems on the coast. The project's four components, described in detail in the project appraisal document (World Bank 2005a), which serves as the Project Document, are as follows:

Component 1: Policy, legal and institutional framework for sustainable ecosystem management of the Namib coast

Component 2: Targeted capacity-building for coastal zone management and biodiversity conservation

Component 3: Targeted investments in critical ecosystems for biodiversity conservation, sustainable use, and mainstreaming

Component 4: Project management and performance monitoring

Development in the coastal zone of Namibia involves multiple stakeholders, and the project thus has a flexible and adaptable approach to institutional arrangements. The Project Coordinating Office (PCO) reports to the Steering Committee (SC) and the SC guides it. It is also guided by the Integrated Coastal Zone Management Committee (ICZMC) and by a Scientific Group on Coastal Biodiversity (SG).

The NACOMA Project aims to provide a coherent and timely intervention that builds on the findings of the Namibia Biodiversity and Action Plan (NBSAP) and other strategies and projects in the coastal zone of Namibia. The present study contributes in particular to Component 3 above, but also to Components 1 and 4. During the PDFB stage of project development, a study was conducted (Van Zyl 2004) to measure the economic values associated with the natural resources in the project area. This was followed by a study to develop outcome indicators for monitoring and evaluating economic benefits in the coastal zone (van Zyl 2005). These two studies form a useful primary basis for the present study. As described under the objectives below, the present study aims to ensure that developments in tourism and natural resource use are sustainable, contribute maximally to economic growth and job creation, particularly in the coastal zone, and that rent capture for development is

maximised. The present study also makes recommendations on improvements to monitoring and evaluation (M&E), on improvements to policy, and on possible targeted interventions.

The analysis follows the broad categories of the study by van Zyl (2004), but specifically disaggregates and adds to this framework, where data availability allows. As outlined in Component 3 of the NACOMA Project Document, the focus of possible targeted interventions will be on on-the-ground gaps for coastal biodiversity conservation and sustainable use throughout the project intervention zone.

The terms of reference for this report are attached as Appendix A. The present study appears to be particularly timely in terms of –

- the changing nature of economic activities in the coastal zone, which pose an increased threat to coastal resources and biodiversity hotspots, namely the rapidly increasing tourism industry, uncontrolled urbanisation, the large fishing industry, and changes in mining activities, and
- the pending process of governmental decentralisation, which offers the opportunity to clarify national, regional, local and sectoral responsibilities, and implement new legislation and integrated/coordinated ways of working.

The report consists of an introduction and four parts. The *Introduction* presents the background, general methods, and setting. *Part 1* presents the updated Outcome Indicators (OIs), and expands on sustainability and methodology. *Part 2* analyses tourism values and sustainability. *Part 3* analyses the values and sustainability for natural resource uses, while *Part 4* presents the overall recommendations arising from the study.

1.1 Background

Environmentally sensitive habitats and biodiversity hotspots are defining characteristics of the Namibian coast. The status quo is that many of these habitats remain without legislative protection and there are currently no marine protected areas. Urbanisation and unregulated tourism, expansion of fishing, mariculture and other extractive industries such as mining, increasing unemployment in coastal towns, and increasing public access are impending threats that were identified in the NACOMA Project Document.

The draft Environmental Management and Assessment Bill (EMB), the draft Pollution and Waste Management Bill, and the draft Parks and Wildlife Bill have yet to be finalised. Sectoral roles and responsibilities remain poorly defined and fragmented under the different line ministries. There is also a lack of environmental and socio-economic data on the coastal regions, and little regional input into planning and controlling activities on coastal land.

The globally important coastal resources of Namibia are at significant risk of degradation and unsustainable exploitation and there is a need for an integrated coastal zone management approach to ensure their conservation and sustainable use. The current development patterns feature insufficient or no conservation of coastal biodiversity, and lack of integration of biodiversity conservation in the landscape and coastal development planning, as well as the challenges related to weak management of the existing coastal zone. Without the intervention of this project, such developments will likely result in an irreversible loss of biodiversity and mainstreaming opportunities.

Through close coordination with municipalities, further increased local funding for environmental management of coastal urban centres is expected. Component 1 of the project is investigating additional fundraising options, such as tapping into the Environmental Investment Fund (EIF), the Trust Fund for Equity, and other mechanisms during and after the project's lifetime.

Finally, detailed environmental economic analyses, carried out by the Economics Unit of the Ministry of Environment and Tourism between 1994 and 2007, indicate that the natural resource base is the first engine for growth and livelihoods in the country, including the coast, and it generates significant amounts of income. The present study is a first step in a more detailed economic, financial and fiscal analysis of the activities that take place on the coast. Sustainable management and conservation on the coast could be financially sustained if the rent coming out of the use of the natural resources and the ecosystem services on the coast could be better captured.

Achieving environmental sustainability of fragile coastal ecosystems is at the heart of NACOMA, and cuts across the entire project design. Environmental sustainability for Namibia's coastal zone depends on the interrelation of an enabling institutional, policy, legal and financial framework, as well as on targeted investments focusing on rehabilitation and restoration of biodiversity sites and mainstreaming biodiversity conservation into local, regional and national development planning. The participatory process to develop and revise management plans for biodiversity hotspots is expected to facilitate bridging the gap between options for economic growth and biodiversity conservation.

The project is developing a Participation Plan and a Communication Action Plan that will complement other efforts in the coastal regions as regards environmental impact and values. The project's successful implementation is expected to contribute to attitudinal and behavioural changes among coastal stakeholders, as they will be better able to understand the direct and indirect value of the coastal biodiversity assets, the need for their protection, and opportunities for their sustainable use (World Bank 2005a).

2. Objectives and methodology

2.1 Objectives

In line with the terms of reference, the objectives of the study are as follows:

- a. To identify and assess current unsustainable and sustainable tourism and non-tourism activities on the coast, and to recommend practical steps for a shift toward sustainable tourism options and use practices.
- b. To recommend a practical methodology to monitor this shift and report on it in the context of the measurement of OI 2 under NACOMA M&E (a matrix with ratings of various criteria could be used, for example)
- c. To develop and recommend practical options for maximising resource rent capture in the specific context of the activities identified above
- d. To accordingly refine the data for OI 2 and the related monitoring methodology, which currently reads as follows: *Increase in the number of people engaged in sustainable use activities and the proportion of their incomes derived from these activities by year 5 compared to baseline situation*
- e. To confirm, complement, and finalise the current baseline for OI 2 (as defined in the Baseline Study Report as Annex 1; see Appendix A hereto), and
- f. To fill sections III, IV, and V of the GEF Biodiversity Focal Area Strategic Priority Two (SP2) (see Annex 2 of the Terms of Reference in Appendix A hereto).

Thus, the study attempts to refine essential information and data for OI 2, which reads as follows: *Increase in the number of people engaged in sustainable use activities and the proportion of their incomes derived from these activities by year 5 compared to baseline situation*. It also attempts to assist in monitoring IV and V of the mainstreaming tracking tool on a yearly basis.

2.2 Methodology

2.2.1 Literature review

Liaison with NACOMA team members, the team leader for the Policy, Laws, Institutional Roles and Mandates Review Consultancy, the team for the strategic environmental assessment (SEA), the proponents involved in drafting the Millennium Challenge Account (MCA) tourism proposal, and other related initiatives was established.

The framework developed by Van Zyl (2004) to categorise tourism and natural resource use activities was used as a base for elaboration, and all available data on these activities will be accessed. A preliminary list of the references expected to be useful is presented below. The baseline OI 2 developed by Van Zyl (2005) was used as the base for suggesting refinements to the OIs.

A review was undertaken of published and unpublished reports and some central and local Government publications such as white papers, research and development papers, and planning documents.

Two tourism surveys (Unpublished data, Ministry of Environment and Tourism, 2006), which were carried out in 2006, provided a statistical database for comparing economic calculations made using supply and demand approaches. It was also determined that there is no specific categorisation of the proportion of the households that are 'poor' or 'very poor' in the presentation of the data. The surveys further provided basic information on the current demographic characteristics of the population and the current economically active labour force, including the proportion of the unemployed as well as main and secondary sources of income.

2.2.2 Action research

Driven by the needs as outlined in the terms of reference, a reconnaissance was undertaken that included a desktop review of the websites of some 50 tour operators based in the coastal zone. From an analysis of their itineraries, it was found that many of the adventure nature-based tourism products offered by this sector consisted of a primary component: the landscapes, fauna and flora along the coastline. The other components of the products were mainly based on the individual innovation of the respective enterprises.

A second survey was sent by e-mail to a sample of 15 key people for their evaluation of the hospitality and tour operator sectors in the coastal tourism industry. The evaluation was based on a 5-point Likert Rating scale. Extractions from the Namibia Tourism Board (NTB) database were used to determine categories, subcategories and number of establishments in the study area.

Sustainability was determined using evidence from the scientific and technical literature, evidence from stakeholders with technical knowledge, and own judgements, where evidence of environmental damage or public concern gave cause.

2.3 Study area

The project intervention zone employed for the study will be that of the Project Document (World Bank 2005). Thus, it embraces the full length of the coast and extends 12 nautical miles out to sea from the coast, and some 2 to 3 km inland from the coast, except where urban and other sites with coastal links extend further inland. The data collected will be relevant to this zone, but the division between coastal and non-coastal activities will be conceptual rather than rigidly physical.

The coastal zone does not exist in isolation, and a number of activities take place outside of it that are linked to tourism or natural use activities inside it. Thus, an attempt was made to consider the value of such activities and incorporate activities such as marine fishing and inland tourism, which have links to the coast, in planning. Figure 1.1 shows the regions and protected areas in the coastal zone in the broader context of Namibia.

Figure 1.1: Coastal regions and protected areas



Source: EcoAfrica Environmental Consultants

2.3.1 Physical setting

The coastline of Namibia, which measures 1,572 km in length and falls within the desert biome, is an arid area characterised by low rainfall and limited freshwater resources. Four different major vegetation types occur in these coastal areas, namely the Northern, Central and Southern Namib, and the Desert and Succulent Karoo. With a high level of biological specialisation and endemism, the Namib Desert is one of the oldest in the world and is listed by the World Conservation Union (formerly the International Union for the Conservation of Nature, IUCN) as a habitat type that may have potential for World Heritage nomination. In

contrast to this arid terrestrial environment, the Benguela Current Large Marine Ecosystem (BCLME) off the Namibian coast has one of the highest primary production rates in the world, and is one of the country's most important renewable natural resources. Shared with Angola and South Africa, the BCLME supports vast populations of commercially exploitable fish species and the inshore marine environment provides migration and nursery habitats for numerous marine organisms.

The coastal areas fall within a series of contiguous protected and recreational areas, namely the Skeleton Coast National Park, the National West Coast Recreation Area, the Namib-Naukluft National Park, and the recently proposed Sperrgebiet National Park, formerly a mining concession that has been completely off limits to the public for a century. The only portion of the coast with no protection status are the areas constituting the Walvis Bay and Swakopmund municipalities in the Erongo Region, between Mile 14 (north of Swakopmund) and the Kuiseb River (south of Walvis Bay). The coastline of Namibia is, in fact, part of a continuum of protected areas that stretches from southern Angola into Namaqualand in South Africa. Several wetlands provide important feeding grounds to a large number of migratory wading and seabirds, such as the Kunene River Mouth, Cape Cross Lagoons, Mile 4 Saltworks, Walvis Bay Wetlands, Sandwich Harbour, Lüderitz Lagoon, and the Orange River Mouth, and important coastal seabird breeding islands include Mercury, Ichaboe and Possession Islands (Eco-Africa Environmental Consultants 2004).

2.3.2 Socio-economic setting

The coastal population is estimated to be 300,910, according to the results published in the Namibia Household Income and Expenditure Survey (NHIES) (GRN 2006a) and the Namibia Labour Force Survey 2004 (GRN 2006b). Human settlement along the coast is confined to five principal nodes, from north to south: Henties Bay, Swakopmund, Walvis Bay, Lüderitz and Oranjemund.

The *Kunene Region* is considered to have gained little benefit from its coastal areas. Currently, a private concessionaire and Namibia Wildlife Resorts are running accommodation establishments in the Skelton Coast Park, while regional and domestic recreational anglers are the main current park users. The Region's economy is largely driven by agriculture, and to a lesser extent by tourism, manufacturing and mining.

In the *Erongo Region*, the major economic activities are largely confined to the fishing, mining and tourism sectors. Walvis Bay, the country's largest port, is in this Region. Development is driven by the fishing industry as well as the logistics of the commercial import and export of mainly industrial goods. The tourism use practices are mostly water-based activities. Swakopmund is the major tourism nucleus of the Region, and continues to expand rapidly, whereas Henties Bay's incipient tourism development is characterised by a seasonal tourism propensity and frequent regional and domestic anglers and holidaymakers from the Khomas Region.

As regards the *Hardap Region*, the major economic activities are agriculture, small stock farming and ostrich farming. Fishing is confined to fresh water at the Hardap Dam (inland). The Region has a very harsh coastline, which brings it very little economic benefit. Tourism is identified in the Regional Development Plan as a preferred land-use option in the Region.

Although the tourism industry is blossoming along the eastern edge of the Namib Desert, it brings little benefit to the Hardap Region and employs very few people. The Meob and Conception Bay areas were incorporated into the Namib–Naukluft Park in 1985, and control over the coastal area passed to the Department of Nature Conservation under the condition that the diamond claim-holders at the time, namely Tidal Diamonds, Consolidated Diamond Mines and De Beers Marine, had exclusive rights to use the base camp at Meob and the coastline in its general vicinity for servicing offshore mining operations. Another exclusive right to these two Bays was given to members of the Oranjemund Angling Club. The latter organises occasional line-fishing expeditions to Meob Bay, and there is an agreement that all fish caught has to be tagged and released as part of the Ministry of Fisheries and Marine Resources' research programmes (Walmsley 2001b).

The **Karas Region** is mainly supported by the mining sector and to a lesser extent by the tourism and agricultural sectors. However, downscaling of the mining industry, particularly land-based diamond mining based along the coast, is currently affecting the livelihoods of Karas residents. The general perception is that the mining and agricultural sectors have enriched relatively few people, and unemployment is high in rural and communal areas.

2.3.3 Demographic characteristics

The NHIES (GRN 2006a:13) reported a decrease in the household size of the Namibian population from 5.7 in 1993/4 to 4.9 in 2003/4. The national urban household size also decreased from 4.8 to 4.2, while the national rural household size decreased from 6.1 to 5.4 in the same period. The data relating to the demographic characteristics of the coastal zone are attached hereto as Appendix B4.

In the **Kunene Region**, based on the results of the Namibia Labour Force Survey 2004 (GRN 2006b:37), there are 14,084 households. They have an average size of 4.6 persons per household, totalling a population of 64,786 and an economically active labour force of 18,486. The main source of income for 25,526 people is wages and salaries, while a secondary source for 3,952 people is subsistence farming (crops and animals). In the NHIES, a total of 13,365 households with an average household size of 4.6, a population of 61,647, and a per capital income of N\$10,431 were recorded for this Region (GRN 2006a:16, 105), which correlates closely with the findings of the 1993/4 survey.

In the **Erongo Region**, a total of 29,952 households with an average household size of 3.6, totalling a population of 107,827 and a labour force of 50,892, with 37,701 employed and 13,919 unemployed people were reported in the Namibia Labour Force Survey 2004 (GRN 2006b:37). According to the latter survey, the main source of income for 42,484 people was wages and salaries, while a secondary source for 5,607 people was pensions. These findings closely correlate with the results of the NHIES (GRN 2006a:16, 105), where the Region showed a total of 27,713 households with an average household size of 3.6 (the lowest in the country), a population of 99,013, and the second-highest income per capita, namely N\$14,948 (Komas had the highest, namely N\$22,860).

In the **Hardap Region**, 15,114 households with an average household size of 4.2 totalling a population of 64,379 people were reported in the Namibia Labour Force Survey 2004 (GRN 2006b:37). The main source of income for 25,011 people was found to be wages and salaries,

while a secondary source for 3,872 people was subsistence farming, crops and animals. The NHIES (GRN 2006a:16, 105) found a total of 16,365 households with an average household size of 3.7, a population of 68,194 and an income per capita of N\$10,431 for this Region.

In the ***Karas Region***, a total of 18,602 households and an average household size of 4.0 totalling a population of 74,408 was found in the Namibia Labour Force Survey 2004 (GRN 2006b:37). The main source of income for 29,317 people was wages and salaries, while the secondary income for 4,539 was subsistence farming, crops and animals. The NHIES (GRN 2006a:16, 105) found a total of 15,570 households with an average household size of 4.2, a population of 62,465 and an income per capita of N\$11,123 for this Region.

Part 1

Refinement of indicators

3. Refinement of indicators

The objectives of the study call for update of the baseline indicators for the NACOMA Project. The baseline data for Van Zyl's (2005) OI 2 were refined and updated, as outlined in Table 1.2 of that report. However, the figures are presented as estimates based on secondary data and are, therefore, not 100% reliable.

3.1 Baseline scenario OI 2

Outcome Indicator 2 (OI 2) reads as follows: *Increase in the number of people engaged in sustainable use activities and the proportion of their incomes derived from these activities by year 5 compared to baseline situation.*

It must be noted no data are available to develop meaningful measures of *proportions of income* derived from sustainable use. The databases and reports of the NHIES (GRN 2006a), the Namibia Occupational Wages Survey (GRN 2002), and the Namibia Labour Force Survey (2006b) are too generalised to provide specific measures for the activities in the coastal zone. Instead, specific surveys involving employees in the enterprises concerned are required – which is beyond the scope of this study. Nonetheless, the *measures of economic value and employment* generated by these activities have been updated, as shown in Table 3.1.

Table 3.1: Summary of OI 2 baseline data and targets for NACOMA Project

OI 2	Baseline	Mid-term	End of project
Increased number of people involved in sustainable use*	15,774	17,160	18,975
Proportion of income derived from sustainable use	No data	No data	No data

* Direct jobs, excluding diamond and commercial fishing offshore and fish processing on board

The goal of the NACOMA Project OI 2 will be to increase, through targeted investment, the number of people involved in sustainable use from some 15,800 (baseline) to some 17,200 for the first half of the project, and to some 19,000 by the end of the project.

As stated, there are no data available on the proportions of household income derived from the use practices. Tables 3.2a and 3.2b shows the full updated OI 2 baseline. Values estimated in the analyses of Parts 2 and 3 of this report, and summarised in Table 6.1 of Part 4, were used to complete the baseline. Commercial fishing offshore and associated onboard processing take place outside the coastal zone. Offshore commercial fishing and processing are treated because they are key to a number of coastal zone activities, including onshore fish processing, line fishing, guano production, and seal harvesting. Their economic values should be excluded from totals calculated for the coastal zone from Tables 3.2a and 3.2b. There is some overlap of economic values in the latter Tables in that some of the economic values for recreational angling are also included in the tour operators' use category, because some tour operators offer recreational angling tours. The degree of overlap could not be calculated, however, resulting in a small amount of double counting. The economic values associated with tourism-related activities refer to expenditures made by tourists using coastal zone accommodation and tour operators. They include car rental, travel agent and restaurant use,

among others. The indirect economic impacts associated with these have been left out of Tables 3.2a and 3.2b, as they are considered to take place mostly outside the coastal zone.

Table 3.3 provides an assessment of the sustainability of the various coastal zone tourism and resource use activities, and provides some recommendations for shifts from unsustainability to sustainability. The detailed analyses in Parts 2 and 3 of this report provide discussions on the sustainability of the activities. As stated, sustainability was determined using evidence from the scientific and technical literature, evidence from stakeholders with technical knowledge, and own judgements, where evidence of environmental damage or public concern gave cause. Part 4 of the report provides overall recommendations for the study and it includes more detailed recommendations regarding sustainability than those summarised in Table 3.3.

The establishment of an environmental office at the coast is recommended, with the objective to support NACOMA in identifying viable sustainable projects on the ground as well as help to collect the baseline data and provide the M&E specialist with quarterly progress reports. Overall progress will be verified by the M&E specialist, ideally on an annual basis, within the framework of the NACOMA objectives. The overall process would be linked to the Project Cycle Management initiative of the Directorate of Decentralisation Coordination in the Ministry of Regional and Local Government and Housing and Rural Development (funded by the French Government). The parallel training and involvement of Development Officers in the Regional Councils would ensure the longevity of the overall project.

3.2 OI 2 monitoring framework for the indicators

Table 3.4 provides an outline methodology for data collection regarding indicators in the NACOMA M&E process. The predetermined indicators are to measure change over a period of five years. The indicators would ideally utilise quantitative data (raw data, comparable numbers) as well as qualitative data (opinions, values, yes/no options). The indicators are envisaged to be feasible, both to collect and to interpret. Ideally, the indicators should be practical to implement. Due to these factors, the indicators should undergo continuous review to respond to the ever-changing circumstances and information received. It is important to note that these indicators will not provide all the required answers and solutions, but could be valuable tools for monitoring and assessing changes and, therefore, contribute to informed decision-making.

The following options for data collection and monitoring are available from the outset of the project:

- The establishment of an environmental office at the coast, with the objective of supporting NACOMA in identifying viable sustainable projects on the ground as well as help to collect the baseline data needed for monitoring the indicators and provide the M&E specialist with quarterly progress reports
- Verification of overall progress by the M&E specialist, ideally on an annual basis, within the framework of the NACOMA objectives, and
- (Ideally) linking the overall process to the Project Cycle Management initiative of the Directorate of Decentralisation Coordination (French Support ?is this part of the official title of something? if not, leave it out at this, its second mention).

The parallel training and involvement of Development Officers in the Regional Councils would ensure ongoing monitoring of the project's economic indicators.

The OI 2 monitoring framework seems to have some limitations, particularly regarding effective data collection, due to the current shortfall of trained human capacity in the Regional Councils and Local Authorities. It is recommended, therefore, that a training programme be initiated to run parallel with a team attached to specific investment projects for technical assistance, monitoring and data collection, in order to conform to the process of decentralisation. The independent 'team' of data collectors responsible for collecting the required indicator data will use the data collection instruments as approved. The information should be provided to the NACOMA M&E specialist on a quarterly basis, and this information should be used to graphically depict the progress of the project once a year.

The baseline figures outlined in this study for the current number of people working in different sectors based in the coastal zone represent an approximation derived from the economic value for tourism and natural resource use activities estimated in Parts 2 and 3 herein, using the methodology described below.

As stated earlier, the estimation of the 'proportion of income' from current occupational activities with respect to OI 2 is not entirely realistic because of a lack of data. The only information sources currently available are the NHIES (GRN 2006a), the Namibia Occupational Wages Survey GRN 2002), and the Namibia Labour Force Survey (2006b), which are not detailed enough for the required indicator.

Appropriate data collection instruments for the monitoring framework include the GEF Tracking Tool and Indicators, the baseline data collection sheets, progress reports, and indicator report cards. Appendix D.1 provides an example of a suggested tool for monitoring change in tourism sustainability, while Appendix D.2 gives two examples of indicator report cards which could be used in the NACOMA M&E system.

Table 3.2a: OI 2 baseline data on sustainable and unsustainable tourism and natural resource use options (price projections based primarily on WTTC 2006)

Use practice	Spatial distribution	Estimated current direct economic value (GNI)*	Estimated current indirect economic value (GNI)*	Estimated current direct number of jobs	Estimated current indirect number of jobs	Estimated proportion of income from use	Estimated proportion of income from use	Estimated projected direct economic value	Estimated projected indirect economic value	Estimated projected direct number of jobs	Estimated projected indirect number of jobs	Current prices: Projected growth rate %
		2007 N\$ million	2007 N\$ million	2007	2007	2007	2011	2011 N\$ million	2011 N\$ million	2011	2011	Source: WTTC (2006)
Tourism accommodation	Kunene, Erongo, Hardap and Karas	400	340	Unskilled: 2,449 Semi-skilled: 480 Management: 480	Unskilled: 2,082 Semi-skilled: 408 Management: 408	No data	No data	588	499	Unskilled: 2,988 Semi-skilled: 586 Management: 586	Unskilled: 2,540 Semi-skilled: 498 Management: 498	8% economic growth p.a. and 4.4% growth in employment
Tour operators	Kunene, Erongo, Hardap and Karas	16	13	Unskilled: 92 Semi-skilled: n/a Management: 92	Unskilled: 75 Semi-skilled: n/a Management: 75	No data	No data	24	19	Unskilled: 112 Semi-skilled: n/a Management: 112	Unskilled: 92 Semi-skilled: n/a Management: 92	8% economic growth p.a. and 4.4% growth in employment
Tourism-related (car rental, travel agencies, restaurants, etc.)	Kunene, Erongo, Hardap and Karas	540	(Outside coastal zone)	Unskilled: 3,306 Semi-skilled: 622 Management: 743	(Outside coastal zone)	No data	No data	793	- (?)	Unskilled: 4,033 Semi-skilled: 759 Management: 906	(Outside coastal zone)	8% economic growth p.a. and 4.4% growth in employment
Total tourism	All 4 Regions	956	353	8,356	3,048	No data	No data	1,405	-	10,082	3,719	8% economic growth p.a. and 4.4% growth employment

* GNI = gross national income

Table 3.2b: OI 2 baseline data on sustainable and unsustainable tourism and natural resource use options (price projections based primarily on National Accounts 2006)

Use practice	Spatial distribution	Estimated current direct economic value (GNI)*	Estimated current indirect economic value (GNI)*	Estimated current direct number of jobs	Estimated current indirect number of jobs	Estimated proportion of income from use	Estimated proportion of income from use	Estimated projected direct economic value	Estimated projected indirect economic value	Estimated projected direct number of jobs	Estimated projected indirect number of jobs	Current prices: Projected growth rate %
		2007 N\$ million	2007 N\$ million	2007	2007	2007	2011	2011 N\$ million	2011 N\$ million	2011	2011	Source: National Accounts (2006)
Commercial fishing and on-board fish processing (outside coastal zone)	Entire coastline - focused on Erongo	1,514	1,347	6,855	6,140	No data	No data	1,896	1,687	8,588	7688	4.6%
Onshore fish processing	Erongo and Karas	593	634	6,592	5,867	No data	No data	654	793	7,894	7,436	2.0%
Inshore commercial line fishing	Kunene, Erongo, and Hardap	11	10	230	450	No data	No data	13,8	12.1	288	544	4.6%
Artisanal line fishing	Erongo	No data	No data	Some 70	Some 150	No data	No data	No data	No data	88	188	4.6%
Recreational angling (overlaps with tourism use practice)	Kunene, Hardap, Erongo and Karas	24	56	190	80	No data	No data	30	70	237	100	4.6%
Guano production	Erongo and Karas	3.4	2.6	6 full-time	9	No data	No data	No data	No data	No data	No data	No data

Use practice	Spatial distribution	Estimated current <u>direct</u> economic value (GNI)*	Estimated current <u>indirect</u> economic value (GNI)*	Estimated current <u>direct</u> number of jobs	Estimated current <u>indirect</u> number of jobs	Estimated proportion of income from use	Estimated proportion of income from use	Estimated projected <u>direct</u> economic value	Estimated projected <u>indirect</u> economic value	Estimated projected <u>direct</u> number of jobs	Estimated projected <u>indirect</u> number of jobs	Current prices: Projected growth rate %
		2007 N\$ million	2007 N\$ million	2007	2007	2007	2011	2011 N\$ million	2011 N\$ million	2011	2011	Source: National Accounts (2006)
Seal harvesting	Erongo and Karas	No data	No data	15 to 20 full-time	No data	No data	No data	No data	No data	No data	No data	No data
Shell harvesting	Erongo	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data
!Nara harvesting	Erongo	0.088	0.160	85 full-time	154 full-time	No data	No data	0.108	0.195	85 full-time	154 full-time	No data
Diamond mining	Karas	2,321	4,433	Some 28,000	Some 25,000	No data	No data	2,832	2,577	Some 34,000	Some 31,000	4.4%
Salt production	Erongo	10.5	9.6	Unskilled: 176 Semi-skilled: 43 Management: 9	Unskilled: 161 Semi-skilled: 39 Management: 8	No data	No data	13	12	Unskilled: 215 Semi-skilled: 52 Management: 11	Unskilled: 196 Semi-skilled: 48 Management: 10	No data

Table 3.3: Sustainable and unsustainable tourism and natural resource use options (linked to Tables 3.2a and 3.2b – OI 2 baseline data)

Use practice	Spatial distribution/ Distribution	Sustainable/Unsustainable ¹	Recommendations for SHIFT to sustainability	NACOMA support (Y/N) in relation to recommendations
Tourism accommodation	Kunene, Erongo, Hardap and Karas	Considered sustainable <ul style="list-style-type: none"> • Within the constraints of water and energy consumption • No data available on the water and electricity consumption of hotels and guesthouses 	<ul style="list-style-type: none"> • Monitor consumption over a period of one year with cooperation of private sector and municipality • Based on results, a pilot programme for one year to be implemented • Data for comparison to past years then available for informed decision-making 	?
Tour operators	Kunene, Erongo, Hardap and Karas	Considered unsustainable <ul style="list-style-type: none"> • No data available on environmental impacts for 'dune belt area', Henties Bay area activities (lichen fields, beach driving, beach trash), Kuiseb River Delta, Sandwich Harbour Bay, and Walvis Bay Lagoon 	Zoning, access control <ul style="list-style-type: none"> • Periodic surveys • Routes and activities to be monitored 	Y
Tourism-related (car rental, travel agencies, restaurants, etc.)²	Kunene, Erongo, Karas, and inland	Considered sustainable	Not applicable	N
Commercial fishing and on-board fish processing³	Entire coastline, but focused on Erongo	Considered partially sustainable <ul style="list-style-type: none"> • Within the constraints of stock availability 	<ul style="list-style-type: none"> • Quotas (Ministry of Fisheries and Marine Resources/MFMR) • Improved fisheries management (MFMR) 	?
Onshore fish processing⁴	Erongo and Karas	Considered partially sustainable <ul style="list-style-type: none"> • Within the constraints of stock availability and of water for processing • No data available on water consumption 	Implementation and promotion of cleaner production programme to save water resources	?
Inshore commercial line fishing⁵	Kunene, Erongo and Hardap	Considered sustainable <ul style="list-style-type: none"> • Sustainable use practice currently limited to the number of boats and landings • Expansion not possible because of decrease in landings 	<ul style="list-style-type: none"> • Socio-economic field study • Change in marketing strategy to increase the proportion of income 	Y Matching Grant support to determine sustainability and feasibility to expand in relation to angling potential

Use practice	Spatial distribution/ Distribution	Sustainable/Unsustainable ¹	Recommendations for SHIFT to sustainability	NACOMA support (Y/N) in relation to recommendations
Artisanal line fishing ⁶	Erongo	Considered sustainable <ul style="list-style-type: none"> Limited data available on number of boats and size of landings 	<ul style="list-style-type: none"> Socio-economic field study Change in marketing strategy to increase the proportion of income 	Y Matching Grant support to determine sustainability and feasibility to expand in relation to angling tourism potential
Recreational angling (overlaps with tourism use practice) ⁷	Kunene, Erongo, Hardap, Karas	Considered unsustainable <ul style="list-style-type: none"> Silver kob and West Coast steenbras have been overfished in recent times Permits have more than doubled in the last decade No area/range restrictions Commercial fishing impacts negatively on shore angling 	<ul style="list-style-type: none"> Restrict commercial expansion Convert from open access to guiding system of property rights Zoning of areas for commercial and shore fisheries Promote guided angling as a tourist activity 	Y Potential support of angling tourism development as MG project to promote restoration of inshore stocks, e.g. the Henties Bay Fishers' Association. This should be coupled with interim zoning and the marine protected area process. Current support for marine protected areas (OI 3)
Seal harvesting	Erongo and Karas	Considered unsustainable <ul style="list-style-type: none"> Harvesting of pups is deemed unethical because of international protestors Harvest times of seals overlap with tourism viewing – negative development Economic data not available 	<ul style="list-style-type: none"> Management of seal populations to enhance tourism value and recovery of sardine fish stocks Closure of Seal Reserve for seal viewing during harvest months Survey of tour operator sector required to collect data on the visitor impact 	Y Recent support for walkway restoration at Cape Cross Seal Reserve, which will enhance tourism
Guano production	Erongo and Karas	Considered unsustainable <ul style="list-style-type: none"> Due to declining bird populations 	<ul style="list-style-type: none"> Expansion of current production platforms instead of new structures Areas such as Sandwich Harbour Bay to be protected by legislation from new guano developments 	N Commercial activity with limited direct beneficiaries
Shell harvesting	Erongo	Considered sustainable <ul style="list-style-type: none"> Social and economic values of this activity not known Proportions of income not known Principal beneficiaries not known 	<ul style="list-style-type: none"> Socio- economic study required Sustainable use option with commercial potential 	Y Limited support through Matching Grant, perhaps using the same marketing model as for wooden crafts to set up a production and sales facility
!Nara harvesting	Erongo	Considered unsustainable <ul style="list-style-type: none"> No strategic management plan in place Progress hampered by conflict in community 	<ul style="list-style-type: none"> Cooperative establishment Local diversification of products Anthropologist to work in the area for 	?

Use practice	Spatial distribution/ Distribution	Sustainable/Unsustainable ¹	Recommendations for SHIFT to sustainability	NACOMA support (Y/N) in relation to recommendations
		<ul style="list-style-type: none"> Poor local refinement of raw product Unsustainable harvesting practices 	at least one year to gather data (qualitative and quantitative)	
Natural gas and oil	Karas	Sustainability of any future production uncertain	?	?
Diamond mining	Karas	Considered unsustainable	Continue with mitigation programme	Y

1. Sustainability was determined from evidence gleaned from the literature, from consultations with relevant stakeholders, and from own judgement, where evidence of environmental damage or conflict was present.
2. *Tourism-related activities* refer to other direct expenditures by tourists using coastal zone accommodation or tour operators (car rental, restaurants, travel agencies, etc.). Indirect economic impacts due to these are mostly outside the coastal zone and were therefore not included.
3. Commercial fishing and on-board fish processing takes place outside the coastal zone, but it is treated as it strongly influences sustainability of onshore processing, guano production and seal harvesting.
4. The sustainability of fish processing onshore is influenced by the sustainability of commercial fishing, as well as factors such as the availability and use of potable water.
5. *Commercial line fishing* refers to ski-boats and larger vessels operating inshore within the coastal zone.
6. *Artisanal fishing* refers to group small-scale activities in the Henties Bay and Lüderitz areas which operate inshore and are partially commercial.
7. Some recreational fishing services are also offered within the 'tour operators' use practice. The economic values could not be separated, however, resulting in some overlap.

Table 3.4: OI 2 Data collection methodology for sustainable natural resource use activities

Baseline economic assessment status	Means of verification	Data collection methods	Frequency	Responsibility for data collection	Users of information
(See Tables 3.2a and 3.2b)	<ul style="list-style-type: none"> Project progress reports Targeted Investment reports 	<ul style="list-style-type: none"> Field surveys Record-keeping Targeted management record-keeping by NACOMA Project Coordinating Offices, Line Ministries and Local Authorities 	<ul style="list-style-type: none"> Collection of baseline data at beginning of project Quarterly monitoring reports Annual verification 	A team directly linked to the targeted investments (viable sustainable projects within NACOMA objectives), supported by Development Officers from the Regional Councils	<ul style="list-style-type: none"> NACOMA Steering Committee Integrated Coastal Zone Management Committee Line ministries Regional Councils Local Authorities Walvis Bay Consultants Other stakeholders directly or indirectly involved in the NACOMA Project

Note: Adapted from the M&E Manual

3.2.1 Current and future methodology for economic valuation

The monitoring and evaluation process will require future application of the same methodology used in this baseline study.

The absence of systematic survey data on economic activity in the coastal region made it necessary to draw information and data from various sources, estimate values using some adaptation (including extrapolation, interpolation and inflation), and use various assumptions. Because of the lack of direct data, wherever possible use was made of triangulation or convergent validation, i.e. estimates were made using two or more approaches to arrive at a corroborated average.

3.2.1.1 Direct contribution to national income

The tourism values were estimated using data from two sources: the supply of tourism services, and the use of such services. On the supply side, data were extracted from NTB statistics on the numbers of registered suppliers of tourism services by category and Region in Namibia. Then data from tourism enterprise models (primarily lodge and campsite models) were subjectively applied to these numbers to get aggregates for gross output and direct contribution to national income.

On the demand side, estimates of the numbers of tourists visiting the coast were derived from surveys of tourists at national level and at the coast, and from the national Tourism Satellite Accounts (TSAs). This involved a somewhat crude estimate of the share of total tourist numbers that visit the coast. Trip expenditures, also derived from these surveys, were then applied to derive aggregate gross outputs associated with coastal tourists. Then the ratio of direct contribution to national income to gross output derived from the models was used to derive aggregates of such direct contribution. Values derived from these two approaches were in broad agreement, and they were averaged to derive the direct contributions of tourism accommodation and tour operators to national income.

Data from the latest foreign visitor exit survey and a recent park tourist survey on the allocation of tourist trip expenditures were used to determine the tourism-related direct contribution. This was estimated from the ratio of accommodation to other, linked, trip expenditures.

The numbers of employment opportunities involved in tourism service provision were also estimated, using the enterprise models and aggregated appropriately. Similar ratios of employment to the amount contributed to national income were then applied to the linked tourism-related activities. A second approach was used to corroborate the employment estimates for tourism activities at the coast. Here, ratios of employment to generated national income were derived from the TSAs, and these were applied to all the national income estimates.

Estimates of the direct contribution to national income by the line-fishing sector, including recreational angling and inshore commercial line fishing, were available in the literature and were accessed directly. They were based on specific once-off surveys, and analysis using more than one estimation approach. The employment opportunities associated with recreational angling were estimated using the broader tourism employment ratios described

above. The employment opportunities for commercial line fishing were derived from literature on the fishing sector.

The estimates of direct contribution to national income by offshore commercial fishing and the related onshore processing were derived from past national accounting data from the National Planning Commission, and literature from the Maritime Institute and from the Ministry of Fisheries and Marine Resources (MFMR). Employment numbers were similarly derived from the literature. Both economic values and employment numbers required some degree of extrapolation and/or inflation.

For all other natural resource uses where the direct contribution of use to national income was estimated, the estimates were derived from the literature and information solicited informally from users. Thus, these are best estimates within the context of the available sources, and within the resource limitations of this study.

Estimates of employment numbers were similarly derived. Where possible, more than one source was used to provide corroboration.

In the case of diamond mining, the values in the national accounts could be accepted as the primary source.

3.2.1.2 Total, direct and indirect contribution to national income

In estimating the total direct and indirect contribution of tourism and resource use activities to national income (the total economic impact), the direct values derived as described above were added to the indirect values. Indirect contributions were determined using income multipliers extracted from the Namibian social accounting matrix (SAM). These are fairly broad measures estimated at sector level. Employment values were attributed to the indirect values using the same ratios, for jobs to national income, which were derived in the case of the direct values above.

3.2.1.3 Future measurement of values

The baseline tourism and resource use indicators measured in the study should be re-estimated at the end of the NACOMA Project. A similar approach to that described above should be applied, but should incorporate any new or improved data, e.g. from surveys, that have become available by then. Changes in values that emerge in such future analyses should be carefully assessed to see whether they are the result of real project-attributable change or other factors – or simply better information. The lack of a systematic, replicated series of targeted surveys means that this process will, to some extent, be subjective. However, this should not detract from the undoubted value of the monitoring and evaluation process.

Part 2

Sustainable tourism options for the coastal zone and refinement of baseline tourism data

4. Sustainability of tourism

Part 2 deals with all coastal tourism other than recreational angling tourism. Angling tourism is dealt with primarily in Part 3 under “5. Sustainability of natural resource uses”.

Coastal tourism is a priority economic area for local, regional and national development. While tourism activities can provide employment and an avenue for involving local communities in a Region’s economy through mainstream as well as community-based tourism, they are also likely to cause migration and increased movement of people through the Regions to levels that could pose obstacles to effective managing natural and cultural resources. Mining areas such as the Sperrgebiet that have previously been closed to public are now perceived as potential tourism attractions that will increasingly be exploited under the new management plan. At the same time, biodiversity hotspots such as the coastal wetlands and offshore islands that currently have no conservation status may suffer from uncontrolled development in the absence of adequate and enforced zoning and environmental restrictions.

Because so much land has been closed to access, development and settlement pressure is exceptionally concentrated in and around the coastal town lands. Rapid tourism, industrial and other expansion in the arid coastal environment have cumulative implications for water supply, water quality, and waste disposal. The societal costs associated with tourism occur mainly through environmental damage, including habitat destruction, littering and visual pollution (particularly due to vehicle tracks). Given that most tourism activities along the coast take place on State or local authority land, it should be relatively easy to set and regulate limits of acceptable change. However, this has not been done for any of the coastal areas and there are signs that these limits are being reached from an ecological and social point of view. Furthermore, tourism is responsible for increased coastal development, which can have negative environmental consequences.

Towns such as Swakopmund are expanding rapidly due to the demand for residential accommodation. It has been suggested that houses will have been built along the entire coast between Swakopmund and Walvis Bay by the end of the 21st century. This poses potential conflicts with the environment, since this area supports more resident and migrant birds than any other stretch of beach in the country, including the near-endemic Damara Tern. In order to promote sustainable tourism along the coast, therefore, the following ten priority areas for action have been identified:

- Support integrated land-use planning and management
- Promote nature awareness, and encourage tourists in particular to reduce their impact on the environment
- Involve staff, customers, and communities in environmental issues
- Reduce the impact of logistical and leisure transport, i.e. off-road driving, low-level flying, water sports
- Support – and possibly lead – efforts to reduce crime
- Use freshwater resources efficiently
- Minimise, reuse and recycle waste
- Improve energy efficiency, conservation and management, and
- Reinvest a proportion of turnover into conservation projects.

4.1 Current tourism use practices

Table 4.1 shows the estimated numbers of suppliers of tourism services in the coastal zone, by category and Region.

Table 4.1: Registered coastal suppliers of tourism services, by category and Region

Region	Accommodation enterprises	Restaurants/ Food and drink	Coast-based adventure activities offered by tour operators			Tourism-related enterprises	Total enterprises
			Land-based	Water-based	Air-based		
Erongo (coast)	470	35	61	12	7	50	635
Hardap (coast)	0	0	2	0	0		2
Karas (coast)	13	6	6	2	0	2	28
Kunene (coast)	3	0	0	0	0	0	3
Total	486	41	68	14	7	52	668

Source: Based on information from NTB (2006) and business directories

In Table 4.1 the current tourism practices by Region, estimates of their economic value, and estimates of the beneficiaries and the proportions of income accruing to them are described. The economic values include the direct contribution that tourism activities make to the national income (or that component of the tourism direct output which is value added). The total value added includes this direct contribution as well as an indirect one (induced, through the income or value added multiplier). The total contribution to national income is calculated using the SAM for the Namibian economy (Lange et al. 2004).

The tourism-related use practices listed in Tables 3.2a and 3.2b represent those which receive the direct linked expenditures made by tourists using accommodation and operator services on the coast. They are listed in Figure 4.1 above, with associated expenditures as measured by SIAPAC (2007) for overseas, southern African and domestic tourists.

The beneficiaries of tourism uses are shown in Tables 3.2a and 3.2b above, which present data on unskilled labour, semi-skilled labour, management and their income. These data are derived from proportions measured in empirically-based tourism enterprise models. The economic values, remuneration associated with indirect value added, and remuneration associated with direct tourism-related value added are not all generated within the coastal zone.

4.1.1 Coastal tourism economic values and expansion potential

In Table 4.1, a total of 486 accommodation establishments were registered, and make a direct contribution to national income (direct value added only) amounting to N\$399.9 million per annum. The total contribution (direct and indirect value added) to national income was estimated at N\$740.6 million per annum, with around 3,409 employees. Of these, 2,449 (72%) are unskilled, 480 (14%) semi-skilled, and 480 (14%) skilled/management. The proportion of income amounts to an estimated N\$33.2 million (38%) for unskilled employees, N\$12.6 million (14.6%) for semi-skilled, and N\$40.7 million (47.4%), for skilled/management.

Zeybrandt (1999) used a contingent valuation method of valuation for sightseeing tourism. The average tourist enjoyed a consumer surplus of some 35% of his/her total trip cost. The aggregated consumer surplus was found to be N\$123 million per annum. The total economic value, or the gross direct economic use value for sightseeing tourism to the Namibian coast, was found to be some N\$347 million per annum.

In our study, the outputs associated with coastal tourism accommodation and tour operators were estimated based on the estimated numbers of facilities and the turnovers associated with them, according to enterprise models (unpublished data, Ministry of Environment and Tourism 2007). Using this supply-side approach, the output for the coast tourism accommodation sector was estimated at N\$833.2 million. To test and corroborate these findings, the output of coastal tourism accommodation was estimated using tourism expenditure data – a demand-side approach. Thus, using data from the World Travel and Tourism Council (WTTC 2006), the number of international tourists visiting for leisure and business (54% of the total) were estimated at 422,390. Among nature-based tourists, Barnes et al. (1999) found that 22% were from overseas, 48% were from southern Africa, and 30% were domestic. Based on data from SIAPAC (2003, 2006), the average Namibian expenditure among nature-based tourists was determined for different segments, including an estimate of the Namibian component of package tourists. Then, from visitation data in SIAPAC (2006), it was found that 75% of the nature-based tourism component would visit the coast during their trip, spending 26.5% of their time there. The estimate for coastal tourism accommodation output using this demand-side approach was N\$811.2 million, which correlates closely with the supply-side approach (N\$833.2 million) and provides some validation for the results.

The expansion potential for tourism use practices can only be estimated crudely in the absence of the SEA and zoning plans. Indeed, in order to avoid oversupply and loss of viability, it is important that growth in tourism does not exceed the growth in overall demand for it. Nonetheless, all urban accommodation developments currently have the potential to expand along with the expected urban growth. Thus, in line with predicted national growth in travel and tourism demand, i.e. 6.9% per annum (WTTC 2006), the number of establishments in urban areas can be expected to grow by 40% over the next five years. The contribution of the latter sector to gross national income (GNI) will grow more quickly as tourism becomes more valuable, i.e. growing at 8.6% per annum (WTTC 2006). After five years, this will mean an increase of around 50%. As predicted in the TSAs (WTTC 2006), the accommodation employment values will also increase, but at a slower rate (4.4% per annum). After five years, therefore, employment in urban accommodation can be expected to have grown by some 24%.

Expansion of tour operator activity will depend on the activities themselves. As discussed below, for economic and sustainability reasons it is generally recommended to transform tourism as much as possible from open access, unguided activities to guided operations. Thus, where possible, expansion of tour operator activities should be encouraged. Some activities, such as dolphin watching in Walvis Bay, will be constrained by carrying-capacity problems. Air-based activities might ultimately be constrained by noise pollution problems. Generally, however, land-based and other water-based activities have significant expansion potential and can be expected to grow at the same rates as, or faster than, the urban accommodation sector, i.e. hotels. Given this, it is suggested that the number of tour operator activities will increase by some 50% over five years. The economic contribution and employment in this sector could be expected to grow by 60% and 30%, respectively.

Growth in accommodation development outside the urban areas (lodges, camps and campsites) will be constrained primarily by access to water, particularly in the south and central coasts, where there are no ephemeral rivers (Walmsley 2001a, 2001b). But in some localities, there is potential to transport water, and to link coastal accommodation enterprises through excursions, to other inland or urban accommodation development. The physical potential for growth on the northern coast is higher. It is anticipated that, with appropriate zoning for wilderness, low impact and higher impact, overall numbers and values for non-urban tourism accommodation growth on the coast will grow at rates similar to those for urban accommodation.

4.1.2 Accommodation sector

4.1.2.1 Description

Accommodation is by far the largest and most ubiquitous subsector within the tourism economy. In addition, accommodation is characterised by extreme heterogeneity, and any attempt to make generalisations about the sector needs to take this into account. In this report, the primary focus is on those establishments and organisations that provide places of rest and revival on a commercial and organised basis. Less consideration is given to lodging in the “Visiting friends and relatives” (VFR) sector, where accommodation is usually within the host’s own home. Although the 345,745 VFR arrivals (unpublished data, Directorate of Tourism 2005) in Namibia indicate an important tourist motivation, their value to the commercial accommodation sector is generally more limited.

Skeleton Coast Park: One concessionaire currently runs a luxury camp inside the park. The camp offers an exclusive ‘high price, low volume’ tourism product that consists of accommodation in combination with fly-in charters and nature-based excursions.

National West Coast Recreation Area: The accommodation type offered in Henties Bay predominantly constitutes self-catering units that are mainly used for private holidays. The low average room-occupancy rate is probably a strong indication of the type of use practice of the accommodation sector in this town. It appears that the use of these units is subjected to the seasonal use pattern and, therefore, the number of trips per year (propensity) of the domestic coastal visitor strongly correlates with the peak holiday seasons in Namibia and South Africa. Thus, tourism development in Henties Bay overlaps with urbanisation of prime land along the beach. It is assumed that the number of self-catering accommodation establishments in Henties Bay affects the patterns of accommodation development and the associated benefits in the National West Coast Recreation Area.

Swakopmund–Walvis Bay Dune Belt Area: The accommodation establishments in Swakopmund and Walvis Bay are predominantly occupied by overseas visitors. The exception occurs over the peak holiday season (December–January), when visits from domestic and regional tourists increase substantially in the context of the tourism sector in general, and of the coastal zone in particular. Accommodation developments reflect this. Accommodation rarely has a rationale in its own right, so that it is rare for a tourist to stay in a hotel or other form of accommodation for its own sake, and a tourist chooses a particular type of accommodation because it serves the principal motivation that has brought the visitor to the destination.

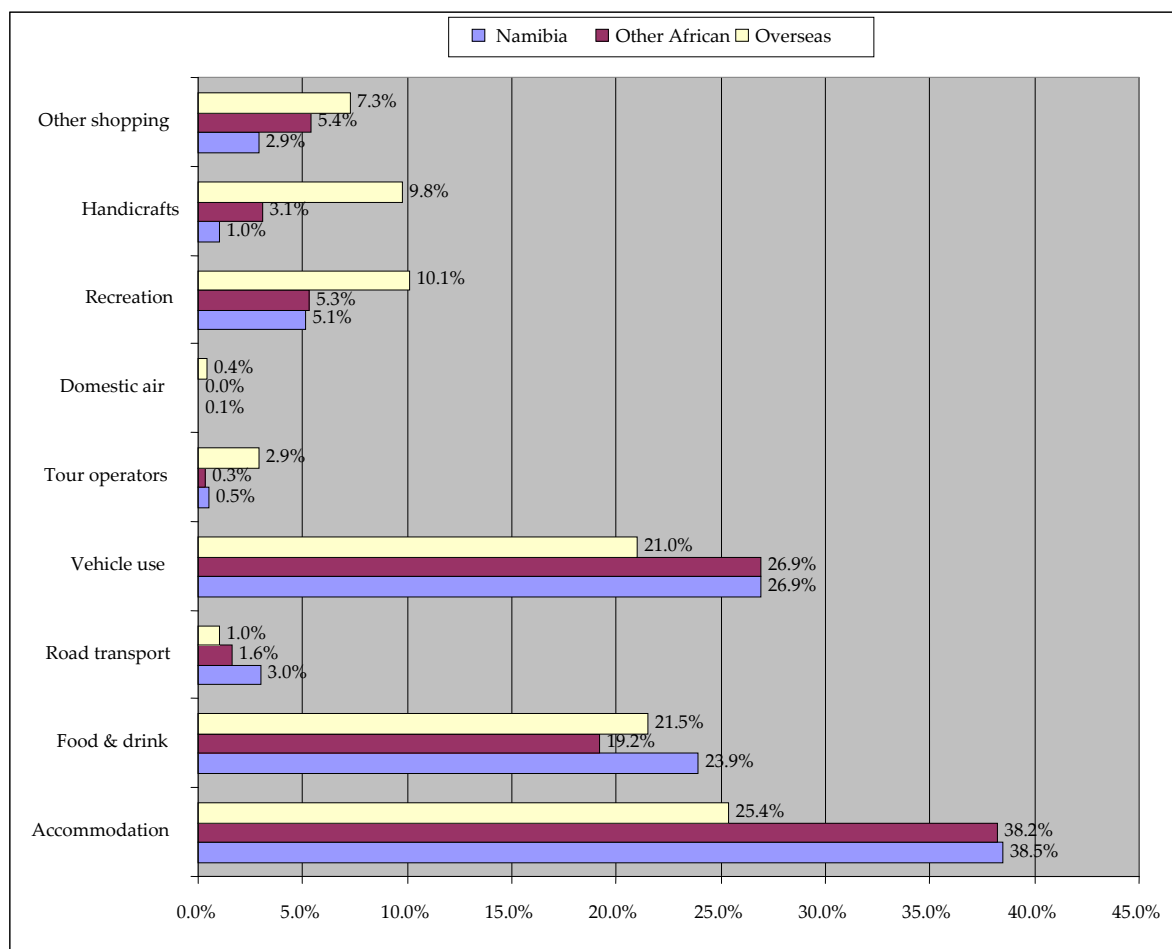
Lüderitz: A comparison of the 12 accommodation establishments in Lüderitz in 2000 by Walmsley (2001a) with the 13 registered establishments present in 2006 indicates practically no growth in this sector. Lüderitz features on almost all south-bound itineraries but it has the image of a ‘ghost town’, and the average bed-night stay per tourist seldom equals more than one. A town development plan that is combined with tourism promotion and aligned with tourism demand could increase accommodation growth.

4.1.2.2 Economic values

Economic values and beneficiaries associated with the accommodation sector in the coastal zone are presented in Tables 3.2a and 3.2b above. The accommodation sector plays an important role in the overall economic contribution that tourism makes at local and national level. It is difficult to generalise about the proportion of total tourist expenditure that is allocated to the coastal zone.

Overall, the average tourist from elsewhere in Africa spent five times as much as Namibian tourists, while the average tourist from overseas spent almost 28 times as much. The composition of expenditures in Figure 4.1 above shows the percentage of expenditure allocation for each of the three main tourist market segments (by origin). Tables 4.2 and 4.3 show estimates of the bed nights sold by registered establishments in inland towns linked to the coast, and in the coastal zone itself. It is important when planning the development of tourism at the coast to consider tourism that is linked to it from neighbouring areas, either as part of existing or potential circuits, but also in combined products (SIAPAC 2006:67).

Figure 4.1: Composition of type of expenditure incurred per capita of tourists in Namibia



Source: SIAPAC (2007)

Table 4.2: Bed nights sold in inland towns linked to the coast

Town	Rooms available p.a.	Sold rooms p.a.	Average room occupancy p.a.	Beds available p.a.	Sold beds p.a.	Bed occupancy p.a.	Average bed-night rate (B)	Average bed-night rate (BB)	Average bed-night rate (All)
Kunene									
Outjo*	84,625	20,538	24%	177,333	42,098	24%	209	296	519
Opuwo*	21,031	4,470	21%	45,020	9,920	22%	258	513	720
Uis*	14,203	1,593	11%	30,929	3,341	11%	126	284	274
Khorixas*	38,490	12,145	32%	80,644	27,178	34%	825	358	0
Kamanjab*	39,204	6,951	18%	84,624	13,976	17%	343	317	603
Erongo									
Omaruru*	68,116	10,902	16%	144,934	21,803	15%	184	245	476

B = Bed only; BB = Bed and breakfast; All = All-inclusive

Table 4.3: Bed nights sold by registered coastal establishments and Region

Region	Rooms available p.a.	Sold rooms p.a.	Average room occupancy p.a.	Beds available p.a.	Sold beds p.a.	Bed occupancy p.a.	Av. bed-night rate (B)	Av. bed-night rate (BB)	Av. bed-night rate (All)
Erongo									
Swakopmund	261,453	104,964	40%	967,625	235,853	24%	338	234	605
Walvis Bay	85,259	21,310	25%	207,620	40,427	19%	267	261	349
Henties Bay	57,057	9,131	16%	143,864	30,553	21%	170	263	417
Erongo total	403,769	135,405	-	967,625	235,853	-	-	-	-
Hardap									
Hardap total	0	0	0	0	0	0	0	0	0
Karas									
Lüderitz	43,095	17,765	41%	105,776	32,947	31%	134	230	0
Karas total	43,095	17,765	41%	105,776	32,947	31%	134	230	0
Kunene									
Skeleton Coast Park	2,130	n/a	n/a	4,260	n/a	n/a	-	-	6 700
Namibia Wildlife Resorts	7,665	n/a	n/a	17,520	n/a	n/a	-	600	-
Kunene total	9,795	n/a	n/a	22,140	n/a	n/a	-	-	-

B = Bed only; BB = Bed and breakfast; All = All-inclusive

4.1.3 Tour operator sector

4.1.3.1 Description

Highlights of the Erongo Region are the Cape Cross Seal Reserve, the Brandberg, and the Spitzkoppe Mountains further inland. Bushman paintings, flora and fauna are the attractions at the Spitzkoppe, while the Seal Reserve is visited from Swakopmund on day tours from and back to the coastal towns of Walvis Bay, Swakopmund and Henties Bay. Visits to the Brandberg and Erongo Mountains involve one or two overnight stays.

Table 4.4: Coastal activity operators by Region and subcategory

Regions	Land-based	Water-based	Air-based	Total
Erongo	61	12	7	80
Hardap	1	-	1	2
Karas	6	2	0	8
Kunene	0	2	0	2
Total	68	16	8	92

Source: NTB (2006)

The *land-based tourism activities* are mainly concentrated in the dune area between Swakopmund and Walvis Bay. These are the only easily accessible coastal dunes in the country besides those in the Kuiseb Delta. In addition, nature-based tours are also offered by the coastal tour operators. These tours are usually combined with a trip from the coast into the Kunene Region, visiting sites such as Twyfelfontein, the Huarusib River, the Hoanib River, and the Kaokoveld. In the Karas Region, the main exit point for tourism adventure tours is Lüderitz. Indeed, an online review conducted by ourselves indicated that the tour operators in this area are very innovative. Provided the fragile environment is taken into account, there is certainly still scope for expansion in the tour operator sector.

Frequently occurring land-based adventure tourism use activities include the following:

- A return trip on the Desert Express between Windhoek and Swakopmund
- Sightseeing trip to Swakopmund, Damaraland, the Himba, Etosha National Park, and Okonjima Lodge
- 45-minute, 1-hour, and 2-hour desert tours
- Tours to Dune 7
- Dune-boarding
- Dune tours by quad bike
- 4x4 trip to Sandwich Harbour; full-day tour driving along the Walvis Bay Lagoon, with birdwatching; continuing through the Kuiseb Delta south towards the Namib-Naukluft Park; includes a dune drive to the 140-m Brom Duin; the adventurous climb the dune
- A 7-hour “Namib Desert” tour, comprising around a 300-km trip
- Kuiseb Delta Adventures offer what they call an “Historic, Dune and Living Desert Quad Tour”
- Off-road 4x4 dune-desert tours to the Topnaar community, Rooibank, Namib sand sea, and Sandwich Harbour
- Namib Desert tour to Saddle Hill and Spencer Bay, 170 km north of Lüderitz
- Lüderitz-Walvis Bay tour: 6 days via Diamond Area No. 2, Meob Bay, Conception Bay, and Sandwich Harbour
- Tour to the Bogenfels
- “Forbidden Land” desert tour: 4-day advanced 4x4 dune adventure tour, and
- Conception adventure tour, via the Kuiseb Canyon, the Topnaar Trail, and Sandwich Harbour.

A total of 16 *water-based activity* operators (suppliers) were registered in the Erongo Region with the Namibian Tourism Board in 2006. The excursions mainly depart from the Walvis

Bay Yacht Club and Lagoon. Business operations of the water-based activity operators were observed to require special equipment and boats, which indicate higher initial capital outlay and higher recurrent cost.

Not many of these suppliers operate in the coastal zone. Inbound tour operators cooperate with these local water-based activity operators to provide an ‘Atlantic Ocean Experience’ to their clients.

Examples of current water-based adventure tourism use practices are as follows:

- Dolphin/seal cruises
- Combination of a dolphin cruise and a half-day tour to Sandwich Harbour
- Guided 4x4 fishing tour, including an experienced guide as well as the required equipment; the guide only assists in locating the best angling spots
- “Incentive Tours” – including seafood lunches
- Offshore fishing, specialising in shark fishing
- Boat fishing on the open sea
- Dolphin cruises in the Walvis Bay harbour
- Dolphin cruises in the Lagoon
- Camels for desert/dune events such as weddings, film shoots, and advertising
- Lagoon birdwatching
- Combination of a tour to Pelican Point and kayaking in the Lagoon, and
- Combination of a marine cruise with a beach lunch and 4x4 dune drive.

A total of 8 *air-based activity* operators were registered with the Namibian Tourism Board in 2006. The fly-in safaris and balloon flights start from the Swakopmund airport. Other activities like paragliding take place in the dunes.

The most frequently occurring air-based adventure tourism use practices are the following:

- 40-minute balloon adventure flights
- Skydiving
- Fly-in safaris, and
- Paragliding.

4.1.3.2 Economic values

Inbound operators currently and potentially play a critical role in providing domestic and local benefits at many tourist destinations in Namibia. Based on the total of 92 registered activity tour operators, their direct contribution to national income is N\$15.7 million per annum, and their total combined direct and indirect contribution to national income is N\$28.9 million per annum. Tour operators have an estimated number of 184 employees, of whom 92 are unskilled and 92 skilled. The proportion of income for unskilled employees amounts to an estimated N\$1.3 million (39.6%), and N\$2.0 million (60.4%) for skilled employees.

4.1.3.3 Sustainability of current tourism use practices (subcategories)

Table 4.5 categorises and ranks current coastal tourism subsectors according to their sustainability. These rankings are subjective and do not refer to the potential for improvements in sustainability, or the potential for expansion.

Table 4.5: Classification and ranking of tourism activities according to sustainability

Tourism activities	Sustainable (Ranking: Very low, Low, Medium, High, Very high)	Unsustainable (Ranking: Very low, Low, Medium, High, Very high)
Hospitality enterprises		
Accommodation	Medium	
Restaurants, food and drink	Medium	
Desert Express	Medium	
Land-based activities		
Dune 7 tours	Medium	
Dune-boarding		Very high
Dune quad bike tours		Very high
4x4 Sandwich Harbour tour, including Brom Duin		Very high
Kuiseb Delta quad bike tours		Medium
Off-road 4x4 dune–desert tours		Very high
Guided lodge tour	High	
Guided tour of the Namib Desert, Saddle Hill and Spencer Bay	High	Medium
Guided tour to the Bogenfels		Medium
“Forbidden Land” 4x4 tour		Very high
Conception Bay adventure tour		Medium
Birdwatching excursions	Very high	
Water-based activities		
Dolphin/seal cruise	Medium	
Combination: Dolphin cruise and tour of Sandwich Harbour		High
Guided 4x4 fishing tour	Medium	
Incentive tours	High	
Offshore fishing		High
Boat fishing on the open sea	Medium	
Dolphin cruise in the harbour	Medium	
Dolphin cruise on the Lagoon	Medium	
Camels for events	High	
Lagoon birdwatching	Very high	
Combination: Tour to Pelican Point and kayaking on the Lagoon	Medium	

Tourism activities	Sustainable (Ranking: Very low, Low, Medium, High, Very high)	Unsustainable (Ranking: Very low, Low, Medium, High, Very high)
Combination: Marine cruise and 4x4 dune drive		High
Air-based activities		
Balloon flights	High	
Skydiving	High	
Fly-in safaris	Medium	
Low flying over Walvis Bay and the Lagoon		Very high

The sustainability of some activities rated as having low sustainability may be improved with small inputs, and some activities rated as having high sustainability could easily become unsustainable in certain circumstances. Table 4.5 serves to focus on those activities which should be given attention in planning.

4.2 Tourism profiles in the four Regions with coastal areas

4.2.1 Skeleton Coast Park

Two gates grant access to the park, where a park use fee is charged. The SIAPAC (2006) survey reported that gate entry records for five months in 2005 were unusable because they had been damaged by water. Therefore, based on an annual growth rate of 8.6% in tourist arrivals, and the 1,819 visitors to the park estimated for 2003 by Turpie et al. (2005:31), an approximate total of 5,259 visitors could be expected in 2007. This would yield an expected total revenue of N\$142,090, taking into consideration the current park fee structure and the percentage proportions of visitor origins (66% domestic, 27% regional, 7% overseas).

4.2.2 Cape Cross Seal Reserve

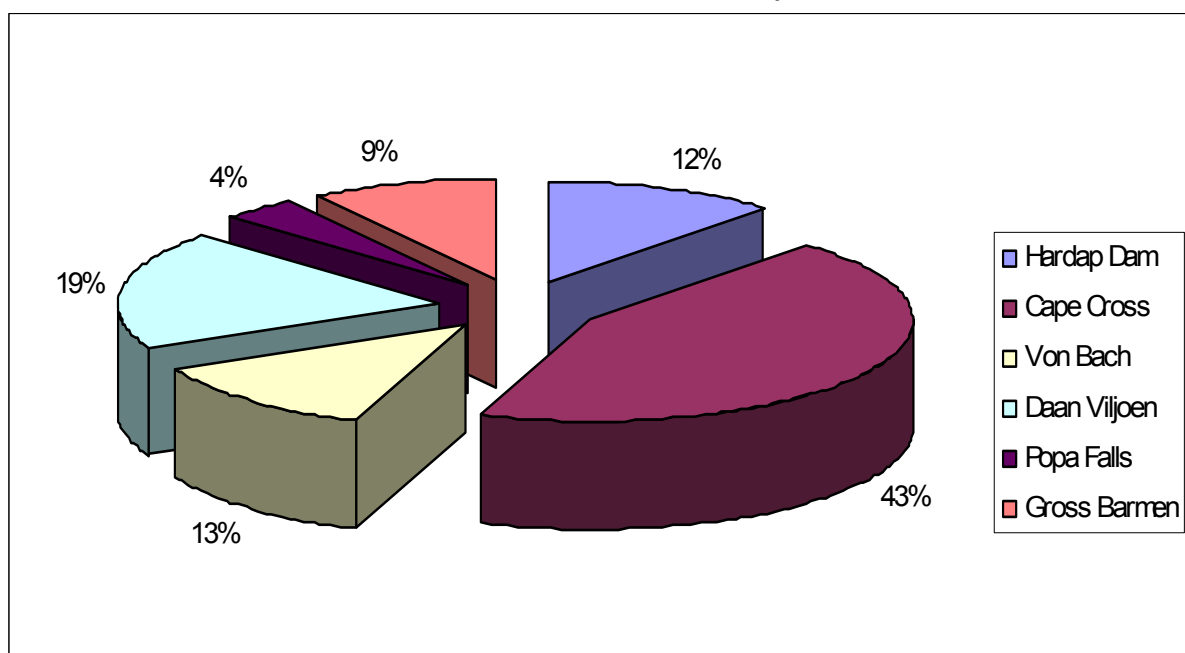
The seal reserve is a popular destination that is located approximately 110 km north of Swakopmund. It usually features on the typical coast tour itinerary.

In a recent study (SIAPAC 2006), tourists were asked to rank, in order of importance, which sites drew them to touring Namibia. The top five out of ten sites, ranked according to the number of respondents who recorded them as most important in drawing them to travel, were Etosha (72%), Sossusvlei/Sesriem (37%), Swakopmund (16), Cape Cross (15%) and Windhoek (12%). Among the total number of tourist visits recorded for six small parks/resorts – Gross Barmen, Popa Falls, Von Bach Dam, Cape Cross, and Hardap Dam, the number for Cape Cross makes up 42%: more than twice that for any other park or resort (see Figure 4.2).

All tourist arrivals at the Cape Cross Seal Reserve are day visitors, staying for a couple of hours only. In the same study (SIAPAC 2007), a total of 47,709 visitors to the Cape Cross Seal Reserve were reported for the period of 2005 and, of these, only 13% originated from Namibia: most (69%) were from foreign countries. The distribution of the total recorded 109,112 visitors to small reserves, resorts and recreational areas is indicated in Figure 4.2.

Based on an annual growth rate of 8.6% in tourist arrivals, and the recorded 47,709 visitors to the reserve for 2005, an estimated total of 61,107 tourists are expected to arrive in 2007 – yielding an estimated total revenue of N\$2.9 million, taking into consideration the current park price fees and the percentage proportions of visitor origins.

Figure 4.2: Percentage of tourist visits to Cape Cross Seal Reserve compared to other small reserves, resorts and recreation areas in the country



SIAPAC (2007)

4.2.3 The 'dune belt area' between Swakopmund and Walvis Bay

Due to easy accessibility and immense popularity, this area is important for multiple tourism use practices in the tour operator sector. The Swakopmund–Walvis Bay 'dune belt area' contains a diversity of biophysical features, as well as a range of human occupations and use.

This area features on the itinerary of *all* tour operators and therefore requires special attention in terms of conservation, sustainable use, management and planning. The *Management and Monitoring Plan for the Dune Belt between Swakopmund and Walvis Bay* (Clayton & Avafia 2002) recommended that an environmental impact assessment (EIA) be conducted to evaluate the environmental sensitivity of the area, and that the Walvis Bay Municipality be required to pass municipal regulations to govern the use of the area. The suggestions were to –

- demarcate the area into different zones
- declare restricted areas
- control access to and use of the area, and
- delegate certain powers of enforcement to tour operators.

4.2.3.1 Draft Contingency Management Plan (2006)

The *Draft Contingency Plan* of 2006 states that, for the management of the ‘dune belt area’ in the festive seasons of 2006 and 2007, a management and monitoring plan for this specific area be drafted by the Walvis Bay Municipality. The problem statement is described as follows:

A number of impacts of environmental concern have been observed through the years. Throughout the year, but specifically during the main holiday season (around the Christmas/summer vacations in southern Africa) the recreational area is frequented by holiday makers from Namibia and from abroad, especially from South Africa. Line-fishing, water and motor sports, sand boarding, paragliding/sailing, ballooning, and off-road adventures are particularly popular leisure time activities. It is noted that especially the extensive use of quad bikes as means of transportation, and quad biking as hobby and adventure outdoor activity, have strong negative impacts on the aesthetic as well as natural environment along Namibia’s beautiful coast.

Extensive use of quad bikes as means of transportation was identified as a *problem*. Line fishing, water and motor sports, sand-boarding, paragliding/sailing, ballooning and off-road adventures were identified as *popular leisure activities*.

It is suggested that the problem statement be revised, specifically with regard to the environmental damage caused by the increased leisure activities. Line fishing is a broad concept and entails small-scale line fishing for commercial purposes as well as recreational angling. It is assumed that the problem statement refers to recreational angling, in which case the ‘visible’ pollution is caused by 4x4 tracks on the beach, litter, and anglers’ off-road activities, which cause damage to the nearby lichen fields. Recreational angling in the present form is unsustainable because of the depletion of certain species, and it is economically not viable.

Sand-boarding and off-road adventures are as problematic, as is quad biking. Paragliding and ballooning leisure activities cause relatively little pollution, and are rated sustainable in Table 4.5.

Several key constraints to the proper utilisation of the dune area were identified in the contingency plan. These are listed as follows:

1. Although a zonation plan for specific uses of the dune belt area has been developed, there is little awareness and understanding in terms of which sites are dedicated to leisure activities, and which ones are dedicated to conservation or are set aside for other purposes.
2. There is a lack of understanding amongst tourists of the severe impacts of irresponsible activities such as unregulated quad biking, littering, and the free roaming of dogs. They are not conscious about the biological uniqueness and heritage value of the area.
3. Even if there would be considerable public awareness initiatives, in general, stakeholders like the players in the tourism industry have not been fully engaged or have not yet fully assumed their potential roles as ‘custodians’ of the area, which would further help to create the necessary awareness amongst our visitors and assist

in the regulation of harmful activities. Unclear institutional roles and mandates prevail.

4. Institutionally, it is not clear who is responsible for the management and regulation of activities in the designated area. The Municipalities of Walvis Bay and Swakopmund, the Erongo Regional Council, the Ministry of Fisheries and Marine Resources (MFMR) and the Ministry of Environment and Tourism (MET) have certain mandates, but the nature of these mandates and their potential overlaps have not been clarified sufficiently.
5. *Existing draft regulations* prepared by the Municipality of Walvis Bay and a related management and monitoring plan *have not been passed* to date.
6. *Law enforcement responsibilities* ought to be clarified and respective *mechanisms and instruments* need to be put in place. The potential role of the Namibian Police Force, for example, should be considered in this context as well.
7. Current *law enforcement capacity shortcomings* need to be overcome.
8. *Stakeholder consensus* on the best management of the dune belt area has *not yet been achieved* and continuous engagement and dialogue are absent.

4.2.4 Walvis Bay Nature Reserve

The Walvis Bay Nature Reserve (WBNR) Management Plan is in the process of being drafted. Eight habitat zones have been delineated to serve as management entities within this reserve: Pelican Point, the Inner Lagoon, the Outer Lagoon, the Walvis Bay Harbour, the salt works, the Paaltjies coast, the Kuiseb Delta and the dune areas along the Kuiseb River. The Lagoons embrace an extremely important wetland, while the Kuiseb Delta and dune areas are home to highly specialised species of plants and animals, including the endemic dune lark. The Kuiseb zones also host part of the settlements of the Topnaar community and one of their main natural resources, the !nara plant.

Tourism in Walvis Bay is focused on the lagoon and the other nearby wetlands because of the plentiful and conspicuous bird life. This development has been supported by organised tour operators with some publicity and infrastructural support from the Walvis Bay Municipality. A walkway along the lagoon and an information centre established by the Round Table are widely used by residents and tourists alike.

Leisure activities at the lagoon have also increased over past decades. Windsurfing, kayaking, swimming and the use of a variety of small boats take place in the lagoon, sometimes extending to the Outer Lagoon areas as well. Motorised crafts are presently accorded limited access to the lagoon for fishing competitions only. The WBNR Draft Management Plan (Uushona, D. 2007, pers. comm.) recommends that motorised crafts be prohibited.

The Inner Lagoon is the most sensitive area in the entire reserve for wetland and shore birds, and all efforts should be made to preserve the avifauna in this area.

Angling from small crafts or from the beach is a major form of recreation throughout the coastal reaches of the Walvis Bay area. Use of the beaches for sunbathing and similar pursuits is mainly limited to the summer holiday period.

4.2.5 Sandwich Harbour Bay

The Sandwich Harbour Bay covers almost 25 km² of crucial wetlands. Sandwich Harbour is a natural lagoon lying on the Namib Desert coast, about 55 km south of Walvis Bay. One of Namibia's four Ramsar Sites, it was once a natural harbour for whalers and fish processors who could gain access to fresh water here. Owing to dynamic geomorphological change, its sandbars and lagoons shift constantly with winter storms and longshore currents. The status of this resort is currently unclear because of conflicting sectoral legislation between the MET and the MFMR (Molloy & Reinikainen 2003). The area is currently commercially exploited as an expensive and exclusive day-tour excursion destination by the tour operator sector. Permits are required – although permit control is not always exercised, and angling is only permitted during certain periods of the year. The revenue statistics from current user fees are not available and can only be estimated.

4.2.6 The Namib–Naukluft Park

The Namib–Naukluft Park Management Plan (MET 2003) proposed the following guidelines with regard to tourism for the future development of the park.

The tourism carrying capacity of an area needs to be determined as an important guideline for planning developments in terms of location, scale and type. To determine the tourist carrying capacity of an area there are two broad considerations: environmental factors, and social factors. The first relates to the physical environment. In the context of the Namib landscapes, this is often limited by water availability, the effect on Species of Special Interest, visual impact, and perhaps access. These physical considerations can often be limiting factors and can provide guidance as to the size and type of development or use anticipated.

In other areas, a social factor – i.e. the number of tourists who use an area and how they interact with each other – will impose a limit. Overcrowding can impact severely on the enjoyment which tourists derive from a visit to an area, but *tourism carrying capacity* is more difficult to define as it may involve varying density tolerance in the different market segments. Often, visitor crowding can be regulated by prices: in popular areas where the environment may not be able to support high numbers of visitors, prices can be raised and this may limit numbers; alternatively, numbers can be limited by quotas.

Tourists generally pay more for an experience when the total number of users is relatively low. As these numbers increase, so their willingness to pay often decreases. Although the park is immense, there are a few sites which most people want to visit. Thus, a balance needs to be found which does not detract from the sense of place, allows reasonable access, generates income, and adds economic and social value, especially to the local area.

The immense area which the park covers – at 49,768 km², this is equivalent to the combined surface of Rwanda and Burundi – makes control of it extremely difficult, and a few irresponsible actions can last for many decades. This factor, coupled with the need to stimulate socio-economic development and the limited resources (especially water), means that, for most products, low-volume, high-value tourism will be the major market segment.

This will also be controlled via specific concessions to be awarded over limited time periods in specified areas. Visitors to these areas will have to make use of qualified guides trained in the responsible use of the different landscapes and the ecological issues in each area. In addition, and of great importance, guides will need to be skilled in interpreting the desert landscape, its wildlife, plants, history and culture to their guests.

4.2.7 Meob–Conception Area

In the land-use plan proposed for the Meob–Conception area (Walmsley 2001b), it is proposed that it be considered as an integral part of the Namib–Naukluft Park.

According to Walmsley (*ibid.*:27), the most suitable, sustainable land-use options for this area are tourism and conservation research. In order to accommodate the proposed land uses, the area would have to be zoned as Category 5: Protected Landscapes and Seascapes, which would be managed mainly for conservation and recreation. This zoning category allows for controlled vehicle access.

There is potential for a small lodge (12–16 beds) at Meob, which would run guided day tours for visitors. The present airstrip is only long enough for small aircraft, which limits the number of passengers. Land-based access to this area is in 4x4 convoys, via dune fields to Sandwich Harbour Bay and Walvis Bay, or through dunes to the Koichab part of the Namib–Naukluft Park.

Water availability has a key impact on tourism development in the Meob–Conception area. Other key impact sources identified by Walmsley (*ibid.*:35) were illegal harvesting of crayfish, shellfish and fish, as well as unsustainable angling.

Other problems in this area are as follows:

- Sensitivity of the environment, especially with regard to the proliferation of tracks due to uncontrolled driving
- Low carrying capacity
- Remoteness of the area, lack of back-up and emergency services
- Unpredictable climatic conditions and temperature extremes
- Scarcity of water resources
- Dust and sandstorms/sandblasting of vehicles and equipment/sand concealing roads and tracks
- Lack of supporting infrastructure and services
- Current difficulties with control over access to the area
- Lack of established entrance gates and links with other areas of the Namib–Naukluft Park
- Lack of regional publicity and marketing campaigns due to a lack of funding, and
- Vandalism and ignorance.

4.2.8 Sperrgebiet

In the Sperrgebiet land-use plan (Walmsley 2000), it is stated that the need for local economic development and local ownership of the ‘product’ is important. The towns of Aus, Lüderitz and Rosh Pinah are set to grow in size and economic importance in the next ten years, as mining attracts new ancillary and supply businesses to the towns and the infrastructure is upgraded. Tourism will also be part of this growth as an increasing number

of visitors use and (indirectly) contribute to local infrastructure, a sustainable diversity of land uses, jobs, increased product ranges, and beneficial ancillary services such as shops, catering, entertainment, medical, telecommunications, and repairs.

4.2.8.1 Tourism in the western Karas Region

Some of the characteristics of tourism in the western Karas Region, as derived from official data from the Policy, Planning and Management Information Unit in the MET's Directorate of Tourism as well as calculations based on models developed (see Appendix D), are tabulated below:

Table 4.6: Current tourism profile for the western Karas Region (Sperrgebiet)

Profile item	Aus	Lüderitz	Rosh Pinah
Number of tourists per annum	3,168	30,000	0
Average length of stay (nights)	1.25	1.92	0
Number of visitor days per annum	4,000	90,000	0
Amount of tourism industry (N\$ million gross expenditure)	0.82	20.00	0
Contribution of Sperrgebiet to gross expenditure (N\$ million)	0.41	11.17	0
Net value added by the Sperrgebiet (N\$ million)	0.10	3.59	0

Source: Walmsley (2001a)

The current tourism profile identifies Lüderitz as the destination for tourists to this area, and consequently, the core economic activities servicing tourism are centred here. Aus benefits from being a stop-over on the route to Lüderitz. Rosh Pinah has, until recently, not benefited from tourism at all.

A significant proportion of current tourism within the Sperrgebiet is focused on historical attractions relating to Namibia's early German colonial past, attracting a significant proportion of German tourists. Other tourist attractions include the desert and coastal scenery. South African tourists make up a large proportion of the tourism population. Current tourism is based on day trips taken from Lüderitz.

4.2.8.2 Potential tourism activities in the western Karas Region

To investigate the economic importance and current and future dynamics of tourism in more detail, models were developed for four tourism activities in the western Karas Region. They are based on data from similar operations run elsewhere in Namibia and the southern African region, and are used to estimate current direct benefits as well as future benefits resulting from the possible growth of tourism.

The four models developed are as follows:

- Sperrgebiet land tours: Guided day tours into the Sperrgebiet in operator's own vehicles. Based in each of the three development nodes, these would be operated by local (Namibian) tourism entrepreneurs.

- Sperrgebiet boat tours: Guided day tours along the Sperrgebiet coastline in operator’s own craft. Based in Lüderitz, these would be operated by local (Namibian) tourism entrepreneurs.
- Campsites: Located on commercial land on the Sperrgebiet borders amid dramatic scenery offering some activities on its land, plus opportunities to venture into the Sperrgebiet.
- Lodge and campsites: Middle-range lodge located on commercial land on the Sperrgebiet borders amid dramatic scenery, offering many activities on its land as well as opportunities to venture into the Sperrgebiet.

These activities are aimed at capturing the diverse nature of demand for tourism in the study area (historic, scenic, geological, nature, wildlife, archaeological, adventure) and the diverse nature of the tourism attributes. Details of the net values added and employment levels generated per enterprise for each of these activities are tabulated below:

Table 4.7: Economic results from base case tourism models (per enterprise)

Enterprise	Net value added (NVA) per annum (N\$)	Jobs created (No.)
Sperrgebiet land tours	463,313	12
Sperrgebiet boat tours	67,200	5
Campsites	93,696	3
Lodge and campsites	89,799	23

Source: Walmsley (2001a)

The dynamics and results from these models are combined with available tourism data to model the potential future scenarios for tourism in these three development nodes.

4.2.8.3 Lüderitz

Using simple extrapolation from the economic models, it is estimated that the annual tourist numbers to Lüderitz will be 30,000, each with an average stay of approximately two nights, and a total of 90,000 tourist days. This generates between N\$17 million and N\$25 million in economic benefits to the town, and directly supports 187–272 jobs in the town’s tourism economy, and a further 468–681 jobs in the wider Namibian economy (chiefly in support services supplying the tourism industry).

Current tourism infrastructure profiles, typical of Lüderitz and Swakopmund, suggest an immature tourism accommodation market. This is evident when one examines the effect of the opening of the Nest Hotel in 1999. Where capacity increased, there was no obvious substitution effect from the town’s other hotels. Indeed, there is a stated need by tourists for more ‘family-oriented’ accommodation. Details on the current accommodation profile in Lüderitz are shown below:

Table 4.8: Current tourist accommodation profile in Lüderitz

Type of accommodation	No. of establishments	Approx. price (N\$)*
Hotels	6	225
Bed-and-breakfast establishments	4	125
Self-catering accommodation	2	50

*Approximate average price, net of meals and activities

Source: Walmsley (2001a)

Evidence and data from Namibia's other coastal resort, Swakopmund, were used with 'benefits transfer' to estimate the likely tourism values for Lüderitz under different scenarios. The data from Swakopmund, a more centrally placed and more intensively utilised destination, were modified to reflect the more remote and slightly more specialised nature of Lüderitz. The results are shown in the table below:

Table 4.9: Net value added for Lüderitz from tourism over 2000–2020 under different scenarios (N\$)

Level of economic development	Year			
	2000	2005	2010	2020
Year 2000	3,592,050			
None		4,394,066	4,394,066	4,394,066
Low		4,924,579	5,387,892	5,851,205
Medium		5,455,092	5,985,605	6,516,118
High		5,918,405	7,442,744	7,442,744

Source: Walmsley (2001a)

The first scenario (denoted as *None*) estimates what would happen in Lüderitz if there were no other new developments, mining or otherwise, in the Sperrgebiet. It serves as the baseline by reflecting the maturation of the tourism market in Lüderitz and the utilisation of slack capacity.

There is likely potential for up to five Sperrgebiet land tours and three Sperrgebiet boat tours operating from Lüderitz. Currently, the net value added for Lüderitz is approximately N\$3.6 million. The scenarios denoted as *Low*, *Medium* and *High* reflect values for Lüderitz resulting from differing rates of tourism development (including the taking up of slack capacity as well as development stimulated by new mining and other developments in the Sperrgebiet) over the next 20 years. The results indicate that net value added due to first round spending by tourists in Lüderitz could increase by up to 70% over a 20-year period, i.e. 2000 to 2020.

4.2.8.4 Aggregated Sperrgebiet values for tourism

Totals of the projections for each of the three development nodes are tabulated below. It is forecasted that the net value added for the Sperrgebiet could be increased by 24– 215% over the next 20 years, given the developments detailed previously.

Table 4.10: Net value added from tourism in the Sperrgebiet, 2000–2020, under different scenarios (N\$)

Level of economic development	Year			
	2000	2005	2010	2020
Year 2000	3,615,767			
None		4,577,561	4,577,561	4,577,561
Low		5,572,421	6,219,229	6,869,934
Medium		6,765,833	7,760,692	9,231,059
High		7,985,504	10,543,393	11,007,739

Source: Walmsley (2001a)

4.3 Review of the current legal tourism framework

Tourism was defined as one of the main threats on the coastal environments at the NACOMA consultative workshop held in Swakopmund from 12 to 13 October 2006. Namibia currently has no modern legislation on conservation/protected area management or environmental aspects of tourism. The State-protected areas which occupy much of the coast are still governed by the Nature Conservation Ordinance of 1975 (Ordinance 4 of 1975), as amended by the Nature Conservation Amendment Act, 1996 (No. 5 of 1996).

Draft legislation is in the process of being finalised. In addition, although Namibia has a range of sectoral policies and strategies which deal with natural resource management, biodiversity and other coast-related matters, the mainstreaming of cross-cutting issues such as biodiversity conservation into these sectoral policies, strategies and implementation activities at national, regional and local levels – as proposed and planned under the NBSAP and other strategies – is still a distant goal.

A long-awaited, major piece of legislation, namely the draft Environmental Management and Assessment Bill, would incorporate EIA procedures into Namibian law. However, it is not clear how far the Bill's provisions would apply to sectoral coastal projects that could threaten Namibia's coastal integrity, and there is no indication of whether the Bill will provide for an SEA of relevant policies and plans in line with international best practices.

Cullinan (2007:65) states that there is no body that has a legal mandate to prepare or develop management plans and to establish coastal management objectives, priorities and principles to guide all decision-makers who make decisions which affect the coastal environment.

The practical recommendations below are subject to the legal interpretation of the Accommodation Establishments and Tourism Ordinance 20 of 1973, which entered into force on 1 January 1974. It consolidates the laws relating to accommodation establishments and provides for the establishment of tourist recreation areas. The Ordinance was amended on numerous occasions, one of which amendments entailed the insertion of *tourist officer*, which is defined as “any person appointed as a tourist officer under section 55A”. Schedule 1 of the Ordinance excluded, among other properties, the Swakopmund and Walvis Bay municipal areas from the national tourist recreation area. Schedule 1 was repealed. The Ordinance

allows for the appointment of persons as may be necessary as tourist officers for the proper enforcement of the provisions of the Ordinance.

These officers are granted specific powers under the Ordinance, including the power at any time to conduct any investigation deemed necessary in order to determine whether the provisions of the Ordinance are being complied with. Any area may be declared a tourist recreation area for its orderly development, preservation of the environment, and in the interest and for the benefit of persons. The Executive Committee may lay out roads and other facilities for recreation, and may also carry out such work as it considers necessary for control, management, development or maintenance of tourist recreation areas. Furthermore, the Executive Committee may make regulations with regard to any matter which is required or permitted to be prescribed under the Ordinance, including fees for the admission of motor vehicles or other vehicles to a tourist recreation area, or for other purposes connected with the use and enjoyment of the tourist recreational area. Regulations may also be made for the protection and preservation of the tourist recreation area, traffic in such area, and in general for any matter deemed necessary to prescribe in order to ensure compliance with the Ordinance.

Consequently, there is no express provision that would allow for certain areas to be used as off-road tracks, for example. However, the provision of such track may be in line with the objects referred to in section 50, which requires any orderly development of such an area for the preservation of the environment and in the interest and for the benefit and enjoyment of inhabitants and visitors to the area.

Practically, protection of, for example, the dunes could be achieved by declaring the whole area of concern to be a tourist recreation area, and then by specifying, in accordance with section 51 (1), those areas that are permitted to be used for off-road vehicles and quad bikes, and those which are not. In order to comply with the requirements of natural justice, notice of the intention to make the declaration should be given to landowners in the area. The declaration would explain that such landowners had the right to state why the declaration should not be made (Cullinan 2007:61–62).

4.3.1 Kunene River Mouth

The main cause for threats to the Kunene Mouth is the lack of legal protection of this important wetland. Uncontrolled promotion of tourism in the area (already promoted in the market on the itineraries of inbound operators) is a threat and not sustainable, and will need special attention.

It is recommended that NACOMA –

- initiate and support the drafting and implementation of a management plan for this area
- support the current legal progress for the protection of this wetland from the perspective of the forthcoming Wetlands Policy and the NBSAP's Action Plan for Wetland Management, and
- ensure and positively influence the incorporation of coastal biodiversity-related aspects into planning and investments of the tourism industry compared to the baseline, and to monitor and evaluate the progress during the lifetime of the project.

4.3.2 Skeleton Coast Park and adjacent conservancies

The Skeleton Coast Park and the conservancies on communal land to the east are largely governed under the Nature Conservation Ordinance of 1975, as amended in 1996, to allow rural communities to develop community-based natural resource management (CBNRM) conservancies. Although management plans have been informally developed in the past, there is no enduring plan and this has become pivotal.

It is recommended that NACOMA –

- contribute to the development of a comprehensive management plan for the park, building in not only an integrated coastal zoning plan, but also ensuring that links are built between the Skeleton Coast Park and the adjacent conservancies
- ensure and positively influence the incorporation of coastal biodiversity-related aspects into planning and investments of the tourism industry, and
- by targeted investments, support the development of pro-poor tourism opportunities for the adjacent conservancies and other communities living in or adjacent to the area, thereby reinforcing that tourism is complementary rather than competitive in the spectrum of land-use options.

4.3.3 West Coast Recreation Area and the Swakopmund–Walvis Bay area

The important Swakopmund–Walvis Bay area is treated here with the West Coast Recreation Area since the former area’s original exclusion in Schedule 1 of the Accommodation Establishments and Tourism Ordinance of 1973 has since been repealed.

From the perspective of the above interpretation of the Ordinance by Cullinan (2007), we recommend that NACOMA –

- support and drive the participatory process to prepare the necessary policy documents and ensure that enforceable management plans are in place to divide the **National West Coast Park Area** into different recreation opportunity classes (zones), where different resource, social, or managerial conditions will be maintained in consideration of the biophysical as well as a range of human occupation and use features
- support and drive the participatory process (especially with the Walvis Bay Municipality) to prepare the necessary policy documents to declare part of the **Swakopmund–Walvis Bay dune area** a tourist recreation area, and
- drive and support the process of drafting and implementing an enforceable management plan, and apply the same basic specifications as in the first bullet point in this list, to subdivide the area into different recreation opportunity classes. It is of paramount importance to have consistency between the social, managerial and environmental conditions. For example, high levels of visitation would correspond to a highly visible management presence and to a more developed recreation site. Managers would seek not only to describe the conditions within each class, but also to distribute these recreation opportunity classes across the recreational area.

The above recommendations would require that:

- ideally, new coast-specific legislation be enacted to streamline the granting of authorisations for coastal activities that contribute to sustainable coastal development
- enforceable management plans are in place, and

- NACOMA's assistance in the procurement of a proper tourism planning system such as the Tourism Optimisation Management Model (TOMM), a derivative of limits of acceptable change (LAC), which entails a more holistic approach in identifying the community values as well as the policy and planning directives of the various stakeholders. The planning system will require training of key people such as on-site managers.

Once the TOMM is in place, informed decisions could be taken regarding the following key issues:

- Access control for some zones/subdivisions of the Swakopmund–Walvis Bay dune belt area
- Capturing of resource rent (entrance fees), and
- Potential resource rent from the Swakopmund–Walvis Bay dune belt.

This area is a very popular recreation area and will always be a major tourism attraction. It already features on the itineraries of *all* inbound tour operators and frequent individual travellers. Given that tourism infrastructure, appropriate zoning and access control are in place, the same pricing structure as for the Cape Seal Reserve could be applied. The total number of beds sold for 2006 by all NTB tourism establishments in the towns of Swakopmund, Walvis Bay and Henties Bay amounted to 306,833 (1 visitor = 1bed sold). Based on this figure and an extrapolation at a growth rate of 8.6%, for 2008 this will amount to 361,877 visitors. We claim that at least 50% of these visitors to the coast will visit the dune recreational area. Barnes et al. (1999) estimated that 48% of tourists were from southern Africa, 22% from overseas, and 30% were domestic. Based on the fee structure of N\$60 for overseas, N\$30 for regional and N\$10 for domestic visitors, a potential revenue of N\$5.5 million p.a. was estimated, based on the assumption of a 50% visitation rate.

4.3.4 Walvis Bay Wetlands

The coastal wetland of Walvis Bay, which has been declared a Ramsar Site, currently has no legal protection. The MET drafted Namibia's Wetlands Policy in 2004 in line with the NBSAP's Action Plan for Sustainable Wetland Management. If well managed, this area represents a sustainable use of the wetland and a source of employment for the local community. However, finding the right balance between conservation and utilisation is never an easy task; promulgation of the Walvis Bay Wetlands as a protected area would be a good next step, and is long overdue.

The Walvis Bay Lagoon falls within the jurisdiction of the Walvis Bay Municipality, the Namibian Ports Authority (Namport) and the Ministry of Lands and Resettlement, causing cross-sectoral confusion. Outputs from the Local Agenda 21 Project (funded by the Danish Agency for Cooperation and Development (DANCED) and the Parks and Wildlife Bill formed the basis for a renewed effort to investigate the possibility of proclaiming the Walvis Bay Nature Reserve in 2004. A decision was taken in principle by Cabinet in 1998 to proclaim it a nature reserve. It seems to be a never-ending story!

Tourism activities such as off-road driving of motorised and non-motorised vessels and low flying are only some of the threats to the biodiversity of this important Ramsar Site. These activities need to be monitored and controlled to ensure sustainable and responsible tourism development.

In the absence of sufficient legal protection, it is recommended that NACOMA –

- provide and maintain a database of all existing draft policies and management plans pertaining to the proclamation of the nature reserve for easy access and revision by all stakeholders, including the public, and
- provide funds for the investigation of pro-poor tourism opportunities for the Topnaar and other communities living in or adjacent to the area, reinforcing that tourism is complementary rather than competitive in the spectrum of land-use options.

There is potential for resource rent to be captured from the Walvis Bay Nature Reserve, since it will be a major tourism attraction and will no doubt feature on the itineraries of all inbound tour operators and frequent individual travellers. Given that adequate tourism infrastructure is in place, the reserve could be classified as being of an *exceptionally fragile nature and biodiversity*. Therefore, a differential pricing structure in line with a developed park such as the Sossusvlei/Sesriem Desert Park could be applied.

The total number of beds sold for 2006 by all NTB tourism establishments in the towns of Swakopmund, Walvis Bay and Henties Bay amounted to 306,833 (1 visitor = 1bed sold). Based on this figure, and an extrapolation at a growth rate of 8.6%, for 2008, this will amount to 361,877 visitors. We also make the claim here that at least 50% would visit the Walvis Bay Nature Reserve. Barnes et al. (1999) estimated that 48% of tourists were from southern Africa, 22% from overseas, and 30% were domestic. Based on the fee structure of the Sossusvlei/Sesriem Desert Park (N\$80 for overseas, N\$60 for regional and N\$30 for domestic visitors), we estimated a potential revenue of N\$10 million. Once again, it needs to be borne in mind that this is a modest assumption, and that a vehicle fee was taken into consideration as well.

4.3.5 Sandwich Harbour

There is an increasing impact from tourism at Sandwich. Currently, there is no specific legal protection for this area.

It is recommended that NACOMA –

- source data from the BCLME scientific team on the sensitivity of this area to human impact to seek support for the prevention of further tourism activities or other commercial exploitation in the area
- consider funding the economic valuation of its ecosystem (indirect use value), and
- consider ensuring that the enforceable management plan incorporates a division into opportunity classes (zones), and that only a limited number of people p.a. be considered in conjunction with the spacing of tourists visits (i.e. only in certain months of the year).

4.3.6 Namib–Naukluft Park

There is currently no coherent link between the Hardap local authorities (inland) and the coastal area of the Namib–Naukluft Park. There is also a lack of budget and an environmental department that can incorporate coastal biodiversity aspects into planning, policy institutions and investments at local authority level. Most of the environmental management and related biodiversity activities in the Hardap Region are provided by the MET. However, a management plan has been developed for this park.

It is recommended that NACOMA –

- assist the Hardap Region coastal tourism industry to, amongst other things, integrate biodiversity-related aspects in their planning and investments compared to the baseline, and monitor and evaluate the progress during the lifetime of the project
- incorporate the Namib–Naukluft Park Plan and the Meob-Conception Area land-use plan in zoning plans for the coastal zone, and
- intervene in addressing off-road driving and excessive pedestrian pressure currently caused by tourism in the park, since they are not sustainable.

4.3.7 The Islands

The islands are not protected under the current law. It is strongly recommended that NACOMA support the process of proclamation of the islands as Marine Protected Areas, and steer cross-sectoral cooperation between the MET and the MFMR. The islands are extremely important for conservation and uncontrolled tourism development is not recommended.

4.3.8 Lüderitz

The Lüderitz Lagoon is not protected under the law. It is specifically threatened by the mariculture industry, not by the lesser developed tourism industry. The lack of environmental legal instruments obstructs the use of SEA and EIA, and needs to be addressed.

It is strongly recommended that NACOMA –

- ensure and positively influence the incorporation of coastal biodiversity-related aspects into planning and investments of the tourism industry compared to the baseline, and monitor and evaluate the progress during the lifetime of the project, and
- support the Lüderitz Municipality with the drafting and implementation of an environmental management plan.

4.3.9 Sperrgebiet

The proclamation of the Sperrgebiet Protected Area is being finalised, and a land-use plan has been developed for the area.

It is strongly recommended that NACOMA –

- ensure that the Sperrgebiet Management Plan is integrated with the regional development planning process
- support efforts to establish a link between the wider population and the Sperrgebiet
- ensure that adequate tourism policies are in place to integrate future tourism development into biodiversity conservation, and

- support the consolidation of the Greater !Gariiep transfrontier conservation area, in which the importance of the Sperrgebiet Park in the tri-frontier conservation area cannot be overemphasised.

4.3.10 Orange River Mouth

The main cause for the threats to the Orange River Mouth is the lack of specific legal protection of this important Ramsar Site.

It is recommended that NACOMA –

- support the drafting and implementation of an enforceable management plan, and
- support the current legal process towards protecting this wetland from the perspective of the forthcoming Wetlands Policy and the NBSAP's Action Plan for Wetland Management.

4.4 Recommendations for tourism sustainability

1. Use of land and resources for tourism should be integrated with the SEA findings to develop a zoning plan which is environmentally and economically sound. It is recommended that tourism in the *Swakopmund–Walvis Bay dune belt area* be monitored and managed with the LAC planning system or a good derivative thereof, such as the TOMM developed in Australia (Manidis Roberts Consultants 1997), together with the input of managerial, public and scientific expertise.
2. The conduct of an EIA in the *Swakopmund–Walvis Bay dune belt area* has become a necessity. Based on the results of the EIA, strategies should be developed for managing resource impacts. The issue of managing resource impacts is complex and beyond the scope of this study, but would entail strategies and tactics to –
 - reduce the use of the entire area
 - reduce use of problem areas
 - modify the location of use within problem areas
 - modify the timing of use
 - modify type of use and visitor behaviour
 - modify visitor expectations
 - increase the resistance of the resource, and
 - maintain or rehabilitate the resource.
3. The identification of opportunity classes for recreation and the selection of indicators of resource and social conditions are recommended. *Opportunity classes* describe the subdivisions or zones where different social, resource, or managerial conditions will be maintained. The indicators are an essential part of the LAC framework because their state is taken to reflect the overall condition found throughout an opportunity class area. A bundle of indicators can be used to monitor conditions and assess the effectiveness of various practices.
4. It is recommended that a visitor information centre be developed at the Cape Cross Seal Reserve. Considering the extent of pollution (mainly litter) at the

reserve, causing a threat to the seals, an information centre would serve the dual purpose of educating the visitors on the history of the location, the biological features and behaviour patterns of the seals on the one hand, while educating visitors on the dangers of visible pollution to the seals and the environment on the other. The centre could also incorporate a shop for the sale of sealskin merchandise and other seal-related souvenirs, books, etc.

5. A cost-benefit analysis of the proposed extension of walkways at the Cape Cross Seal Reserve is recommended. The current tourist use pattern indicates a minimum average stay of 30 minutes, which suffices for viewing the seals before proceeding to the next destination. The short stay is closely linked to the typical smell of the seals and lack of other attractions at the site. Since there are no bottlenecks to traffic as such, longer walkways to prevent congestion would not be required. An increase in beneficiaries' income is also unlikely to result from such investment. The focus should be on expansions that will increase visitor spending in line with the ecotourism approach, and not an increase in numbers as the traditional approach advocates. The clash of seal viewing time by tourists and seal harvesting also has a negative impact on tourists: when the tourists arrive at the location, the seals are no longer there because of the harvesting just hours before. It is proposed, therefore, that the reserve be closed for the harvesting period to prevent an escalation of the situation.
6. All tourism accommodation developments along the entire coastal zone of Namibia with more than 20 beds or an anticipation of more than 500 visitors a year should require an EIA and socio-economic impact assessment.
7. Guided fishing tours and excursions should be promoted and given priority within the recreational angling sector. (This is dealt with under natural resources in Part 2 of this report.) Within the framework of sustainable visitor management, the use of the coastal area for recreational fishing and the adjacent fragile park territories should be permitted only in a guided form along predetermined routes, comparative to hunting safaris. This would minimise damage to the fragile environment, ensure the demand for a pristine environment (a relative rarity worldwide) is met, and at the same time create job opportunities for *qualified* guides. The focus should be on positive planning and provision rather than negative restrictions and prohibition. The interaction between local and alien factors directed and governed by the planning process will then determine the impacts. This could apply to the coastal zones of all four Regions covered in this report.
8. The development of visitor education strategies and a code of ethics is recommended in order to alter the behaviour of visitors and drivers, and so reduce their impact on the environment. Traditionally, use-reduction strategies were favoured in the industry, but research demonstrates that indirect strategies such as influence – rather than regulation of visitor activity or behaviour through tactics such as facility design or management –, information dissemination and visitor education also minimise the costs of such impacts. Direct strategies and tactics that regulate and restrict, such as

rationing use, designating use areas, and limiting group sizes, may be appropriate and necessary if indirect actions prove ineffective.

9. Monitoring is recommended as essential to professional management. Management plans for terrestrial and marine protected areas would entail the periodic and systematic measurement of key indicators of biophysical and social conditions, and perform two major functions: they allow managers a formal record of resource and social conditions over time, and they help assess the effectiveness of management action. (It should be noted that there may be factors other than management actions that influence the changes in conditions identified through monitoring programmes.)

4.5 Strategic directions towards sustainability

4.5.1 Ecotourism certification scheme: Potential and challenges

New policy instruments to promote voluntary standards beyond legislation compliance have grown in popularity since the 1990s. Certification programmes are one such instrument: they assume market interest in the ethical forms of production and a desire for market transparency, and as such promote market-based approaches to sustainable production. Tourism, not unlike other sectors, is moving ahead in the process of understanding and seeking ways to implement sustainability.

The process of setting voluntary standards and ensuring these are met is known as *conformity assessment*. Such assessment provides the context within which to outline the development and use of sustainable tourism standards (Font 2002; Toth 2002). Furthermore, the identification of best practices has led to the compilation of lists of characteristics that such businesses share and that can be identified, with the managerial will to transfer best practices. The next logical step has been that of setting criteria to assess sustainability: in the case of tourism, either by non-governmental organisations (NGOs), the public sector, or a combination of both (WTO 2002).

4.5.1.1 The concept of certification and its effectiveness

Certification has been promoted as both improving the performance of tourism firms and promoting more sustainable consumption. More research is needed to explore the extent to which certified firms achieve the benefits promoted by certification programmes, and these programmes should be more accountable when they rely on Government and donor funds. There is also very little evidence that companies are leaving certification programmes because of a lack of benefits. On the contrary, Green Deal and SmartVoyager in Latin America, for instance, have had 100% reapplication every year (although this might relate to barriers to initial entry, as mentioned later herein). There is an increasing interest in measuring the benefits that certification can deliver, particularly the potential to provide a market-based mechanism for small firms in developing countries. The early assessments from the World Tourism Organisation (WTO 2002) in the context of the United Nations Commission on Sustainable Development (UN-CSD) in 1999 to evaluate the effectiveness of voluntary initiatives in the tourism sector showed certification as an upcoming and promising tool, while the limited tourism literature has showed similar optimism (Font & Buckley 2001; Honey 2002). However, later reports have questioned the ability to deliver the results

promised World Bank 2005b), suggesting it is timely to consider the ability of certification to deliver what it has promised.

4.5.1.2 Demand for certification

The demand for certification needs to be created. Market studies may say that the demand is not there, but it remains unclear whether certification schemes are known, understood, or wanted. Demand in tourism takes time, just as in other sectors. Because critical mass is required (World Bank 2005), it has become essential to initiate programmes targeting key vulnerable areas or the most vulnerable groups. It has become necessary to achieve pockets of critical mass and manage those pockets as learning networks, both for sustainability and quality.

4.5.1.3 Recommended best available technology interventions

Best available technology (BAT) interventions take several forms:

- General interventions: Environmental policy, guest notification, staff training, and sustainable purchasing policy
- Energy interventions: General and public areas, guestrooms and bathrooms, outdoors and laundry
- Water interventions: General and public areas, laundry, guestrooms and bathrooms, outdoors, and
- Waste interventions: General and public areas, kitchen, laundry, guestrooms and bathrooms, office.

It is recommended that a field survey be conducted to determine the current consumption levels and the current technologies in place in the hospitality sector. Based on the analysis and findings from collected data, a strategy for the implementation of interventions could be developed. The process would entail cooperation of all stakeholders, including the private sector.

4.5.1.4 Eco Award Namibia

The *Eco Award Namibia* certification scheme, with its desert flower emblem, was initiated and implemented in Namibia under the auspices of the Namibia Nature Foundation (NNF) with 100% donor funding from the European Union, the Swedish International Development Agency (Sida), the NNF, and Nedbank's Go Green Fund.

The programme is run by a broad-based Management Committee. It is currently limited to the hospitality sector, but the criteria are structured in such a way that they can be adapted in the future for all sectors of the tourism industry – including tour operators, safari operators and car rental companies.

The Eco Award Namibia programme supports a number of the objectives set out in Vision 2030. These are summarised in their *Good Practices* handbook and relate to the following:

- Scarring of landscapes and damage to wildlife habitats through off-road driving and careless behaviour
- The unsustainable use of scarce resources (e.g. water and wood)
- Pollutants from sewage, domestic waste, chemical detergents and litter
- Intrusion on local cultures and values, and

- Economic distortions.

These objectives demand understanding and commitment to best practice, both from Government and from the tourism industry itself. Eco Award Namibia is currently experiencing problems in securing long-term operational financing as donor funding is unlikely to continue (T Parkhouse, pers. comm. 2007).

4.5.1.5 Financing tourism certification schemes in Africa

A review of the financial structure of tourism certification systems in Africa was commissioned by the International Ecotourism Society and undertaken in December 2005. Completed questionnaires were obtained from five tourism certification schemes (the Ecotourism Society of Kenya EcoRating Scheme, Fair Trade in Tourism South Africa, the Heritage Environmental Rating Scheme, Eco Award Namibia, and Green Globe 21), a donor agency (GTZ Transform), and two NGOs – the World Conservation Union South Africa (IUCN-South Africa) and the ComMark Trust.

The study differentiated between start-up and operational funding, and found that most certification schemes obtained all of their initial costs from one source, whether that source was a development agency or a private foundation. The funds were provided through donations, grants or private funding.

Key constraints to obtaining start-up funding included –

- the lack of a track record
- a lack of market information and knowledge of demand, and
- lack of market acceptance for certification.

Constraints to achieving operational financial viability highlighted that –

- customers wanted viable returns on their certification investment, and
- a start-up phase of three to five years was required before achieving self-financing from the membership and accreditation process.

When interviewed by the above-mentioned researchers, GTZ Transform, IUCN-South Africa and ComMark indicated they had previously supported certification systems. ComMark expressed an interest in assisting schemes that addressed areas of market failure and promoted poverty alleviation. GTZ suggested that governments might provide useful support for certification, if their objectives for poverty alleviation and tourism marketing were complemented.

The literature review clearly indicated that the certification concept was focused on the *promotion of accredited enterprises because of compliance with the required criteria*, thus achieving a dual effect: promotion, and sustainable environmental management. At first glance it seems to be the ideal approach, but in practice, the lack of market acceptance for certification seems to be prevalent.

4.5.2 Cleaner production for the hospitality industry

A Guide for the Namibian Tourism and Hospitality Industry was produced as part of a series within the framework of the Cleaner Production Component housed within the MET's Directorate of Environmental Affairs.

It is important to emphasise that this Guide aims to highlight a range and variety of BAT interventions. However, not all recommendations are applicable to every hospitality establishment.

4.5.2.1 Drivers for policy and legal framework

Listed below are important pieces of legislation and Government strategies whose environmental components have significant reference to the tourism and hospitality industry. Of particular importance is that new and severe regulations are being developed to enforce the Water Resources Management Act, 2004 (No. 24 of 2004).

The following have significant reference to the tourism and hospitality industry:

- Constitution of the Republic of Namibia
- Second National Development Plan
- Environment Management and Assessment Bill
- Pollution Control and Waste Management Bill
- Labour Act, 1992
- Marine Resources Act, 2000
- Water Resources Management Act, 2004
- Vision 2030
- Namibia Tourism Board Act, 2000, and
- Government Notices 138 and 139 on the Declaration of Tourism-related Businesses and a range of Municipal Regulations.

4.5.3 The handicraft industry (specifically related to shell harvesting)

Handicrafts can be a significant – and sometimes the primary – source of ecotourism-related income for local communities. For example, Lindberg and Enriquez (2000) report that ecotourism-related handicraft sales in Maya Centre, Belize, generated an average of BZ\$2,336 (US\$1,168) per household for the year ending March 2003. This revenue is particularly impressive when one considers that Belize's gross domestic product (GDP) per capita was BZ\$3,124 at the time, and most of the materials used to construct the crafts were collected locally.

If the opportunities are not quite obvious, it would help to conduct various information-gathering techniques, such as visitor surveys at the coast, especially Swakopmund, and focus groups can be used to identify potential interest in new handicrafts (or local goods and services) and to obtain feedback on existing handicrafts. For example, finding out about tourist desires (“inexpensive but interesting gifts for people in the office back home”) is important. The wishes and perceptions of tourists could be used to design and develop products that are in demand rather than producing crafts that may or may not be of interest to tourists. The production, sales and communication (marketing) of the crafts that are streamlined to tourists' wishes and desires could become a continuous and successful source of income for local people.

Part 3

Sustainable natural resource use for the coastal zone

5. Sustainability of natural resource uses

5.1 Fisheries

Some of the most important natural resources in the coastal zone are those associated with the fisheries. The Benguela Current, which flows up the Namibian coast, is characterised by cold but nutrient-rich upwelling, giving rise to a system with relatively low fish species diversity, but high production. This forms the basis for the marine fishery which is important in the context of the broader Namibian economy, and forms the basis for the recreational fishing industry.

In the coastal zone, as defined, the fisheries embrace recreational shore and ski-boat fishing tourism, subsistence fishing, the commercial line fishery that targets inshore fish resources, and the crayfish industry on the southern coast. The bulk of Namibia's significant commercial marine fishery activities take place out at sea, away from the coastal zone, but these impact directly on the economy of the coastal zone through the processing activities which are carried out in the ports.

5.1.1 Recreational angling

5.1.1.1 Description

Tourism in the coastal zone contains the important element of recreational angling. This takes place mainly from the shore. Some angling takes place from ski-boats launched from the main towns in the central area. A limited amount of recreational crayfish harvesting takes place from the shore in the central area.

Most recreational angling is from the shore, from the beach and in the surf, using bait. Some shore angling takes place off rocks, and some angling is done from ski-boats offshore. Catches are made all year round but are higher in summer. The most frequently landed bonefish are kob (mostly silver kob, *Argyrosomus inodorus*, but also occasionally dusky kob, *A. coronus*), west coast steenbras (*Lithognathus aureti*), galjoen (*Dichistius capensis*) and blacktail (*Diplodus sargus*). To a much lesser extent, sharks, including the copper shark (*Carcharhinus brachyurus*), the spotted gully shark (*Triakis megalopterus*) and the smoothhound (*Mustelus mustelus*), are targeted.

Access to shore angling on the Namibian coast is restricted to about a quarter of Namibia's coastline, i.e. some 260 km, stretching from Sandwich Harbour south of Walvis Bay to the Ugab River in the north. Most of this area is made up of the West Coast Recreation Area, and more than 90% of angling takes place here. Additional smaller angling sites exist at isolated localities, at Torra Bay and at Terrace Bay in the Skeleton Coast Park, and around Lüderitz in the south.

The recreational line fishery has been studied and described by Kirchner (1998), Kirchner et al. (1999), Holtzhausen et al. (2001), and Steenkamp and Nashandi (2004). Various surveys, including a roving creel survey, showed that, between October 1996 and September 1997, some 8,800 anglers spent 173,000 days angling. A total of 93% of angling activity took place in the West Coast Recreation Area. The angling population is made up of three distinct segments: coastal Namibian residents (15%), inland Namibian residents (38%), and foreign –

nearly all South African – visitors (46%). Foreign visitors contributed 55% of the expenditures.

Nearly all recreational angling in Namibia is traditionally self-driven. Anglers transport themselves to the coast and commonly camp in MET campsites. Very little is guided by tour operators, and most guided operations are focused on the relatively small but growing shark fishing component, and involve foreign tourists. Table 5.1 shows some characteristics of the angling population.

Table 5.1: General characteristics of the marine shore-angling population, 1997/8

Characteristics	Value
Total number of anglers per annum	8,271
Total number of angler days per annum	173,111
Percentage of foreigners	46%
Percentage of coastal Namibians	16%
Percentage of inland Namibians	38%
Mean age	45 years
Gender	94% male
Mean size of angling party	4.3 people
Mean duration of stay	10 days
Mean number of days spent angling	8.2 days
Mean number of fish caught per angler day	3.98
Mean weight of fish caught per day	6.06 kg
Rate the angling as good or excellent	66%
Membership of an angling club	12%
Mean number of years' angling experience	21 years
Mean number of days' fishing per annum	26 days
Mean angling expenditure per angler per annum (inflated to 2006 levels)	N\$7,040
Mean annual income (inflated to 2006 levels)	N\$239,460

Source: Barnes et al. (2002 b)

5.1.1.2 Economic values

Zeybrandt (1999), Kirchner et al. (1999), Zeybrandt and Barnes (2001), and Barnes et al. (2002b, 2004) undertook an economic valuation of the recreational line fishery. This work was summarised by van Zyl (2004). A roving creel survey, an expenditure survey and a contingent valuation survey were carried out between 1996 and 1998. Table 5.2 shows the aggregate values in terms of angler expenditures, consumer surplus (the difference between what anglers were willing to pay for their trips and their actual expenditure), and the contribution of angling activities to national income. The national income values include the direct contributions to gross and net national income as well as the total impact (direct and indirect, via the income multiplier) on the national income. Direct value added to GNI within the rock-and-surf fishery in 2006 prices was N\$24 million on average, and this constituted 3.6% of the value of the whole fisheries sector. Through the multiplier, the expenditures ultimately resulted in an estimated N\$6,780 per angler to GNI, or roughly N\$56 million in aggregate.

Table 5.2: Aggregate economic values for the recreational shore fishery, as determined using the travel cost and contingent valuation methods (N\$'000, 1997/8, inflated to 2006)

Value	Expenditure survey	Travel cost method	Contingent valuation
Aggregated expenditure	61,479	47,564	64,797
Aggregated consumer surplus	-	55,677	48,875
Consumer surplus accruing to Namibians	-	31,365	34,919
Direct economic use value ¹	-	103,241	113,672
Gross direct economic use value attributable to Namibia ²	-	78,929	99,716
Direct contribution to GNI	29,510	22,830	31,103
Direct contribution to net national income ⁴	25,206	19,501	26,567
Total impact on GNI	56,069	-	-

¹ Expenditure + consumer surplus for all segments

² Expenditure + Namibian consumer surplus only

³ Direct gross value added = Expenditure x 48%

⁴ Direct net value added = Expenditure x 41%

⁵ Total direct plus indirect gross value added = Direct x 0.9 (crude national income multiplier)

Source: Barnes et al. (2002 b)

Steenkamp and Nashandi (2004) used a different approach to measure the value added in the recreational angling sector. They estimated this at N\$183 million in 2003, based on the number of angling licences sold that year (50,556) and the N\$12,597 expenditure per foreign angler (Van Zyl 2004). Both of these are likely to be overestimated, as not all licences sold translate into angling trips. The roving creel survey by Kirchner et al. (1999) is far more likely to reflect real numbers, and the trip expenditure used for foreign anglers is much higher

than that measured in the surveys of Zeybrandt (1999) and Kirchner et al. (1999). This finding on expenditure is also corroborated independently through the visitor exit survey by SIAPAC (2003).

The figures in Table 5.2 make it possible to roughly estimate the number of employment opportunities generated by the recreational angling sector. The analysis by Turpie et al. (2005) for the parks tourism sector, based on the SAM, suggest that some 16% and 13% of the income generated accrues to unskilled low-income employees, and skilled high-income employees, respectively. Furthermore, based on the enterprise models used in the tourism sector analysis above, it is possible to estimate the number of jobs involved. Thus, in the recreational angling sector, it can be estimated that some 16% of N\$24 million, i.e. N\$3.8 million, would accrue to some 190 low-income employees; and some 13% of N\$24 million, i.e. N\$3.1 million, would accrue to some 80 skilled employees. If the total impact of recreational angling is considered, some N\$7.2 million would accrue to around 350 unskilled employees, and N\$5.9 million would accrue to around 150 skilled employees.

Table 5.3 from Barnes et al. (2002b, 2004), shows evidence that the demand for angling trips is price-inelastic. This along with the fact that positive consumer surpluses were measured suggests that the introduction of licences or fees would not reduce angler numbers. Indeed, an angling licence has been introduced since these findings were made (see below).

Table 5.3: Estimates of price elasticity of demand for angling trips among recreational shore-anglers, 1997/8

Nature of model used	R ²	Point elasticity	
		At mean price	At median price
Travel cost models, Second-stage demand function			
- Lin-log model ¹	1.00	-0.16	-0.15
Contingent valuation models, Derived demand function			
- Linear model ²	0.73	-0.32	-0.21
- Lin-log model ²	0.93	-0.71	-0.58
- Reciprocal model ²	0.84	-1.03	-1.02

¹ Multiple regression

² Simple regression

Source: Barnes et al. (2002b)

5.1.1.3 Sustainability and expansion potential

Kirchner (1998), Kirchner and Beyer (1999), Holtzhausen and Kirchner (2001) and Holtzhausen et al. (2001) have studied the populations of the two main species involved in

recreational line fishery, namely the silver kob, *Argyrosomus inodorus* and the west coast steenbras (*Lithognathus aureti*). Recent indications are that both populations have been overfished.

In 2001, the bag limit for recreational shore anglers was reduced to 10 fish per day and a fishing licence fee of N\$14 per month was introduced. However, these restrictions and fees are not believed to be enough to halt the decline of the stocks. Most shore anglers catch far less than the total catch limit in any case, and experiences from South Africa (Attwood & Bennett 1995) suggest that restricting total catches, rather than the catches of individual species, can be an ineffective method of protection. The new Namibian regulations, therefore, also include size limits on kob catches: shore anglers are obliged by law to release any kob smaller than 40 cm and are only permitted to catch two large kob (defined as larger than 70 cm) per shore-angling day. The rationale for limiting catches of large kob is that these are important for spawning and, thus, for the regeneration of the stock.

The recreational line-fish resource is shared with a commercial line fishery, which operates up and down the coast, from Walvis Bay. Commercial line fishing is carried out by ski-boats and larger vessels. These boats target kob and, to a lesser extent around this number (R Mukumangeni, 2007, pers. comm.). There is no restriction on where commercial fishing takes place, and the whole northern half of the Namibian coastline is potentially utilised.

In the coastal areas open to shore anglers, the very young (less than four years) and very old kob (more than ten years) dominate. These age classes are predominant in shore anglers' catches, therefore, while commercial fisheries also catch kob from the intermediate age classes in large numbers. Shore anglers and commercial line fishers catch roughly equal numbers of kob (Kirchner & Beyer 1999), but since the kob caught by shore anglers are, on average, younger and smaller than those caught by the commercial line fisheries, the total mass in kilograms of kob caught by shore anglers is substantially less than that caught by commercial line fishers (Kirchner & Stage 2005).

Given that the resource is perceived to be under pressure and possibly declining, it became necessary to analyse the two components of the line fishery to see how it can be made sustainable through sound policy development, planning and management, while ensuring that any losses to the economy are minimised. Kirchner and Stage (2005) undertook such an analysis. They carried out a specific survey of the commercial line-fishing industry, and used the data from the recreational fishery described above. They looked at the total impact that each had on the economy, using the SAM model of the Namibian economy developed by Lange et al. (2004). Then they developed supply equations for both industries to compare the effects that reductions in catch would have on each.

As stated by Kirchner and Stage (2005), commercial line fishing and recreational shore angling both have economic impacts on the coastal economy that go beyond the direct incomes generated. Commercial line fishing generates profits for boat-owners, income for their employees, and revenue for other firms that sell inputs to the commercial line-fishing firms. Income is spent on goods and services, generating income and employment for others. Similarly, shore anglers spend money on a number of goods and services connected to their shore angling, generating revenue for the firms and employment for the people involved in selling such items to them.

Furthermore, according to the findings of Kirchner and Stage (2005), the decline in fish stocks and the large number of new entrants to the commercial line-fishing industry has led to lower profitability. Apart from the new regulations on recreational shore angling, therefore, regulation of the commercial line-fishing sector has also been discussed. Regulations could entail reducing the number of permit holders or introducing size limits, total allowable catches, and/or closed seasons (Holtzhausen et al. 2001; Kirchner 2001). So far, however, commercial line fishing is not subject to any restrictions other than the permit requirement. The total multiplier effects on the economy were calculated for the commercial line-fishing sector in 2001. The estimates are given in Table 5.4 below.

The total economic impact of the commercial line fishery was to increase national income by approximately N\$21 million in 2001 at 2006 prices. The ski-boat sector accounted for about N\$1.8 million, with the larger vessels accounting for the rest.

Table 5.4: Direct and indirect economic impacts of the commercial line-fishing sector (N\$ million, 2001, inflated to 2006)

Economic impact	Larger vessels	Ski boats	Total
Direct contribution to GNI	10.0	0.6	10.6
Total contribution to GNI ¹	19.3	1.8	21.1

¹ Total direct plus indirect gross value added = direct x SAM national income multiplier
 Source: Kirchner & Stage (2005)

Using the supply equation developed for commercial line fishing, Kirchner and Stage (2005) measured the effect of different policy options on the total economic contribution of the sector. Table 5.5 shows this.

Table 5.5: Estimated economic impacts of potential management options for the commercial line-fishing industry (2001 prices, inflated to 2006)

Potential management options	Larger commercial vessels		Ski boats	
	(N\$ million)	%	(N\$ million)	%
Direct GNP generation	10.0	100	0.6	100
Effect on direct gross national product (GNP) of –				
Minimum size limits	-1.7	-17	-0.3	-41
Reducing fishing pressure by 25% across the board	-4.4	-43	-0.3	-43
Reducing fishing pressure by 25% by reducing the number of permits issued	-1.5	-25	-0.2	-25
Minimum size limits and reducing fishing pressure by 25% across the board	-8.5	-53	-0.5	-72
Minimum size limits and reducing fishing pressure by 25% by reducing the number of permits issued	-3.8	-37	-0.3	-56
Total GNP generation	19.3	100	1.8	100
Effect on total GNP of –				
Minimum size limits	-2.4	-13	-1.5	-17
Reducing fishing pressure by 25% across the board	-6.3	-33	-0.3	-18
Reducing fishing pressure by 25% by reducing the number of permits issued	-4.8	-25	-0.5	-25
Minimum size limits and reducing fishing pressure by 25% across the board	-7.9	-41	-0.6	-31
Minimum size limits and reducing fishing pressure by 25% by reducing the number of permits issued	-6.6	-34	-0.8	-38

Source: Kirchner & Stage (2005)

A combination of size limits and decreased fishing pressure for those fish large enough to still be caught would further reduce the economic gains from the commercial line-fishing sector. With multiplier effects included, the total economic impacts of the various proposed catch restrictions would be to decrease the overall contribution to national income by N\$2–N\$6 million, depending on the restrictions chosen and on how they are implemented.

For the recreational fishery, Kirchner and Stage (2005) used the SAM to estimate the total economic impact of the fishery. They employed more conservative assumptions than those used by Barnes et al. (2002b), in that they assumed that Namibian anglers would spend their money on something else if angling were not available. Thus, they measured impacts for only the foreign segment. They used the travel cost demand model developed by Zeybrandt and Barnes (2001) to estimate the effect that a 25% reduction in angling pressure would have on this impact. These results are shown in Table 5.6.

Table 5.6: Estimated economic impacts of reducing the fishing pressure from shore anglers in the National West Coast Recreation Area by 25% through increased licence fees (2001 prices, inflated to 2006)

Shore-angler group	Impact on GNP generation (N\$ million)	Impact on consumer surplus (N\$ million)	Impact on total value for Namibia (N\$ million)
Coastal Namibians	0.2	-3.5	-3.3
Inland Namibians	0.3	-2.7	-2.4
Foreigners	-4.8	0.0	-4.8
Total	-4.4	-6.2	-10.6

Source: Kirchner & Stage (2005)

A 25% reduction in shore-angling pressure, along the lines of the similar reduction studied for the commercial sector, could be effected by raising licence fees drastically so that the number of shore anglers can be reduced (in which case the economic losses from reduced shore angling would be partly offset by increased Government revenues from licence fees), or simply by introducing a limit on the number of shore-angling days permitted per fishing season (in which case there would be no offsetting gains).

Reducing shore-angling pressure by 25% through higher licence fees would lead to overall losses for the Namibian economy of approximately N\$10.7 million. The gains in Government revenue would be small compared with the lost multiplier effects and the lost consumer surpluses. The size of these economic losses may be compared with the effect of reducing commercial fishing pressure by the same proportion, which (as shown earlier in Table 4) would have an overall impact of between N\$5.3 and N\$6.6 million, depending on how the reduction were carried out. Since the two fisheries catch roughly equal numbers of fish, reducing fishing pressure by 25% would reduce the number of fish caught by roughly equal numbers – regardless of the sector. The overall costs to the economy would, however, be substantially lower if the reduction were carried out in the commercial line-fishing sector. The Kirchner and Stage (2005) findings suggest that, to the extent that line fishing off-takes need to be reduced, the harm to the Namibian economy would be less if the cuts were made within the commercial line-fishing sector. However, two considerations are important. First, the results are applicable to the current conditions and can be expected to change, if for example, the profitability of commercial fishing increases. Second, cutting catches in the commercial sector should be done in a way that does not cause losses in sunk capital.

Barnes and Novelli (2006) made a comparison of the marine recreational angling sector and the recreational hunting tourism industry in Namibia. The hunting tourism industry involves guided visits for tourists who hunt trophy-quality game animals and retain the trophies. Trophy-hunting clients are upper-income recreational hunters, mostly from Germany, but also from Austria, Belgium, Denmark, France, Italy, Spain, Switzerland, the USA, and some 25 other countries. Most trophy hunting is on private land, where hunting bags comprise mainly plains game species. Smaller quotas, mostly involving high-value species, are offered on communal land.

Namibian landowners with investments in wildlife stocks can register with the Government as hunting farms and then offer hunts. Similarly, on communal land, either the State or community conservancies can offer hunts. Trophy hunting is only permitted in the company of a registered hunting guide. In 2000, 458 hunting guides, belonging to three categories, were registered.

Table 5.7 shows comparative data on the trophy-hunting and coastal recreational angling sectors. The data for hunters are derived from analyses of hunting licence and trophy export permit records as well as of results from a postal survey of hunters by Humavindu and Barnes (2003), Samuelsson and Stage (2007), and Stage (2006). The data for anglers are based on the various studies described above.

Table 5.7: Comparative average characteristics for the trophy-hunting and coastal angling sectors in Namibia, 2005

Measure	Units	Trophy hunting	Coastal angling
Number of hunters/anglers	No./annum	3,640	8,270
- Foreign from overseas	%	75%	<3%?
- Foreign from Africa	%	22%	43%
- Domestic from Namibia	%	<3%?	54%
Number of hunting/fishing days	No./annum	51,000	173,000
Average length of trip	No. of days	14	21
Total number of trophy animals/fish taken	No./annum	13,300	464,100
Number of trophy animals/fish taken per trip	No./trip	4	56
Price elasticity of demand for trip	-	Not known	Inelastic

Source: Barnes & Novelli (2006)

The number of anglers is more than twice the number of trophy hunters, and the number of angling days per annum is more than three times the number of trophy-hunting days. Coastal angling trips tend to be longer than hunting trips, and anglers take many more fish per trip than hunters take trophies. Coastal angling takes nearly 460,000 fish per annum while the annual harvest of game animals is some 13,000. Of interest is the composition of the hunting and angling populations. Trophy hunters are nearly all foreign, and three quarters are from overseas. On the other hand coastal anglers are nearly all from Africa, and more than half of them are domestic tourists resident in Namibia. Table 5.8 shows comparable data on the economic characteristics of the two sectors. Of particular interest are the direct and indirect contributions to national income for each sector, as measured by Kirchner and Stage (2005) and Samuelsson and Stage (2007), using the SAM model developed by Lange et al. (2004).

Table 5.8: Comparative financial and economic characteristics for the trophy-hunting and coastal angling sectors in Namibia, 2005

Measure	Units	Trophy hunting	Coastal angling
Hunter/angler expenditure per trip	N\$/trip	54,120	6,270
Aggregate hunting/angling expenditure	N\$/annum	202,349,200	51,648,300
Aggregate direct contribution to national income	N\$/annum	95,104,100	7,833,900
- As % of wildlife-based tourism income	%	9%	0.7%
- As % of total tourism sector income	%	6%	0.5%
Aggregate indirect contribution to national income	N\$/annum	86,179,900	7,050,500
- Income to communal land communities	%	14%	None
- Income to low-income employees	%	26%	Not known
- Income to high-income employees	%	5%	Not known
- Income to commercial agriculture	%	5%	None
- Income to other sectors	%	29%	Not known
- Income to Government	%	21%	Not known
Total contribution to national income	N\$/annum	181,284,000	14,884,400
Aggregate Namibian consumer surplus	N\$/annum	Negligible	29,539,400
Total economic value of hunting/angling	N\$/annum	181,284,000	44,423,700
Economic value per hunter/angler	N\$	49,750	4,240

Source: Barnes & Novelli (2006)

Table 5.8 shows some interesting differences in the financial and economic characteristics of trophy hunting and coastal angling. Hunters pay nearly nine times more for a trip than anglers do. The aggregate expenditure (gross output) for the trophy-hunting sector is some four times larger than that for the coastal angling sector. But in terms of contribution to the GNI, trophy hunting adds some 12 times more than coastal angling. This is in terms of the direct contribution (that of the sector alone) as well as the indirect contribution (when the effect of the income multiplier in the broader economy is taken into account). Thus, for hunting, each dollar of expenditure generates some \$0.47 in direct GNI, and a further \$0.43 in indirect GNI via the income multiplier. For angling, each dollar of expenditure generates only \$0.15 in direct GNI, and a further \$0.14 indirectly via the multiplier.

Both hunters and anglers enjoy a consumer surplus. This means that they actually pay less than they would be willing to pay for their experience. The consumer surplus of foreign hunters and anglers does not benefit Namibia, while that enjoyed by Namibian residents does. In Table 5.8, consumer surpluses enjoyed by Namibians are added to the total national

income values to get the total economic values for hunting and angling. The estimated consumer surplus for Namibian anglers was some N\$29.5 million in 2005 prices.

Thus, the total economic value (GNP contributions plus any Namibian consumer surpluses) for trophy hunting is some four times more than that for coastal angling. Because the number of anglers per annum is more than twice that of hunters, the economic value generated per hunter is some nine times higher than that generated per angler.

Based on the SAM, Samuelsson and Stage (2007) calculated that some 21% of trophy-hunting income is captured by Government, and some 40% accrues to low-income earners and communal land communities. No such data exist for coastal angling, but since communal land is not involved here, it might be surmised that the impact of coastal angling on poverty alleviation is less. Much of the economic value of coastal angling in Namibia takes the form of consumer surplus, enjoyed by middle-class anglers.

The trophy-hunting industry is run through the private sector on private and communally controlled land. The landholders involved also benefit from the activities, and tend also to invest in the wildlife resources on their land. Resource production and use are thus linked in a mutually reinforcing way. With coastal angling, the State facilitates a de facto open-access fishery and the resource is not actively managed or owned. Trophy-hunting off-takes are markedly selective and small, while angling catches (despite some catch restrictions) tend to be non-selective and larger, and the practice of catch-and-release is not prevalent. The number of trophy hunters is partially restricted through quota and licensing mechanisms, while the number of anglers is not. Generally, trophy hunting is recognised as having had a positive conservation effect (Novelli et al. 2006). In contrast, as noted above, the line-fish resources which support angling have tended to be overutilised. Furthermore, the open-access and unguided nature of coastal angling has tended to result in environmental problems due to littering and destructive off-road driving.

The comparison in Table 5.8 shows that, in Namibia, trophy hunting is more economically efficient, more environmentally sustainable, and more socially acceptable than angling. The reasons for these differences are partly situational, but primarily related to property rights and institutional factors. Coastal angling makes use of a more or less openly accessible public resource, while hunting makes use of an at least partially owned resource.

The sustainability of recreational angling tourism in the coastal zone would seem to depend on a reduction of off-takes in the line-fishing sector. The discussion above suggests that the most economically efficient way to do this is to restrict the commercial line fishery. The potential for expansion in recreational angling tourism would seem to lie not in increased catches, but rather in expanding the economic contribution made by anglers. *Policy recommendations are provided in section 6 below.*

5.1.2 Artisanal fishery

5.1.2.1 Description

Fielding et al. (2006) provide a description of the subsistence artisanal fishery. This takes place around Swakopmund, Henties Bay, and Terrace Bay, where angling tackle is used by low-income residents to informally harvest fish from the shore, mostly for home consumption, but also for sale. Most sales are local and of fresh fish. A very small proportion

is dried or smoked by both fishers and buyers. Since bait tends to be collected on site, galjoen are commonly caught in the Swakopmund area. In all less than 150 individuals are involved.

In Henties Bay, kob, steenbras, galjoen and other species are caught by members of a fishers' association or interest group which is commercially licensed and has been formed among some 31 to 40 fishers, 22 of whom fish full-time. There are no specific legislative provisions for artisanal fishing. The same restrictions applicable to recreational anglers apply to this sector, except that licensed fishers may sell their catch.

In Walvis Bay and Lüderitz, artisanal beach seine fisheries for mullet (*Mugilidae*) operate under commercial fishing permits. Some 30 fishers are involved in Walvis Bay, operating mainly from some five commercially licensed boats. In Lüderitz, eight licensed artisanal operators are involved although not all are active.

5.1.2.2 Economic value

Fielding et al. (2006) found that subsistence line fishers are able to make more money than the minimum wage, but the effort is significant. No data are available on the output and economic contributions of this sector, however. It can be roughly estimated that the sector provides full-time jobs for about 70 fishers, and part-time jobs for the same number.

5.1.2.3 Sustainability and expansion potential

The artisanal fishery makes use of the same resource as the angling sector and, relative to the latter, is extremely small. With time, it is likely to expand in and around the localities where poor populations reside. While there is probably scope for significant expansion, the possibility of localised overexploitation exists. *Policy recommendations are provided in section 6 below.*

5.1.3 Commercial fishery

5.1.3.1 Description

Largely as a result of upwelling in the Benguela Current, Namibia's marine environment is highly productive. This has given rise to marine fisheries which, with processing, form one of the biggest industries in the economy. This study is concerned with the coastal zone, as defined above, and much of the fisheries sector activities take place out to sea and outside this zone. However, fisheries impact on the coastal zone in that most of those employed are based there, and also because a proportion of the processing of the catch takes place there. Thus, the success of the offshore fisheries is crucial for some of the natural resource use activities within the zone. Land-based processing makes use of natural resources (fish and water, for example); thus, onshore processing is treated as a natural resource use in this study.

Most fisheries are offshore and have been dominated by three fisheries: those of the demersal hake (*Merluccius capensis* and *Merluccius paradoxus*), the pelagic horse mackerel (*Trachurus capensis*) and the epipelagic sardine (*Sardinops ocellatus*). Prior to Independence in 1990, Namibia was ruled by South Africa and South Africa's jurisdiction over Namibia's 200-mile Exclusive Economic Zone (EEZ) was not recognised. As a result, there was little control over the lucrative offshore fisheries. In effect, most of Namibia's fisheries operated as an open-access resource: the offshore fisheries were dominated by foreign fleets, mainly

those of Spain, South Africa, and the former USSR, and, consequently, fish stocks were severely depleted. With no recognized EEZ, relatively little economic benefit accrued to Namibia.

After Independence, Namibian control over the EEZ was secured, and Namibia implemented a highly effective system of monitoring control and surveillance. The stocks of hake, in particular, have undergone a recovery, the fisheries have progressively come under the control of Namibians, and a policy of encouraging onshore as opposed to factory-ship processing has been implemented. While stocks have been slow to recover, possibly largely due to environmental factors, and the sardine stock has not recovered at all, Namibia's record in managing its fisheries has generally been good by international standards.

Hake are mostly taken by bottom trawling, but some 10% are taken with longlines. Encouragement of longline fishing is considered by some to have merit in that, if practised to avoid impacting seabirds, it is less environmentally damaging (J Holtzhausen, pers. comm. 2006). Valuable components of the hake by-catch include the kingklip (*Genypterus capensis*) and the west coast sole (*Austroglossus mirolepus*). The valuable monkfish (*Lophius vomerinus* and *L. vaillanti*) has been taken as an important part of the hake by-catch, and it is also now specifically targeted.

The horse-mackerel fishery involves mid-water trawling (adults) and purse seine (juveniles), and is on average the largest fishery by volume, but its value is less than that of the hake fishery. Purse-seine fishing for the epipelagic sardine produced vast yields in the 1960s and 1970s, but this important fishery effectively collapsed – due mainly to overfishing, but also to the adverse effects of several Benguela El Niño events. Anchovy (*Engraulis capensis*) and juvenile horse mackerel provided some stability to the purse-seine fishery, but the anchovy stock appears to have collapsed as well (Bianchi et al. 1999).

The offshore fishery also includes some pole and longline fishing for tuna, swordfish and large pelagic sharks. The most important of the large pelagic fish taken is the southern longfin tuna or albacore (*Thunnus alalunga*). Off the coastal shelf, a specific deep-water trawl fishery has developed in recent years, primarily aimed at orange roughy (*Hoplostethus atlanticus*) but including alfonsino (*Beryx splendens*). Initially high catch levels for this fishery have since declined. Other offshore fisheries include that for the deep-sea red crab (*Chaceon maritae*), which are caught using trap gear. Table 5.9 shows volumes involved in the offshore fishery.

Table 5.9: Total harvest of offshore fisheries, 1999–2003 (tonnes)

Species	1999	2000	2001	2002	2003
Hake	164,250	171,397	173,277	154,588	189,305
Horse mackerel	320,394	344,314	315,254	359,183	360,447
Sardine	44,653	25,388	10,763	4,160	22,255
Monk	14,802	14,358	12,390	15,174	13,135
Kingklip	3,706	3,922	6,607	7,210	6,603
Tuna	1,155	2,401	3,198	2,837	3,371

Species	1999	2000	2001	2002	2003
Other fish species	26,500	22,987	30,810	77,407	33,644
Crab	2,074	2,700	2,343	2,471	2,092
Total harvest	579,533	589,467	556,643	625,032	632,855

Source: Riveiro (2005)

Two elements of the commercial marine fishery actually take place *within* the coastal zone as defined here and as embraced by NACOMA. These are the inshore commercial line fishery along the northern parts of the coast out of Walvis Bay, and the fishery for rock lobster or crayfish (*Jasus lalandii*), which takes place on the southern coast, out of Lüderitz. The inshore commercial line fishery has been described in detail under recreational angling as the two are competitive (see above). Table 5.10 shows the total allowable catch (TAC) and the harvest of the crayfish fishery.

Table 5.10: Total allowable catch (TAC) and harvest of crayfish, 1999–2003 (tonnes)

Year	1999	2000	2001	2002	2003
TAC	350	400	400	420	420
Catch	304	365	365	361	269

Source: Riveiro (2005)

The fishery for crayfish has a TAC of some 400 t, with some 185 t being allocated to fully commercial operations, and some 215 t being allocated to smaller-scale, limited commercial operations. Hoopnets are used inshore and, in deeper water, traps are used. Fishing is restricted to a specific season. Catches and stocks were much higher in the pre-Independence period, but the ensuing collapse of stocks is considered to be partly due to environmental causes and not only to over-harvesting. The current annual catch is commonly below the TAC, for reasons considered to be due to access more than over-harvesting (Boyer & Hampton 2001; Ramasar 2005).

A conflict exists between the marine diamond mining activities that take place on the southern coast and the crayfish industry. Siltation and destruction of the benthic environment, due to mining, reduce the area suitable to crayfish (Pulfrich & Penney 1999). However, to some extent the mobility of the crayfish resource enables the stock to avoid the damage which affects more sedentary organisms.

5.1.3.2 Economic value

Estimates of the economic contribution of the commercial fisheries sector is shown in Table 5.11. The activities take place outside the NACOMA coastal zone, but the activities contribute to the coastal economy in that those employed are based in the coastal zone, and many of the backward linkages included in the total contribution are associated with the zone.

Table 5.11: Estimated economic values associated with the offshore commercial fisheries sector, excluding the inshore line fishery and the inshore crayfish fishery (N\$'000 current prices; values for 2005 and 2006 are estimates based on extrapolation)

Economic value	2004	2005	2006
Direct contribution to GNI	1,413,747	1,478,257	1,514,053
Percentage of GNI (percent)	7%	7%	6%
Direct employment (number of jobs)	6,401	6,693	6,855
Direct Namibian employment benefits	636,186	665,216	681,324
Total contribution to GNI ¹	2,671,983	2,793,906	2,861,560
Total employment (number of jobs)	12,097	12,649	12,955
Total Namibian employment benefits	1,202,392	1,257,258	1,287,702
- of which total unskilled employment benefits	625,244	653,774	669,605
- of which total skilled employment benefits	577,148	603,484	618,097

¹ Total direct plus indirect gross value added = Direct x SAM national income multiplier

Source: Own calculations, based on Riveiro (2005), National Accounts (CBS 2003, 2005), Lange et al. (2004), and Ljung and Sternhufvud (1998)

The impact of the offshore commercial fisheries sector is important for the economy of the coastal zone in that it provides employment for some 13,000 people. Backward linkages to the income associated with the commercial fishery amount to some N\$1.3 billion. Many of these linkages are associated with the coastal zone.

Within the coastal zone, natural resource use activities include onshore fish processing. Table 5.12 shows the estimated economic values associated with this activity.

Table 5.12: Estimated economic values associated with onshore fish processing in the coastal zone (N\$'000 current prices; values for 2005 and 2006 are estimates based on extrapolation)

Economic value	2004	2005	2006
Direct contribution to GNI	554,172	579,460	593,491
Percentage of GNI (percent)	3%	3%	2%
Direct employment (number of jobs)	6,155	6,436	6,592
Direct Namibian employment benefits	188,419	197,016	201,787
Total contribution to GNI ¹	1,146,029	1,198,323	1,227,340
Total employment (number of jobs)	11,633	12,164	12,459

Economic value	2004	2005	2006
Total Namibian employment benefits	356,111	372,361	381,378
- of which total unskilled employment benefits	192,300	201,075	205,944
- of which total skilled employment benefits	163,811	171,286	175,434

¹ Total direct plus indirect gross value added = Direct x SAM national income multiplier

Source: Own calculations, based on Riveiro (2005), National Accounts (CBS 2003, 2005), and Lange et al. (2004)

Also within the coastal zone is the crayfish fishery. The estimated economic values associated with this are given in Table 5.13.

Table 5.13: Estimated economic values associated with inshore crayfish fishery in the coastal zone (N\$'000 current prices; values for 2005 and 2006 are estimates based on extrapolation)

Economic value	2004	2005	2006
Direct contribution to GNI	22,533	25,725	31,469
Direct employment (number of jobs)	537	602	676
Direct Namibian employment benefits	10,140	11,576	14,161
Total contribution to GNI ¹	42,587	48,620	59,477
Total employment (number of jobs)	1,016	1,139	1,278
Total Namibian employment benefits	19,164	21,879	26,765
- of which total unskilled employment benefits	8,624	9,846	12,044
- of which total skilled employment benefits	10,540	12,034	14,721

¹ Total direct plus indirect gross value added = Direct x SAM national income multiplier

Source: Own calculations, based on Riveiro (2005), National Accounts (CBS 2003, 2005), and Lange et al. (2004)

The inshore commercial line fishery is described in detail above, in relation to the discussion on the recreational line fishery. As seen earlier in Table 5.4, the commercial line fishery generates some N\$10.6 million in terms of direct GNI, and N\$21.1 million in terms of its total impact on GNI. Based on data from the SAM (Lange et al. 2004) and Riveiro (2005), it is estimated that some 230 direct jobs are involved, generating some N\$4.8 million in wages and salaries. When the total impact (including backward linkages) is considered, the number of jobs would be some 450. Total wages and salaries amounting to some N\$9.5 million would be generated, of which some 52% would accrue to unskilled workers.

5.1.2.3 Sustainability and expansion potential

As described above, the offshore commercial fishing sector, which indirectly impacts on the economy of the coastal zone, is only partially sustainable. Certain components such as the hake, horse mackerel and monkfish fisheries are showing some recovery following post-Independence management measures. However, other fisheries such as the epipelagic sardine fishery are not recovering. Consideration should be given to its closure. Indications are that closure of the South African sardine fishery has allowed recovery of that (separate) sardine stock and saved the fishery (B Clark, pers. comm. 1995). A recovered sardine resource would not only provide huge fisheries benefits, but would likely also enhance production in the onshore guano and seal harvesting industries (see below).

The catches in the orange roughy fishery have declined substantially, and it is not clear whether current catches are sustainable. The sustainability and expansion of the Namibian fisheries sector will depend on the degree to which fish stocks recover and to which the full economic potential of all components of the sector is realised.

Lange (2003a, 2004) in the development of fisheries resource accounts has provided evidence that rent capture in the fisheries sector is suboptimal. Higher catch levies would seem to be indicated. However, given that fish catches tend to be highly variable, large long-term capital investments are required for fishers, and profitability is highly variable within and between each fishery, it is difficult to apply levies without adversely affecting the sector. Care needs to be taken in designing appropriate and more efficient rent-capture mechanisms.

The sustainability and expansion potential of the onshore fish processing sector depends on this supply of fish as well as on the availability of water – a scarce resource on the desert coast. As urban development proceeds at the coast, the supply of fresh groundwater currently drawn from well fields around the towns will become unsustainable. The development of sea water desalination will likely become imperative. The costs of fresh water can be expected to increase significantly. Fish processing also generates high volumes of organic effluents (fats, oils and greases). Improved technologies are available to reduce pollution.

The MET Cleaner Production Programme (Hetherington & Copeland 2006; Hetherington & Hanks 2006) and Mwiya (2006) have shown that there are considerable opportunities for Namibian fish-processing operations to reduce consumption of fresh water and to prevent pollution. The Cleaner Production Programme can assist with guidelines in this regard. Assuming fish supplies can grow, a programme to promote adoption of such cleaner technologies could allow expansion of processing by some 50% without increasing the pressure on key resources such as water.

The crayfish fishery appears to be sustainable at present levels of stock and off-takes, although it is not clear whether stocks will increase to the levels that prevailed in the 1980s, and thus whether any potential exists for expansion. As discussed earlier under the recreational angling sector, the inshore line fishery currently appears unsustainable, and should be restricted in the interests of economic efficiency. *Policy recommendations are provided in section 6 below.*

5.2 Other biological resources

5.2.1 Mariculture

5.2.1.1 Description

As noted by Gasnier (2001), the MFMR (2001, 2004b) and Klingelhoefter and Forbes (2004), Government strongly promotes aquaculture development. A policy and legislation are in place.

Namibia has a number of comparative advantages for marine aquaculture, or mariculture:

- The waters have high fertility
- There are abundant sources of feed from the large local marine fisheries sector
- There are reasonably abundant supplies of capital and labour
- There is good infrastructure
- Processing facilities and market channels are well developed to serve the fisheries sector, and
- There are suitably sheltered locations in bays, near to urban centres.

On the negative side, –

- most of the coastline is exposed
- the coastline has high wave energy
- certain feeds are scarce with remote sources
- labour tends to be lacking in the required skills
- predators (seals) are common, and
- periodic sulphur eruptions may pose a threat.

A substantial mariculture industry has already developed in the last ten years. It is currently dominated by oyster production in Walvis Bay, Swakopmund and Lüderitz, where Pacific and European oysters (*Crassostrea gigas* and *Ostrea edulis*, respectively) are produced. By 2004, six companies were in operation and further farms were under construction. A red seaweed species, *Gracilaria gracilis*, is harvested as beach-cast in the Lüderitz bay. It is also grown there on longlines and exported as a dried product to produce agar. The cultured production amounts to about a quarter of the total, and it provides stability in what amounts to a variable annual harvest. By 2004, cultured production occupied some 10 ha. One abalone (*Haliotis midae*) farm had been developed in Lüderitz by 2004.

By 2004, no finfish or crustacean production had been developed, although there is considered to be significant potential in all aquaculture centres as well as at Oranjemund. In the Oranjemund area and along the coast to the north of this, there is potential for using abandoned onshore diamond ‘mining holes’ for aquaculture production. This provides protected sites with warmer waters and better growth conditions, and can be shielded from occasional ‘red tide’ toxicity events which can take place in the ocean.

No harvesting of the widespread and abundant inshore brown algae – kelp (mostly *Laminaria pallida*) – is currently practised in Namibia, although it is systematically harvested in the Northern Cape Province of South Africa, where it is used for alginate, pharmaceuticals, and human and animal food (Ramasar 2005; Odendaal et al. 2007).

5.2.1.2 Economic value

Oyster production in 2004 amounted to 600 t, worth some N\$13 million in 2006 prices, and involving the employment of 85 people (MFMR 2004b; Klingelhoefter & Forbes 2004). This can be roughly calculated to reflect a direct contribution to GNI of N\$6 million and a total contribution – including the backward linkages – of some N\$11 million.

The *Gracilaria* seaweed production in the Lüderitz bay amounts to some 120 t of dry-weight per annum, and about 50 people are employed in this. The output associated with this production would be worth some N\$460,000. Total output from both beach-cast harvesting and farming would amount to some 900 t, with a value of around N\$4.2 million. The direct contribution to GNI associated with this can be roughly calculated as being approximately N\$1.9 million, and the total direct and indirect contribution about N\$3.5 million. Altogether the seaweed industry in the Lüderitz bay probably involves some 300 jobs.

In 2004, the only abalone farm in Lüderitz yielded 15 t per annum and employed 15 people. An output of N\$2.9 million (in 2006 prices) was generated. Roughly estimated, the direct and total contributions to GNI would be approximately N\$1.3 million and N\$2.4 million, respectively.

5.2.1.3 Sustainability and expansion potential

Current developments appear sustainable. No pollution or disease problems have emerged. Considerable potential exists for expansion. Fertility, food sources, market channels, and availability of capital and labour are favourable. The most likely ultimate constraint will be the extent of sheltered waters, and the possibility of overcrowding and resultant disease or pollution problems. The latent potential for harvesting kelp should be further examined as it could be quite significant.

Nevertheless, the MFMR (2004b) and Klingelhoefter and Forbes (2004) expect that the output of the mariculture industry will rapidly increase tenfold, from about N\$16 million in 2004 to about N\$180 million by 2008. Thus, eleven oyster farms, six abalone farms, two finfish farms, two seaweed production units, and one crayfish production unit are expected by 2008. It is possible that expansion will start to tail off after these targets are reached due to spatial constraints. *Policy recommendations are provided in section 6 below.*

5.2.2 !Nara harvesting

5.2.2.1 Description

The !nara melon (*Acanthosicyos horridus*), a keystone endemic of the Namib Desert, is a valuable natural resource for some rural Topnaar, a community of pastoralists and gatherers who live in the lower Kuiseb valley (Henschel 2004:17; Van den Eynden et al. 1992). This resource is dealt with separately in this report because of the somewhat special circumstances associated with it. The Topnaar, a community of around 400 people, occupy some 12 settlements along the lower Kuiseb, practising livestock herding, !nara harvesting, gardening and, increasingly, some tourism.

Community members collect the !nara seeds, separate them through boiling, and then dry them. The seeds are mostly exported via intermediaries to South Africa. !Nara fields are held

informally within in a unique form of property rights. The resource was recently included in the top five ‘first team’ of focus species selected for the Promoting Indigenous Fruit Project run by the Centre for Research Information Action in Africa – Southern Africa Development and Consulting (CRIAA SA-DC; Du Plessis, P., 2007, pers. comm.).

5.2.2.2 *Economic value*

An estimate of between 10 and 12 t of !nara fruit are harvested at present, of which roughly 6% is consumed by the Topnaar communities. The rest is exported to Cape Town (Van Zyl 2004:24; Desert Research Foundation of Namibia & Topnaar Community Foundation 2004; Henschel et al. 2004). Total annual output value for !nara harvesting varies, but generally amounts to some N\$130,000 (in 2006 prices). Based on the general model for veld-food harvesting devised by Barnes et al. (2005), some 68%, or N\$88,400, of this is likely to be value added, contributing directly to the GNI. Based on the income multiplier applied by Barnes et al. (2005), the total – direct and indirect – contribution to GNI, including backward linkages, would be N\$160,000.

According to the baseline data of Van Zyl (2004:25) and Henschel et al. (2004), a proportion amounting to 25% of total income is earned by the current estimated professional harvesters (some 40 people), and they earn approximately N\$10.75/kg in 2006 prices. The returns to poor households per annum in terms of wages and profits amount to some 26% of turnover, or N\$99,000. The Desert Research Foundation of Namibia and the Topnaar Community Foundation (2004) calculated that approximately 85 full-time harvesters are needed in a good season and 72 in a poor season. Henschel et al. (2004:117) estimated the average input of man hours by harvesters per kilogram of !nara to be three hours. On average, a harvester spends 11.24 hours a day, 5 days a week, and 4 months (17 weeks) a year harvesting and processing !nara. Thus, the average harvester would earn some N\$1,270 per annum.

5.2.2.3 *Sustainability and expansion potential*

The baseline study by the Desert Research Foundation of Namibia and the Topnaar Community Foundation (2004) as well as research by Henschel et al. (2004) indicate that there has been a decline in !nara production since the 1970s. Community perceptions corroborate this. Reasons for this may include reduced flooding in the Kuiseb delta, but it may also be that the resource is being over-harvested. At best, it appears that !nara are already being harvested at maximum production. Thus, care is required to ensure that harvesting is sustainable in the long term. This should be possible in a CBNRM context, given that there is already an established property rights system in the !nara fields.

The most potential for expansion appears to be in the development of further local processing and in market development. According to CRIAA SA-DC (Du Plessis, P., 2007, pers. comm.), recent market enquiries (regional and overseas) may open potential to access new market segments such as the ‘exclusive exotic gourmet’ segment. Feedback from oil producers about the gourmet culinary demand potential was not yet available at the time of this report, but the outcome depends on the quality of the already produced oil samples.

Several constraints exist in relation to !nara seed oil production. These include the low availability of the raw material (currently 5–12 t per annum, 96% of which is exported), lack of technical capacity to assure food-grade quality, and the fact that !nara seed oil content

remains unconfirmed. Further several constraints exist with regard to !nara harvesting. These include –

- reduced flooding of Kuiseb River Delta
- current decline in manpower suitable for labour-intensive harvesting
- lack of unity and cooperation between harvesters leads to logistical problems in raw material procurement
- breakdown in traditional community resource tenure system and management practices and the subsequent emergence of unsustainable harvesting practices that impact on product quality (immature fruits harvested, roots dug up for medicine)
- insufficient investment in product development (especially fruit), and
- unrealistic community expectations about the feasibility and sustainability of local value adding.

Henschel et al. (2004:129) concluded their situation analysis of the Topnaar community's options of sources of income with this statement:

The most promising model for the future of the !Khuiseb Topnaar appears to be their development towards becoming small-scale !nara manufacturers under the auspices of a Community-Based Resource Management Project. This development is extremely sensitive to developments of social aspects. The small-scale !nara manufacturing business model enables the impoverished and marginalized community to start from their current stage and initiate social change without abruptly abandoning traditional life. It provides the possibility of building indigenous, small enterprises that neither depend on external guidance, nor on alien processes and products. It includes extensive opportunities for training and recruitment from within the community, thus enabling to improve its livelihood.

The above statement could be interpreted as euphoric or very optimistic in that the livelihood of the Topnaars would entirely depend on the harvesting of the !nara melon and product diversification. It would appear that a more holistic approach should be adopted in which !nara harvesting should be one option amongst other sustainable natural resource use options. The key to survival and success lies not in rational, quantitative approaches, but rather in a commitment to irrational, difficult-to-measure things like people quality, customer services, and, most importantly, developing the flexibility to meet changing conditions. *Policy recommendations are provided in section 6 below.*

5.2.3 Other non-fishery biological resources

5.2.3.1 Description

The coastal environment supports the use of the Cape fur seal (*Arctocephalus pusillus*) for tourism and consumptive harvest. Seals occur all along the Namibian coast and aggregate at colonies on the shore and on islands, the biggest being at Cape Cross, Wolf Bay and Atlas Bay (Mendelsohn et al. 2002). The population in Namibia was estimated to be around 900,000 in 1992/3, but this population underwent a severe crash in 1994 and 1995 due to an adverse effect on food supply caused by the Benguela El Niño phenomenon. Considering about a third of the population was lost, 2001 estimates were at 450,000 to 500,000 (Hampton 2003).

It has been estimated that seals in the Benguela system consume about a million tonnes of fish annually, approximately the same as the total annual fish catch of Namibia and South Africa combined (Hampton 2003). There would seem to be competition between the seal population and the commercial fisheries, especially the sardine fishery, which has failed to

recover from its previously depleted levels. The link between seal populations and the commercial fisheries is not a clear and direct one, however. Mecenero et al. (2007) could only find indirect evidence of competition between seals and the purse-seine fishery with respect to horse mackerel, which is now an important resource for both.

The seal harvest has been controlled through separate annual TACs for bulls and pups, which are based on aerial surveys and biological modelling of the population. About 20,000 pups and 4,000 adult males are harvested each year, with the total number varying between 17,000 in 1991 and 72,000 in 2000 (Hampton 2003). In recent years TACs have been maintained at levels of around 60,000 to 70,000, but harvests have been consistently lower. Reasons for TACs not being harvested are thought to be capacity limitations amongst the newer licence holders. International animal rights movements have also tended to put the industry under pressure, with the result that it is difficult to get information.

Guano production takes place on some of the offshore islands, where it is periodically scraped from seabird colonies, mainly Cape gannet (*Morus capensis*) and cormorant (Phalacrocoracidae). Hampton (2003) reported that about 1,000 t per annum could be harvested sustainably, mostly from Ichaboe Island. Artificial guano platforms owned by two different companies exist at Cape Cross, and comprise two sites with a total combined extent of 8 ha), Swakopmund (4 ha), and Walvis Bay (1.7 ha). In 2002, harvests from artificial platforms – which are of a higher quality than those from islands – amounted to some 1,600 t (Van Zyl 2004).

Fielding et al. (2006) provided some information on informal collecting of beach-cast sea shells carried out by women in the Swakopmund area. Mussel shells (Mytilidae) are collected to be cut and ground, made into necklaces and sold inland. This appears to be a year-round occupation for unemployed women, who collect some 15 kg of shells per trip. The number of collectors involved is not known.

5.2.3.2 Economic value

Within the time frame for this study it was not possible to obtain figures on output or prices for the seal-harvesting industry. Van Zyl (2004) estimated that the industry employs 45 to 60 people over the four-month harvesting period. This would be the equivalent of about 15 to 20 full-time jobs.

The guano production value given by Van Zyl (2004) amounted to some N\$7.5 million in 2006 prices. The contribution made to GNI can be roughly estimated at N\$3.4 million, with the total impact on GNI being N\$6.2 million. Some 38 people are employed for two months per annum, which translates to about six full-time jobs.

The number of people involved in informal mussel shell harvesting is unknown, as is their output. Van Zyl (2004) suggested that 10 to 20 women derive a subsistence income from this activity. The amounts earned are reported by women to be insufficient to feed their families.

5.2.3.3 Sustainability and expansion potential

As was evident during the population crash of the mid-1990s, if seals are not harvested, their numbers will tend to be controlled by the food supply. Within Namibia's policy of promoting wildlife utilisation, it makes sense to harvest the population at maximum sustainable levels, and thus reduce pressure on the food sources, which might then recover to the ultimate benefit of both the seals and the fisheries sector. Seal populations have been shown to be resilient, and current harvests appear biologically sustainable, but they are threatened by international animal rights pressure to eliminate harvest. Ways need to be found, if possible, to tailor the harvest to reduce the negative effects of animal rights pressure.

Guano production is a function of the number of seabirds using the production sites. The number of seabirds has shown a general decline over the last few decades, with several species having declined seriously (Maartens 2003). This is attributed primarily to a reduction in the food supply, dominated by the epipelagic sardine. Although guano extraction is non-consumptive in that it does not directly reduce animal numbers, it is unsustainable if bird numbers decline. Provision of new artificial platforms could result in some expansion in the industry, but the long-term expansion potential depends primarily on recovery of the sardine stocks and the bird populations.

The small, informal sea-shell harvesting activities also involve a 'sump' extractive activity, which does not directly affect mussel populations. There is probably some potential for localised depletion of sea shells if the activity expands significantly. An expanded extraction industry would tend to be self-regulating, and there is likely to be significant potential for expansion. *Policy recommendations are provided in section 6 below.*

5.2.4 Minerals

5.2.4.1 Description

Salt production takes place in the coastal zone in Walvis Bay, at Panther Beacon in Swakopmund, and at Cape Cross (Van Zyl 2004; Schneider & Genis 1992). Two companies are involved in this industry. They have developed salt pans on pans and mudflats near and on the coast. The Walvis Bay operation is the largest, producing some 700,000 t of coarse salt, most of which is used in chemical manufacturing. Panther Beacon produces some 75,000 t and Cape Cross around 30,000 t. The Cape Cross product is sold domestically as a livestock feed supplement. An unknown part of the total salt production is consumed locally and the rest is exported, going to both South African and West African markets.

Diamond production currently takes place onshore and offshore in the Sperrgebiet coastal zone around Lüderitz, south of Hottentot's Bay. Tarr (2003) provides a good description of this sector. Historically, onshore mining took place south of Lüderitz in the German colonial era. There, surface diamondiferous deposits were stripped. Their relics are visible today, providing some potential for historical tourism. During the 1980s and early 1990s, some mining took place at several sites in the Skeleton Coast Park (Toscanini, Terrace Bay, Möwe Bay and Rocky Point). None of these historical mining sites benefited from any environmental care, however.

Modern onshore mining by the Namdeb Diamond Corporation takes place mainly at Daberas Mine, Elizabeth Bay (Elizabeth Bay Mine), and along a stretch of coast north of Oranjemund

(Mining Area 1). Mining Area 1 comprises a 100-km stretch of shoreline, 3 km wide. The diamondiferous gravels are extracted above and below the high tide mark, using sea walls to allow mining up to 20 m below sea level. The Elizabeth Bay Mine involves a 5x3-km Aeolian deposit above the shoreline. In recent years, these activities have been accompanied by environmental management plans, and this has helped to mitigate some of the negative effects of waste management and damage to particularly sensitive sites. However, the effects on the natural habitat include destruction of the intertidal zone through stripping and exposure, siltation due to disposal of sand tailings in the ocean, and the visual impact of the exposed areas.

Offshore mining takes place along the coast, where specially equipped vessels dredge the benthic layer, sort it, and re-deposit most of the gravel back into the sea. Some of this is done by large vessels operating further offshore, and some is done by subcontracted smaller vessels inshore.

The most serious impact on biodiversity and biological productivity from diamond mining appears to be on the sessile intertidal and benthic species. The effect on crayfish appears to be minimised due to the mobility of this resource. However, crayfish fishermen generally believe that mining has adversely affected crayfish numbers, and Pulfrich and Penney (1999), consider that many gaps remain in the knowledge of the long-term cumulative biological effects of diamond mining.

Natural gas and/or oil production has not as yet been initiated in Namibia. The Kudu gas field is situated offshore out of the coastal zone, but it is targeted for development to fire an electricity generation facility, which is likely to be sited within the zone. However, details of plans for the development of gas exploitation and power generation were not accessible at the time of this study. As is the case with diamond mining, this development is of such important national strategic importance that it will be difficult for NACOMA to have significant influence over the process other than to propose measures in sound land-use zoning, and mitigation of environmental impacts.

5.2.4.2 Economic value

Salt production from the three sites described above amounts to 810,000 t (Van Zyl 2004; Salt Company (Pty) Ltd, pers. comm. 2007), and the gross output associated with this, in 2006 prices, is some N\$12.2 million. The value added, which is approximately the direct contribution that this makes to national income, is estimated at N\$5.5 million. The national income multiplier for mining, derived from the SAM (Lange et al. 2004), is 1.91, meaning that the direct and indirect contribution to national income would be some N\$10.5 million. Some 228 people are employed in the industry, of which about 176 are unskilled labour, 43 are skilled labour, and 9 are management. There are no data to hand on salaries and wages, but a very rough estimate of the total remuneration is N\$370,000 per annum.

Diamond production is extremely significant economically, but because only one producer is involved, financial details are inaccessible for reasons of confidentiality (Lange 2003b). For the Sperrgebiet land-use plan (Walmsley 2001a), MacGregor and Barnes estimated the *net* national income contribution for diamond mining at N\$1,408 million in 2000. Van Zyl's (2004) estimate for the gross value added in 2003 was N\$1,800 million. The national accounts (CBS 2003, 2005) publish the GDP figures for diamond mining activities, all of which take place in and near the coastal zone. Based on the GDP values for 2004, the direct

contribution made by diamond mining to the GNI can be calculated. After adjustment for predicted real growth (average of 5.5% per annum between 1995 and 2004) and inflation, the direct contribution to national income in 2006 prices was estimated to be N\$2,321 million. Comparison between this and data for the whole mining sector (Lange 2003b), shows that coastal zone diamond mining in Namibia forms a large component of the whole mining sector.

Taking the employment ratios for the whole mining sector used by MacGregor and Barnes in Walmsley (2001a), the number of full-time jobs within the diamond mining sector would be some 28,000. Returning to the national accounts data for 2004 and adjusting for growth and inflation, the value of compensation of these employees was calculated at N\$860 million in 2006 prices. The total contribution of diamond mining to the national income, including all backward linkages, calculated using the national income multiplier of 1.91 derived from the SAM (Lange et al. 2004), can be estimated at some N\$4,433 million.

Lange (2003b), in developing mineral resource accounts for Namibia, calculated resource rents for diamonds between 1980 and 2001. These were always positive, which was not always the case for the mining sector as a whole because significant negative rents were sometimes generated for other minerals. Resource rents in the diamond mining sector are captured through a tax on resource rent as well as a diamond royalty. Lange's (2003a) findings suggest that rent generation was somewhat volatile, making it difficult to determine whether rent recovery is sufficient. As with fisheries, care needs to be taken not to set taxes so high as to discourage investment. Generally, however, rent recovery in the sector appears to be satisfactory. Some diamond processing takes place outside the coastal zone, and these forward linkages add value to the diamond sector as a whole.

It has not been possible to secure the results of any feasibility analyses for the anticipated gas production industry or the proposed resulting power generation, which will likely generate large economic values for the coastal zone.

5.2.4.3 Sustainability and expansion potential

Salt production has limited potential for expansion (Salt Company (Pty) Ltd, pers. comm. 2007). Expansion would be affected by market and profitability constraints. Output could probably be increased by about 25% before very high labour costs, high energy costs, high transport costs and unfavourable exchange rates would render production unprofitable. Any expansion would necessarily have to take place within areas in which these costs are minimised; thus, the availability of suitable sites is also limiting. The industry does not have a significant impact on vital resources such as water.

Diamond mining, with a total impact on GNI of some N\$16 billion, is an indispensable component of the national economy. Some of the environmental damage associated with it is irreversible, but environmental management plans help to mitigate the impacts. NACOMA can only influence the environmental mitigation process in the interests of coastal conservation. Lange's (2003a) estimates of mineral asset value for 1981 to 2001 are generally constant, indicating that production is likely to be sustainable – at least in the medium term. Even though minerals are exhaustible assets, their proven reserves are such that exploitation will continue for some time. *Policy recommendations are provided in section 6 below.*

Part 4

Conclusions and overall recommendations

6. Conclusions

Table 6.1 shows a summary of the main economic values derived in Parts 2 and 3 above. These are also shown in different format in Tables 3.2a and 3.2b, which updates the OI 2 baseline data in Part 1.

Table 6.1: Revised summary of coastal baseline tourism and natural resource use values

Sector	Spatial distribution	Annual economic value, 2006	No. of jobs
TOURISM			
Tourism accommodation	Kunene, Erongo and Karas	Direct GNI: N\$400 million Total direct and indirect GNI: N\$740 million	Unskilled – 2,449 Semi-skilled – 480 Management – 480
Tour operators	All Regions	Direct GNI: N\$16 million Total direct and indirect GNI: N\$29 million	Unskilled – 92 Semi-skilled – n/a Management – 92
Tourism-related	Kunene, Erongo, Karas, inland	Direct GNI: N\$540 million Total direct and indirect GNI: N\$540 million	Unskilled – 3,306 Semi-skilled – 622 Management – 743
Total tourism	All Regions	Direct GNI: N\$956 million Total direct and indirect GNI: N\$1,309 million	Unskilled – 5,847 Semi-skilled – 1,194 Management – 1,315
NATURAL RESOURCES			
Recreational angling*	Kunene, Erongo and Karas	Direct GNI: N\$24 million Total direct and indirect GNI: N\$56 million	Unskilled – 190 Skilled – 80
Inshore commercial line fishing	Kunene Erongo and Hardap	Direct GNI: N\$11 million Total direct and indirect GNI: N\$21 million	Direct 230 Total 450
Crayfish fishing	Karas	Direct GNI: N\$31 million Total direct and indirect GNI: N\$59 million	Direct 676 Total 1,278
Offshore commercial fishing	Entire coast, but focused on Walvis Bay	Direct GNI: N\$1,514 million Total direct and indirect GNI: N\$2,861 million	Direct 6,855 Total 12,995
Onshore fish processing	Erongo and Karas	Direct GNI: N\$593 million Total direct and indirect GNI: N\$1,227 million	Direct 6,592 Total 12,459
Artisanal fishing	Erongo	n/a	Some 70 semi-skilled
Mariculture	Erongo and Karas	Direct GNI: N\$9 million Total direct and indirect GNI: N\$17 million	Some 150
Seal harvesting	Erongo, Karas	n/a	15–20 full-time job equivalents

Sector	Spatial distribution	Annual economic value, 2006	No. of jobs
Guano production	Erongo, Karas	Direct GNI: N\$3.4 million Total direct and indirect GNI: N\$6 million	6 full-time
Shell harvesting	Erongo	n/a	n/a
Salt production	Erongo	Direct GNI: N\$6 million Total direct and indirect GNI: N\$11 million	Unskilled – 176 Semi-skilled – 43 Management – 9
Diamond mining	Karas	Direct GNI: N\$2,321 million Total direct and indirect GNI: N\$4,433 million	Direct: Some 28,000 Indirect: Some 25,000
Natural gas and oil production	Karas	No production; likely to be significant if project goes ahead	n/a
!Nara harvesting	Erongo	Direct GNI: N\$88,400 Total direct and indirect GNI: N\$160,000	85 full-time

*There is some overlap between values for angling and the tourism sector

7. Overall recommendations

Recommendations resulting from the findings in Parts 2, 3, and 4 are presented below. These are wide-ranging, and relate to the general development of the coastal zone. Some of these recommendations may be suitable for implementation by NACOMA, but it is important to note that many of them are out of the scope of the NACOMA Project, through being beyond the Project's control or being too long-term. NACOMA can be selective in choosing which recommendations, if any, fit within its evolving scope. Some may be suitable for direct incorporation into project activities, while others may benefit from promotion by NACOMA. Yet others can simply be left to other stakeholders.

7.2 Sustainable coastal tourism

7.2.1 Strategic directions for sustainable tourism development

Recommendations for improving coastal tourism as well as ensuring it expands and remains sustainable are presented below and embrace two primary directions:

- Improvement of the planning framework for tourism development: SEA and zoning plans being devised through NACOMA should guide development in order to ensure that such developments are appropriate, environmentally sound, and economically efficient. Zones should be as flexible as possible, while ensuring that carrying capacities are not exceeded, and
- The incorporation of property rights through leases and concessions: This should ensure the minimisation of open-access tourism and increase the economic enhancement and environmental care associated with guided lodge and tour operator activities. Such incorporation of property rights should be a gradual, balanced process, and should not jeopardise the need to cater for all segments of the tourism industry. The market demand of all sectors, including that of domestic tourism (Moseley et al. 2007), should guide the process.

7.2.1.1 Recommendations for broader tourism development

1. It is recommended that, *in the long term*, tourism development on the coast be aligned with the MET Concessions Policy (MET 2006), with guided tourism and camp/lodge development being undertaken as joint ventures between the private sector and the State and/or local community groups. This will have the effect of reducing open-access problems, increasing the economic value and sustainability of tourism, and improving rent capture from the sector.
2. A simple financial and economic appraisal model based on those referred to in Recommendation 2 under 7.2.2.1 below should, *in the long term*, be developed for planning concessions and evaluating tenders.
3. Use of land and resources for tourism should, *in the long term*, be integrated with the SEA and findings from baseline surveys recommended under 7.2.2.1 below, in order to develop a zoning plan that is environmentally and economically sound.
4. In view of the current mainstream nature-based tourism development and the economic use values derived from it, it is pertinent, *in the long term*, to emphasise ecotourism in concessions development, stressing the need to increase the benefits of coastal tourism development for rural communities in adjacent inland conservancies. The MET Concessions Policy is currently being finalised to serve this purpose.
5. It is recommended that, *in the long term*, a fund be developed for financial grant support to developing ecotourism enterprises. This should be structured so as to correct inherent economic distortions, providing incentives for training, community involvement, unskilled employment, and marketing.
6. The tourism product in inland escarpment areas outside the coastal zone is growing rapidly. This development could be enhanced if it is linked, *in the long term*, to coastal tourism developments. Access to concessions on the coast in the Skeleton coast Park should be possible for inland communal land conservancies. It is further recommended that routes be opened up to facilitate joint product development.
7. Urban disadvantaged communities on the coast should be evaluated, *in the long term*, with a view to their mobilisation into conservancy groups that could be involved in joint ventures in tourism concessions on the coast.

7.2.1.2 Recommendations for specific tourism sites or sectors

1. It is recommended that tourism in the *Swakopmund–Walvis Bay dune belt area* be monitored and managed with the LAC planning system or a good derivative thereof such as the TOMM developed in Australia (Manidis Roberts Consultants 1997, together with the input of managerial, public and scientific expertise. Appendix D.2 gives examples of two indicator report cards modelled on the TOMM.

2. The conduct of an EIA in the *Swakopmund–Walvis Bay dune belt area* has become a necessity. Based on the results of the EIA, strategies should be developed for managing resource impacts. The issue of managing resource impacts is complex and beyond the scope of this study, but would entail strategies and tactics to –
 - reduce the use of the entire area
 - reduce use of problem areas
 - modify the location of use within problem areas
 - modify the timing of use
 - modify the type of use and visitor behaviour
 - modify visitor expectations
 - increase the resistance of the resource, and
 - maintain or rehabilitate the resource.
3. The tourism development in Henties Bay overlaps with an urbanisation of prime land along the beach. It is therefore recommended that future profitable and sustainable tourism development along the coast of the town of Henties Bay be considered.
4. It is recommended that a visitor information centre be developed at the Cape Cross Seal Reserve. Considering the extent of pollution (mainly litter) at the reserve causing a threat to the seals, it could be better to build a visitor information centre serving a dual purpose of –
 - educating visitors on the history of the location, the biological features and behaviour patterns of the seals, and
 - educating visitors on the dangers of visible pollution to the seals and the environment.
 - Furthermore, the centre could incorporate a shop to sell sealskin merchandise and other seal-related souvenirs, books, etc.
5. A cost-benefit analysis of the proposed extension of walkways at the Cape Cross Seal Reserve is recommended. The current use pattern of tourists indicates a minimum average stay of 30 minutes. This time suffices for viewing the seals before proceeding to the next destination. The short stay is closely linked to the typical smell of the seals and the lack of other attractions at the site. There are no bottlenecks; therefore, longer walkways to prevent congestion would not be required. An increase in beneficiaries' income is also unlikely to result from such investment. The focus should be on expansions that will increase visitor spending in line with the ecotourism approach, and not an increase in numbers – as the traditional approach advocates.
6. Community developments such as those planned adjacent to the Skeleton Coast in the Kunene Region that propose accommodation with more than 20 beds or destinations and anticipate more than 500 visitors a year should require an environmental and socio-economic impact assessment.
7. In line with Recommendation 3 above, guided fishing tours and excursions should, *in the long term*, be promoted and given priority within the recreational angling sector. This is dealt with under natural resources in Part 2. Within the framework of sustainable visitor management, the use of the

coastal area and the adjacent fragile park territories for recreational fishing should be permitted only in a guided form along predetermined routes, i.e. as is done with hunting safaris. This would minimise damage to the fragile environment, ensure that the demand for a pristine environment (becoming a rarity worldwide) is met, and at the same time create job opportunities for *qualified* guides. The focus should be on positive planning and provision rather than negative restrictions and prohibition. The interaction between local and alien factors directed and governed by the planning process will then determine the impacts. This could apply to the coastal zones of all four Regions addressed in this report.

8. It is recommended that visitor education strategies and a code of ethics are developed to alter the behaviour of visitors and drivers in order to reduce their impact. Traditionally, use-reduction strategies were favoured in the industry, but research demonstrating that indirect strategies such as influencing rather than regulating visitor activity or behaviour through tactics such as facility design or management, information dissemination and visitor education also minimise the costs of visitor impacts on the environment. Direct strategies and tactics that regulate and restrict, such as rationing of use, designation of use areas or limiting group sizes, may be appropriate and necessary if indirect actions prove ineffective.
9. A project to support craft development on the coast should be initiated as an adjunct to the local tourism sector. This should include support for market-orientated product development, and logical and financial assistance with marketing. Shell harvesting and processing could form part of this initiative.

7.2.2 Long-term recommendations for data capture

1. As discussed in Part 1 of this report, where the OI 2 baseline data were updated, there are rather significant problems concerning available data, which reduce the accuracy of the M&E process. While these do not preclude M&E for NACOMA, there is a need in the longer term for systematic collection of economic data among enterprises in the coastal zone. In Van Zyl's (2004) study, baseline values were collated and estimated from a variety of primary and secondary sources. In the present study, this process was carried further to include more recent data, as well as further estimation of current values and expansion potential. However, by their nature, these findings are not based on systematic surveys.
2. Systematic surveys for monitoring key indicators are recommended as essential to professional management of the environment. *Management* can be seen as the periodic and systematic measurement of key indicators of biophysical and social conditions, and performs two major functions: it allows managers a formal record of resource and social conditions over time, and it helps assess the effectiveness of management action. (It should be noted that there may be factors other than management actions that influence the changes in conditions identified through monitoring programmes.)

7.2.2.1 Tourism data capture recommendations

1. Economic and social impacts in coastal zone tourism have had to be estimated indirectly using secondary data sources. For effective planning and M&E, however, this is unsatisfactory. It is therefore recommended that, *in the long term*, a systematic quantitative baseline survey be undertaken of coastal tourism enterprises. This should be followed successively every four years by follow-up surveys to measure trends and impacts. The baseline survey should be of a stratified sample of some 200 establishments, covering all types. The data collected should include output and expenditure, enabling the development of models as suggested in Recommendation 2 below. The baseline survey should also include some natural resource use enterprises in mariculture, seal harvesting, guano production, salt production, and Inara harvesting (see also Recommendation 2 below).
2. Based on the results of a baseline enterprise survey, it is recommended that, *in the long term*, financial and economic budget and cost-benefit models be developed for typical coastal tourism enterprises, to be updated later through follow-up surveys. These models can form the basis for effective valuation, policy analysis, land-use zoning, and planning. An example of a model is provided in Appendix C.

7.3. Sustainable coastal natural resource use

7.3.1 Practical steps for sustainable natural resource use development

7.3.1.1 Inshore line fishery and recreational angling tourism

1. It is recommended that further expansion in the commercial line fishery be restricted. Thus, no new licences could be granted, and quota restrictions could be introduced. These restrictions could be designed to have the effect of reducing profitability of marginal operators, who would likely not reinvest when their capital runs down. The line fishery could also be restricted to areas outside the proposed marine reserves.
2. It is recommended that, *in the long term*, policies be introduced which promote the gradual conversion of recreational angling tourism from an open-access, self-driven system, to one where guiding within a system of property rights predominates. This would allow growth in the economic value of the fishery without increasing off-takes. It is recommended that this be initiated as part of the proposed zoning of tourism activities and natural resource uses. Certain higher-value angling areas could be reserved for guided angling activities and the development of fixed accommodation, including lodges. The zoning could be accompanied by the allocation, through tender, of use rights that could have varying degrees of exclusivity, depending on the value. The systems developed for hunting tourism on public and community land could serve as a model. The NTB's tourism marketing efforts could include additional efforts aimed at the marketing of guided angling, particularly for the currently small foreign angling tourism market.

3. Clearly, zones need to be retained for the large self-driven angling fraternity. Recent strengthening of catch restrictions and the introduction of licences for recreational angling present a step forward in terms of reducing catches while retaining the attractive product available. It is recommended that these be reviewed every two years, and modified as needed. Resources could be dedicated to the promotion of catch-and-release as an ethic. Similarly, priority in space needs to be allocated to the subsistence artisanal shore line fishery which, although small, can be expected to grow with time. Consideration could be given to zoning for this, but in most cases it can take place within the open angling zones.

7.3.1.2 Artisanal fishery

1. Given its importance as an income-earning opportunity for poor households, artisanal fishing deserves to be given priority, and managed as such. Research is needed, *in the long term*, to determine the sustainability and expansion potential of this subsector. Licensing should be involved where sales occur, but these should be simply and efficiently administered.

7.3.1.3 Commercial fisheries

1. Management of all commercial fisheries should continue to be aimed at stock recovery. It is recommended that consideration be given to closure of the sardine fishery until such time as stocks recover substantially. It is further recommended that research into the orange roughy and associated resources be continued to enable a better understanding of the status and potential of the stock. Quotas for offshore fisheries should be conservatively set, in full accordance with the scientific research recommendations, to improve the chances of sustainability and expansion in the fishery sector.
2. Consideration should be given to the introduction of a certification system for those fisheries which qualify, with the aim of securing market share, and enhancing prices.
3. Rent capture in the fisheries sector should be reviewed with the aim of improving such capture without reducing economic efficiency, and improving overall profitability in the sector.
4. Cleaner production technologies, as espoused by the MET's Cleaner Production Programme, should be implemented in the onshore fish-processing sector. Particular emphasis should be placed on promoting water use efficiency and preventing pollution.
5. A full analysis should be conducted to test the economic efficiency of the policy which promotes onshore as opposed to on-board processing (MFMR 2004a). This should determine the most economically efficient allocation.
6. Further biological and economic research should be conducted to examine allocation issues between resource uses. Thus, the question of seal management and use should be examined in relation to fish stock recovery and

use. Also, the merits of promoting bird-friendly longlining for hake over bottom trawling should be examined.

7.3.1.4 Mariculture

1. It is recommended that mariculture expansion be strongly promoted within a proper planning framework. Sites suitable for the various activities should be mapped so that they can be zoned within comprehensive plans for development of the areas, taking into account all demands on resource uses, including those for conservation. This should be incorporated in land zone planning activities.
2. Ongoing research and development in mariculture by the private sector should be encouraged, with scientific support from the MFMR, with the aim of reducing potential problems of pollution or spatial overcrowding. Mariculture enterprises should be included in long-term enterprise surveys.
3. The feasibility and potential for harvesting kelp along the lines of, and possibly in collaboration with, kelp harvesting activities in the Northern Cape Province in South Africa needs to be examined further.
4. Local processing of mariculture products, such as agar from seaweed, should be promoted where possible. Also where possible, maximum use should be made of existing slack capacity in processing infrastructure and existing market channels.

7.3.1.5 Other biological natural resources

1. It is recommended that a CBNRM project be initiated, *in the long term*, within the Topnaar community, along the lines of the ongoing conservancy development in communal lands throughout Namibia (NACSO 2004, 2006). This initiative should include all the natural resource uses embraced within the current Topnaar community coping strategy, including !nara, livestock, gardens and tourism. Some possible tourism initiatives are discussed elsewhere in this report.
2. It is recommended that the possibilities for development of !nara oil production and expansion of other processing and marketing options be further pursued.
3. In the context of all the constraints hampering progress in the socio-economic development of the Topnaar community, it is suggested that, *in the long term*, a planned intervention be initiated to shift the *unsustainable* current natural resource use practices (!nara harvesting, livestock farming and future potential tourism development) to a *sustainable* footing. This can be pursued as part of the CBNRM project suggested in Recommendation 1 above.
4. The CBNRM intervention should also include a series of planned behavioural science intervention activities carried out in collaboration with community leaders and community members to find improved ways of working together

toward individual and community goals. Conflict resolution should be an integral part of this. The process should not be aimed at making random or ad hoc changes, but rather be based on a systematic appraisal and diagnosis of problems, leading to planned and specific types of change efforts.

5. A possible strategic change from the current Inara harvesting structure could be the establishment by the CBNRM project of a processing and marketing cooperative, according to which a large part – and not necessarily all – of the revenues should be income *earned* by producers, and it is clearly defined *how* all stakeholders will benefit in case the organisation is very successful, i.e. makes a ‘profit.’
6. Seal populations should be managed with the objective of enhancing their tourism value as well as, if possible, enhancing the possibilities for recovery of the sardine stocks. Ongoing biological and economic research with these objectives in mind should be accompanied by attempts to ameliorate animal rights pressures on seal harvesting. Seal harvesting enterprises should be surveyed along with the suggested tourism baseline survey.
7. Guano production on platforms should be expanded, but with due consideration for the profitability of such investments in the face of declining bird numbers. Platforms should be restricted to zones where they do not impact on tourism or aesthetic values, and where they have access to markets and infrastructure, all within environmentally and economically rational natural resource planning. Biological and economic research into guano production and seabird populations should continue. This should be integrated into zoning and management planning activities. Guano production enterprises should be surveyed along with tourism enterprise baseline surveys.
8. A social and economic study of the informal sector in the coastal zone is recommended, and should include the values associated with shell harvesting and its potential. This should be combined with the long-term tourism enterprise baseline study.

7.3.1.6 Minerals

1. Salt production can be zoned, and these zones should be restricted to those areas close to the main markets and urban centres that have already suffered a degree of visual impact. Due to market and profitability constraints, such expansion is likely to be limited. This should be included in land-use zoning and management planning work, and salt production should also be included in the long-term tourism enterprise survey.
2. Environmental management plans associated with diamond mining should be integrated with an SEA, zoning, land use, and management plans being developed for the coastal zone. All new mining should be accompanied by EIAs and management plans, in line with the stipulations of the pending Environmental Management and Assessment Bill.

3. Research on the impacts of mining on local biodiversity and natural resource uses such as the crayfish fishery should be continued, with a view to minimising damage to them. Mined zones could be considered for rezoning for intrusive land and resource uses such as aquaculture, or intensive tourism activities.
4. Plans for natural gas exploitation and power generation should be accompanied by EIAs and planning, with consideration for the SEA, coastal zoning and land-use plans.

References

- Alberts, M.** 2007. A financial analysis of park tourism in Namibia. MBA Dissertation, Department of Business Studies, Management College of Southern Africa, Durban.
- Attwood, CG & BA Bennett.** 1995. A procedure for setting daily bag limits on the recreational shore-fishery of the South-Western Cape, South Africa. *South African Journal of Marine Science*, 15:241–251.
- Ashley, C.** 2006. Participation by the poor in Luang Prabang tourism economy: Current earnings and opportunities for expansion. Unpublished ODI Working Paper. Overseas Development Institute, London.
- Barnes, JI.** 1996. Economic characteristics of the demand for wildlife viewing tourism in Botswana. *Development Southern Africa*, 13(3):377–397.
- Barnes, J.** 2006. Tourism component economic analysis. Unpublished Report. Millennium Challenge Account Proposal Team, Windhoek.
- Barnes, JI & MN Humavindu.** 2003. Economic returns to land use options in Gondwana Cañon Park, Karas, Namibia. Unpublished report. Nature Investments (Pty) Ltd, Windhoek.
- Barnes, J & M Novelli.** 2006. Trophy hunting and recreational angling in Namibia: An economic, social and environmental comparison. Unpublished paper. Ministry of Environment and Tourism, Windhoek.
- Barnes, JI, J MacGregor & LC Weaver.** 2002 (Barnes et al. 2002a). Economic efficiency and incentives for change within Namibia's community wildlife use initiatives. *World Development*, 30(4):667–681.
- Barnes, JI, C Schier & G van Rooy.** 1999. Tourists' willingness to pay for wildlife viewing and wildlife conservation in Namibia. *South African Journal of Wildlife Research*, 29:101–111.
- Barnes, JI, O Nhuleipo, PI Muteyauli & J MacGregor. 2005. Preliminary economic asset and flow accounts for forest resources in Namibia. *DEA Research Discussion Paper*, 70. Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism.
- Barnes, JI, F Zeybrandt, CH Kirchner & AL Sakko.** 2002 (Barnes et al. 2002b). The economic value of Namibia's recreational shore fishery: A review. *DEA Research Discussion Paper*, 50. Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism.
- Barnes, JI, F Zeybrandt, CH Kirchner, AL Sakko & J MacGregor.** 2004. Economic valuation of the recreational shore fishery: A comparison of techniques. In Sumaila, UR, SI Steinshamm, MD Skogen & D Boyer (Eds.). *Ecological, economic and social aspects of Namibian fisheries*. Delft: Eburon Academic Publishers, pp 215–230.
- Bianchi, G, KE Carpenter, J-P Roux, FJ Molloy, D Boyer & HJ Boyer.** 1999. *FAO species identification guide for fishery purposes: Field guide to the living marine resources of Namibia*. Rome: Food and Agriculture Organisation of the United Nations.
- Boyer DC & I Hampton.** 2001. An overview of the living marine resources of Namibia. *South African Journal of Marine Science*, 23:5–35.
- CBS/Central Bureau of Statistics.** 2003. *Republic of Namibia national accounts: 1993–2001*. Windhoek: National Planning Commission.
- CBS/Central Bureau of Statistics.** 2005. *Republic of Namibia national accounts: 1995–2004*. Windhoek: National Planning Commission.
- Clayton, M & T Avafia.** 2002. Management and Monitoring Plan for the dune belt between Swakopmund and Walvis Bay: Annexure A. Unpublished document. Ministry of Environment and Tourism, Windhoek.
- Cooper, C, J Fletcher, D Gilbert & S Wanhill.** 1998. *Tourism: Principles and practice* (2nd Edition). Essex: Prentice-Hall & Pearson Education Ltd.

Cullinan, C. 2007. The legal framework for coastal management in Namibia. Unpublished Draft Report. Windhoek: Namibian Coast Conservation and Management Project, Ministry of Environment and Tourism.

Desert Research Foundation of Namibia & Topnaar Community Foundation. 2004. Community-based resource management of !Nara: A baseline survey. In Henschel, J, R Dausab, P Moser & J Pallett. (Eds.). *!Nara: Fruit for the development of the !Kuiseb Topnaar*. Windhoek: Desert Research Foundation of Namibia, pp 107–129.

DHI Water and Environment. 2006. Minutes of stakeholder meetings for the SEA for Kunene and Erongo, NACOMA project. Unpublished. Windhoek: Namibia Coast Conservation and Management Project, Ministry of Environment and Tourism.

Eco-Africa Environmental Consultants. 2004. *Rapid assessment of the development plans, biodiversity conservation projects and socio-economic situation of the Namib coastal regions*. Windhoek: Namibia Coast Biodiversity Conservation and Management Project, Ministry of Environment and Tourism.

Fielding, P, P Cardoso, M Shapi & M Sowman. 2006. *Socio-economic baseline survey of coastal communities in the BCLME region – Namibia*. Swakopmund: Benguela Current Large Marine Ecosystem Programme.

Font, X. 2002. Environmental certification in tourism and hospitality: Progress, process and prospects. *Tourism Management*, 23(3):197–205.

Font, X & R Buckley (Eds.). 2001. *Tourism ecolabelling: Certification and promotion of sustainable management*. Wallingford: CABI.

Gasnier, D. 2001. Aquaculture potential in Namibia. Unpublished note (confidential). COFREPECHE, Paris.

Glavovic, BC. 2006. The evolution of coastal management in South Africa: Why blood is thicker than water. *Ocean and Coastal Management*, 49(2006):889–904.

Glavovic, BC & S Boonzaier. 2007. Confronting coastal poverty: Building sustainable coastal livelihoods in South Africa. *Ocean and Coastal Management*, 50(2007):1–23.

Grandone, E. 2004. Towards a national tourism training strategy, Part 1. Unpublished draft report. Ministry of Environment and Tourism, Windhoek.

GRN/Government of the Republic of Namibia. 1996. *First National Development Plan: 1995/1996–1999/2000 (NDP1)* (2 volumes). Windhoek: National Planning Commission.

GRN/Government of the Republic of Namibia. 2001. *Second National Development Plan: 2001/2002–2005/2006 (NDP2)* (3 volumes). Windhoek: National Planning Commission.

GRN/Government of the Republic of Namibia. 2002. *Namibia Occupational Wages Survey (NOWS): Final report of analysis*. Windhoek: Directorate of Labour Market Services, Ministry of Labour and Social Welfare.

GRN/Government of the Republic of Namibia. 2004. *Namibia Vision 2030: Policy framework for long-term national development – Main document*. Windhoek: Office of the President.

GRN/Government of the Republic of Namibia. 2006a. *Namibia Household Income and Expenditure Survey 2003/2004*. Windhoek: Central Bureau of Statistics, National Planning Commission.

GRN/Government of the Republic of Namibia. 2006b. *Namibia Labour Force Survey*. Windhoek: Directorate of Labour Market Services, Ministry of Labour and Social Welfare.

Hampton I. 2003. Harvesting the sea. In Molloy, F & T Reinikainen. *Namibia's marine environment*. Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism, pp 31–69.

- Henschel, J, R Dausab, P Moser & J Pallett, J (Eds.).** 2004. *!Nara: Fruit for development of the !Kuiseb Topnaar*. Windhoek: Desert Research Foundation of Namibia.
- Hetherington, A & M Copeland.** 2006. *Best available technologies: A guide for the Namibian fish processing industry*. Windhoek: Cleaner Production Component, Directorate of Environmental Affairs, Ministry of Environment and Tourism.
- Hetherington, A & J Hanks.** 2006. *Cleaner production in Namibian industries: Regulators' guide to the promotion of cleaner production in Namibian industries*. Windhoek: Cleaner Production Component, Directorate of Environmental Affairs, Ministry of Environment and Tourism.
- Holtzhausen, JA & CH Kirchner.** 2001. An assessment of the current status and potential yield of Namibia's northern West Coast steenbras *Lithognathus aureti* population. *South African Journal of Marine Science*, 23:157–168.
- Holtzhausen, JA, CH Kirchner & SF Voges.** 2001. Observations on the linefish resources of Namibia, 1990–2000, with special reference to west coast steenbras and silver kob. *South African Journal of Marine Science*, 23:135–144.
- Honey, M (Ed.).** 2002. *Ecotourism and certification: Setting standards in practice*. Washington, DC: Island Press.
- Humavindu, MN & JI Barnes.** 2003. Trophy hunting in the Namibian economy: An assessment. *South African Journal of Wildlife Research*, 33(2):65–70.
- Humphrey, E.** 2006. *Tourism study of the Aus Townlands*. Unpublished report. Aus: Aus Community Conservation Trust.
- ICZMP Project Management Group.** 1999. *Coastal profile of the Erongo Region*. Swakopmund: Integrated Coastal Zone Management Project, Erongo Regional Council.
- Kirchner, CH.** 1998. Population dynamics and stock assessment of the exploited silver kob (*Argyrosomus inodorus*) stock in Namibian waters. PhD thesis, University of Port Elizabeth, Port Elizabeth.
- Kirchner, CH.** 2001. Fisheries regulations based on yield-per-recruit analysis for the linefish silver kob *Argyrosomus inodorus* in Namibian waters. *Fisheries Research*, 52:155–167.
- Kirchner, CH & J Beyer.** 1999. Estimation of total catch of silver kob *Argyrosomus inodorus* by recreational shore-anglers in Namibia, using a roving-roving creel survey. *South African Journal of Marine Science*, 21:91–199.
- Kirchner, CH & J Stage.** 2005. An economic comparison of the commercial and recreational line fisheries in Namibia. *DEA Research Discussion Paper*, 71. Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism.
- Kirchner, CH, AL Sakko, and JI Barnes.** 1999. An economic valuation of the Namibian recreational shore-angling fishery. *South African Journal of Marine Science* 22: 17-25.
- Klingelhoeffer, E & A Forbes.** 2004. Development opportunities in Namibia's aquaculture sector and why invest in the Karas Region. Unpublished paper. Ministry of Fisheries and Marine Resources, Windhoek.
- Lange, G-M.** 2003a. Fisheries accounts: Management of a recovering fishery. In Lange, G-M, R Hassan & K Hamilton (Eds.). *Environmental accounting in action: Case studies from southern Africa*. Cheltenham: Edward Elgar Publishing, pp 111–152.
- Lange, G-M.** 2003b. The contribution of minerals to sustainable economic development: Mineral resource accounts in Namibia. *DEA Research Discussion Paper*, 54. Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism.

Lange, G-M. 2004. Economic value of fish stocks and the national wealth of Namibia. In Sumaila, UR, SI Steinshamn, MD Skogen & D Boyer (Eds.). *Ecological, economic and social aspects of Namibian fisheries*. Delft: Eburon Academic Publishers, pp 187–201.

Lange, G, K Schade, J Ashipala & N Haimbodi. 2004. A social accounting matrix for Namibia 2002: A tool for analyzing economic growth, income distribution and poverty. *NEPRU Working Paper, 97*. Windhoek: Namibia Economic Policy Research Unit.

Lindberg, K & J Enriquez. 2000. *An analysis of ecotourism's economic contribution to conservation and development in Belize*. Belize City: World Wildlife Fund (US) and Ministry of Tourism and Environment.

Ljung, E & K Sternhufvud. 1998. Assessment of the resource rent in the Namibian fisheries: The case of hake, horse mackerel and pilchard. *EEU Project Paper, 1998:4*. Gothenburg: Environmental Economics Unit, Gothenburg University.

Maartens, L. 2003. Biodiversity. In Molloy, F & T Reinikainen. *Namibia's marine environment*. Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism, pp 103–135.

Manidis Roberts Consultants. 1997. *Developing a Tourism Optimisation Management Model (TOMM), a model to monitor and manage tourism on Kangaroo Island: Final report*. Adelaide: South Australian Tourism Commission.

Masteller, M. 1998. Baseline study on the establishment of marine reserves in Namibia. Unpublished report. Ministry of Fisheries and Marine Resources, Windhoek.

Mathieson, A & G Wall. 1982. *Tourism: Economic, physical and social impacts*. Harlow: Longman.

Mecenero, S, LG Underhill, J-O Krakstad, SP Kirkman & J-P Roux. 2007. Overlap in utilization of juvenile Cape horse mackerel by Cape fur seals and the purse-seine fishery in Namibia. *South African Journal of Wildlife Research, 37(1):17–29*.

Medina, LK. 2005. Ecotourism and certification: Confronting the principles and pragmatics of socially responsible tourism. *Journal of Sustainable Tourism, 13(3):281–295*.

Mendelsohn, J, A Jarvis, C Roberts & A Robertson. 2002. *Atlas of Namibia: A portrait of the land and its people*. Windhoek: Ministry of Environment and Tourism.

MET/Ministry of Environment and Tourism. 2003. Namib–Naukluft Park: Management and Tourism Development Plan (Draft 3/04). Unpublished report. Ministry of Environment and Tourism, Windhoek.

MET/Ministry of Environment and Tourism. 2006. Policy on tourism and wildlife concessions on state land. Draft report. Ministry of Environment and Tourism, Windhoek.

MFMR/Ministry of Fisheries and Marine Resources. 1991. *Towards responsible development of the fisheries sector*. Windhoek: MFMR.

MFMR/Ministry of Fisheries and Marine Resources. 2001. *Towards responsible development of aquaculture: Namibia's aquaculture policy*. Windhoek: MFMR.

MFMR/Ministry of Fisheries and Marine Resources. 2004a. *Ministry of Fisheries and Marine Resources Strategic Plan 2004–2008*. Windhoek: MFMR.

MFMR/Ministry of Fisheries and Marine Resources. 2004b. *Namibia's Aquaculture Strategic Plan*. Windhoek: MFMR.

Ministry of Labour and Social Welfare. 2006. *Namibia Labour Force Survey, 2004. Report of analysis*. Windhoek: Directorate of Labour Market Services, Ministry of Labour and Social Welfare.

Molloy, F & T Reinikainen (Eds.). 2003. *Namibia's Marine Environment*. Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism.

- Moseley, J, L Sturgis & M Wheeler.** 2007. Improving domestic tourism in Namibia: Project report. Worcester, Massachusetts: Worcester Polytechnic Institute.
- Mwiya, S.** 2005. *Baseline scenario for three outcome indicators (OIs) for monitoring and evaluation.* Windhoek: Namibia Coast Biodiversity Conservation and Management Project, Ministry of Environment and Tourism.
- Mwiya, S (Ed.).** 2006. *Cleaner production in Namibia: Cleaner production training booklet – A foresight to economic, social and environmental benefits of adopting cleaner production.* Windhoek: Cleaner Production Component, Directorate of Environmental Affairs, Ministry of Environment and Tourism.
- NACSO/Namibian Association of CBNRM Support Organisations.** 2004. *Namibia's communal conservancies: A review of progress and challenges.* Windhoek: NACSO.
- NACSO/Namibian Association of CBNRM Support Organisations.** 2006. *Namibia's communal conservancies: A review of progress and challenges in 2005.* Windhoek: NACSO.
- Novelli, M, JI Barnes & MN Humavindu.** 2006. The other side of the ecotourism coin: Consumptive tourism in Southern Africa. *Journal of Ecotourism*, 5, 1&2:1–18.
- Nyqvist, J.** 2007 (online). Certification: The case of Nature's Best®. *Ecoclub Monthly Newsletter*. <http://www.ecoclub.com>; accessed June 2007.
- Odendaal, F, H Suich & CV Rojas.** 2007. Richtersveld: The land and its people. Cape Town: Struik Publishers.
- Prochazka, K, B Davies, C Griffiths, M Hara, M Luyeye, M O'Toole, J Bodenstein, T Probyn, B Clark, A Earle, C Tapscott & R Hasler.** 2005. *Benguela Current GIWA Regional Assessment 44.* Kalmar/Nairobi: University of Kalmar for the United Nations Environment Programme.
- Pulfrich, A & A Penney.** 1999. Interactions between the rock lobster fishery and marine diamond mining along the southern African west coast. Unpublished report. Windhoek: Ministry of Fisheries and Marine Resources.
- Ramasar, V.** 2005. *Northern Cape State of the Environment Report 2004: Marine and coast specialist report.* Kimberley: Department of Tourism, Environment and Conservation.
- Regional Council of Hardap and Hardap Tourism Board.** 2003. *Hardap Region Tourism Development Plan 2003.* Mariental: Regional Council of Hardap and Hardap Tourism Board.
- Riveiro, P.** 2005. *Namibia in figures: Namibian fishing sector – Provisional report.* Walvis Bay: Namibia Maritime and Fisheries Institute.
- Samuelsson, E & J Stage.** 2007. The size and distribution of the economic impacts of Namibian hunting tourism. *South African Journal of Wildlife Research*, 37(1):41–52.
- Schneider, GIC & G Genis.** 1992. Salt. In: Anon. *The mineral resources of Namibia.* Special Publication. Windhoek: Geological Survey of Namibia.
- SIAPAC.** 2003. Visitor exit survey. Prepared by SIAPAC for MET. Unpublished report. Directorate of Tourism, Ministry of Environment and Tourism, Windhoek.
- SIAPAC.** 2007. Study on characteristics of demand of tourists and use patterns of protected areas in Namibia. Unpublished report. Ministry of Environment and Tourism, Windhoek.
- SPAN/Strengthening the Protected Area Network Project.** 2006. *Project document: Strengthening the Protected Area Network (SPAN) Project, Project No. 00048171, 2006–2011.* Windhoek: Ministry of Environment and Tourism.

- Spenceley, A.** 2005. *Tourism Certification in Africa*. Unpublished Report, The International Ecotourism Society (TIES), Johannesburg.
- Stage, J.** 2006. The willingness to pay for hunting in Namibia: Are the prices right? Unpublished paper. Directorate of Environmental Affairs, Ministry of Environment and Tourism, Windhoek.
- Steenkamp, Z & W Nashandi.** 2004. The dynamics of recreational angling in Namibia. Unpublished Paper, Ministry of Fisheries and Marine Resources Windhoek.
- Stubenrauch Planning Consultants.** 2004. Namibia Tourism Industry Survey 2002/03. Unpublished Report. Directorate of Tourism, Ministry of Environment and Tourism, Windhoek.
- Suich, H.** 2002. Development of preliminary tourism satellite accounts for Namibia. *Development Southern Africa*, 19(1):105–121.
- Suich, H.** 2005. Economic impacts of transfrontier conservation areas: Economic baseline of the Richtersveld Municipality, the Proposed Greater !Gariiep TFCA, Paper No. 2. Cape Town: Conservation International.
- Tarr, P.** 2003. Human impact. In Molloy, F & T Reinikainen. *Namibia's marine environment*. Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism, pp 71–100.
- TIES/The International Ecotourism Society.** 2005. *Demand for certification according to consumer demand experts and consumer advocacy organizations*. Washington, DC: TIES/The International Ecotourism Society.
- Topnaar Community Foundation & Desert Research Foundation of Namibia.** 2004. !Nara: Which way forward?. In Henschel, J, R Dausab, P Moser & J Pallett. (Eds.). *!Nara: Fruit for the development of the !Kuiseb Topnaar*. Windhoek: Desert Research Foundation of Namibia, pp 131–140.
- Toth, R.** 2002. Exploring the concepts underlying certification. In Honey, M (Ed.). *Ecotourism certification: Setting standards in practice*. Washington, DC: Island Press, pp 73–102.
- Turpie, J, G-M Lange, R Martin, R Davies & J Barnes.** 2005. Namibia's protected areas: Their economic worth and the feasibility of their financing. *DEA Research Discussion Paper, 73*. Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism.
- UN, EC, IMF, OECD & WB/United Nations, European Commission, International Monetary Fund, Organization for Economic Cooperation and Development & World Bank.** 2003. Integrated environmental and economic accounting, final draft. *Studies in Methods*, Series F, No. 61. New York/Brussels/Washington DC/Paris/Washington, DC: Statistics Division, United Nations Department of Economic and Social Affairs, UN /EC/IMF/OECD & WB.
- Van den Eynden, V, P Vernemmen & P van Damme.** 1992. *The ethnobotany of the Topnaar*. Brussels: Commission of the European Community.
- Van Zyl, H.** 2004. *Economic analysis of natural resources in two of Namibia's coastal regions: Karas and Erongo*. Windhoek: Namibia Coast Biodiversity Conservation and Management Project, Ministry of Environment and Tourism.
- Van Zyl, H.** 2005. Development of outcome indicators for monitoring and evaluation of economic benefits in the coastal zone of the NACOMA Project. Windhoek: Namibia Coast Biodiversity Conservation and Management Project, Ministry of Environment and Tourism.
- Walmsley, B.** 2001a. The Sperrgebiet land use plan. Unpublished report. Ministry of Environment and Tourism, Windhoek.
- Walmsley, B.** 2001b. Meob–Conception area land use plan. Unpublished report. Ministry of Environment and Tourism, Windhoek.
- Wiium, VH & AS Uulenga.** 2000. Fishery management costs and rent extraction: The case of Namibia. Unpublished paper. Ministry of Fisheries and Marine Resources, Windhoek.

World Bank. 2005a. *Project appraisal document on a proposed grant from the Global Environment Facility Trust Fund to the Republic of Namibia for a Namib Coast Biodiversity Conservation and Management Project. Report No. 31307 – NA.* Washington, DC: World Bank.

World Bank. 2005b (online). *CSR in the tourism industry? The status of and potential for certification, codes of conduct and guidelines.* Washington, DC: World Bank. <http://www.ifc.org/ifcext/economics.nsf/Content/CSR-Research>; accessed July 2007.

WTO/World Trade Organisation. 2002. *Voluntary initiatives for sustainable tourism.* Madrid: WTO.

WTTC/World Travel and Tourism Council. 2006. *Namibia: The impact of travel and tourism on jobs and the economy.* Windhoek: Namibia Tourism Board & Ministry of Environment and Tourism.

Zeybrandt, F. 1999. An economic valuation of coastal tourism in Namibia. Unpublished Master's Thesis. Environmental Economics Unit, Gothenburg University, Gothenburg.

Zeybrandt, F & JI Barnes. 2001. Economic characteristics of demand in Namibia's marine recreational shore fishery. *South African Journal of Marine Science*, 23:145–156.

Glossary

Asset value of a natural resource – The value of the natural resource as a capital asset, measured as the present value of the expected future stream of resource rent to be generated by that resource.

Backward linkage – The link between an enterprise or activity in the economy and another enterprise in the broader economy which is induced to supply factors or resources to that enterprise or activity, as a result of the presence of the enterprise or activity.

Biodiversity – The diversity of biological resources, in terms of ecosystems, species and/or genetics; an object of conservation, as it is held to reflect various values, such as existence and option value, ecosystem health and ecosystem resilience.

Carrying capacity – The capacity of a resource to withstand use without its stocks being reduced (see *tourism carrying capacity*).

Commercial tourism – All activities involving enterprises which provide services directly to tourists within the tourism sector.

Community – Group of rural or urban residents that have formed a legal entity that has a defined membership, defined boundaries, and an elected body which represents the interests of the membership; or a group of Namibian citizens that have defined themselves as a community and by virtue of being formerly disadvantaged are being considered as beneficiaries.

Concession – The rights – whether full or restricted, or shared or exclusive – to conduct tourism activities and/or to commercially use State-owned plant and/or animal resources (collectively referred to as *wildlife resources*) on business principles in proclaimed protected areas and any other State land for a specified period of time.

Concession agreement – An agreement between the Government and a concession holder that outlines each party's rights and obligations arising out of the granting of the concession.

Concessionaire/concession holder – Any individual, collective of individuals, community, conservancy, or incorporated or unincorporated entity that has been granted a concession by the Government.

Conservancy – A community-based organisation, registered by the MET under the Nature Conservation Amendment Act, 1996 (No. 5 of 1996) for the purpose of providing an economically based system of sustainable management and utilisation of wildlife on communal land.

Consumer surplus – The difference between the value which a consumer is willing to pay for a good or service, and the value s/he actually pays; this is a component of the economic value of the good or service.

Demersal – Marine biological resources or species occurring in the bottom, or benthic, layer of the ocean water.

Direct contribution to national income – The annual contribution made to the national income by a specific enterprise activity or sector, *excluding* any indirect or induced effects through backward or forward linkages or multiplier effects.

Discounting – The process of finding the present worth of future amounts of money, or determining the opportunity costs of future amounts of money; this adjusts for the time value of money, and is generally obtained using a discount factor.

Discount rate – The interest rate used to determine the present worth of future amounts of money by *discounting*.

Economic analysis – In this report, analysis of the amount by which a production unit changes the *national income*; costs and benefits are measured in terms of their opportunity costs to the national economy; involves some *shadow pricing* adjustments to the transaction values which measure private costs and benefits in *financial analysis*.

Empowerment – The economic empowerment of formerly disadvantaged Namibians, including women, workers, the youth, people with disabilities, and people living in rural areas; based on strategies that include increasing the number of formerly disadvantaged people that manage, own and control enterprises and productive assets; facilitating ownership and management of enterprises and productive assets by communities, workers, cooperatives and other collective enterprises; human resource and skills development, preferential procurement, and ensuring investment in enterprises owned or managed by formerly disadvantaged people.

Epipelagic – Marine biological resources or species that occur in the upper layers of the ocean.

Excursion – A short return trip or *tour* undertaken by a tourist away from his/her basic route or itinerary, usually lasting less than a week.

Financial analysis – In this report, analysis of the private transactions in a *production unit*, to measure the costs and benefits, return on investment, and profit accruing to the investor.

Forward linkage – The links between an enterprise or activity in the economy and another enterprise in the broader economy which is induced to make use of, process, or market products from that enterprise or activity, as a result of the presence of the enterprise or activity.

Gross domestic product – The measure of income earned by factors of production, owned by nationals or foreigners, within the geographic borders of the nation (see *national income*).

Gross national income – The measure of the income earned, whether domestically or abroad, by factors of production owned by nationals (equals *gross national product*) (see *national income*).

Income multiplier - The *multiplier* as it applies to *national income*.

Gross output or output – In this study, the total annual value of goods and/or services produced by an enterprise or activity; the economic term for *turnover*.

Joint venture – In this report, an enterprise in which the landholder (Government or local community) enters into an operational agreement with a private sector operator; the private sector partner invests in and manages the venture, providing capital and specific operational and marketing skills, in return for rentals, royalties and dividends, depending on the structure of the agreement.

Mariculture – The production of marine biological resources, where the production process is controlled or manipulated at least in some way by the producer; the marine version of aquaculture.

Market price – The value of cost or benefit as experienced by a production unit or enterprise, and reflected in an actual financial transaction; applied in financial analysis to determine the profit and/or the financial return on investment.

Multiplier – In this report, the proportional increase in *national income* that occurs from each unit increase in new spending from some autonomous source such as private or Government investment, or the outside world (through exports); expressed as a factor and usually calculated using the *SAM*.

National accounts – The compilation of accounts to derive estimates of the *national income*.

National income – The total earnings of labour and property employed in the production of goods and services in a nation during some accounting period, usually a year; commonly measured by the *gross domestic product*, the *gross national product*, and the *gross national income*; measured either as the value of all expenditure on final goods and services, the value of all payments to factors of production, or the value of all value added by producing units.

Natural resource accounts – A set of accounts, separate from but supporting the national accounts, which seeks to measure the asset stocks and flows of natural resources which are not owned or man-made; such natural assets (fish, forests, water, etc) are excluded from the conventional national asset accounts.

Natural resources – Natural animal or plant species and natural tourism attributes that can be used to derive a commercial value.

Net income or profit – A financial measure of the amount remaining in a production unit or enterprise after all costs have been subtracted from all revenues; measured in *market prices*.

Net national income – The gross national income adjusted for depreciation of capital assets.

Open-access resource – A resource in which access to its use is unrestricted; commonly results in utilisation of the resource in excess of its most productive and/or profitable use level, reducing total output and dissipating use profits.

Opportunity cost – The benefit forgone by using a scarce resource for one purpose instead of its next best alternative use.

Pelagic – Marine biological resources or species that occur above the bottom, or benthic, layer, i.e. in the middle or upper layers of the ocean.

Production unit/enterprise – An entity which invests capital to derive a return through production of goods or services.

Protected areas – Areas proclaimed as national parks, game parks, recreational areas or similar areas in terms of Ordinance 4 of 1975 (as amended) and Ordinance 20 of 1973, and managed by the MET.

Regional Council – A Regional Council as defined in the Regional Councils Act, 1992 (No. 22 of 1992).

Resource rent/economic rent – The return a factor of production receives in excess of the minimum required to bring forth the service of the factor, or the surplus available in the *production unit* after accounting for the costs of production including a reasonable return to capital; *resource rent* is the economic rent generated from the use of a natural resource.

SAM (social accounting matrix) – An economic input–output model of the national economy, used as a tool for impact analysis; expands the national accounts to show the linkages between production and generation of income, and between production and distribution of income.

Semi-skilled worker – A worker with some basic vocational skills for which s/he is able to take responsibility, or a worker employed in a job for which basic vocational skills are necessary

Shadow price – The value used in economic analysis for a cost or benefit of an activity, to represent to opportunity cost to the economy of the cost or benefit, when the market price does not correctly represent this opportunity cost.

Skilled worker – A worker with vocational skills enabling him/her to undertake work requiring specialist skills, or lower- or middle-management responsibilities.

State land – Land inside and outside of protected areas that belongs to the State; includes national parks, game parks, recreational areas, communal land, and conservancies.

Sustainable development – Development which meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable tourism development – Tourism development which meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable use – The use of a renewable natural resource in a way, and at a rate, that allows for the regeneration of the same resource.

Total contribution to national income – The annual contribution made to the national income by a specific enterprise activity or sector and, in addition, any indirect or induced effects through backward or forward linkages or multiplier effects; also referred to as *total economic impact*.

Tour – The route or itinerary of a tourist who visits more than one destination.

Tourism carrying capacity – The maximum number of people who can use a site without any unacceptable alteration in the physical environment and without an unacceptable decline in the quality of the experience gained by visitors.

Tourism satellite accounts – A set of accounts separate from, but drawn from and supporting, the national accounts, which describe the economic characteristics of the tourism industry; tourism is a demand-based industry and is not delineated among the production-based industries of the conventional national accounts.

Tourist – In line with the World Tourism Organisation definition, any person who spends more than 24 hours away from their normal place of abode.

Traditional authority – The governance structure or entity of a traditional community whose traditional leaders have been recognised under the Traditional Authorities Act, 2000 (No. 25 of 2000), as amended.

Turnover – The total annual financial value of goods and/or services produced by an enterprise of activity; the financial term for *gross output*.

Unskilled worker – A worker with no specific vocational skills, or a worker employed in a job where no specific vocational skills are necessary.

Value added – The amount of economic value generated by the activity carried on within a production unit or enterprise; measured as the returns to, or income earned by, the internal factors of production in the production unit or enterprise (capital, labour and entrepreneurship); all value added in the economy amounts to its *national income*.

APPENDIX A

TERMS OF REFERENCE

Appendix A: Terms of reference

Terms of Reference

Sustainable tourism options study for the coastal zone of Namibia and refinement of available data on coastal natural resource use practices

INTRODUCTION

The NACOMA Project

1. Subproject

The Namibian Coast Conservation and Management (NACOMA) Project's Global and Project Development Objective (GDO/PDO) is to *strengthen conservation, sustainable use and mainstreaming of biodiversity in coastal and marine ecosystems in Namibia.*

The Namibian Coast Conservation and Management (NACOMA) Project aims to enhance coastal and marine biodiversity conservation through the mainstreaming of biodiversity conservation and sustainable use into coastal policy, legislative framework, and institutional and technical capacity and by supporting targeted investments for biodiversity conservation in critical ecosystems on the coast. The project's four components are:

- Policy, Legal and Institutional Framework for Sustainable Ecosystem Management of the Namib Coast
- Targeted Capacity-Building for Coastal Zone Management and Biodiversity Conservation
- Targeted Investments in Critical Ecosystems for Biodiversity Conservation, Sustainable Use and Mainstreaming
- Project Management and Performance Monitoring

1.2 Project implementation and stakeholders

NACOMA's design is based on a flexible and adaptable approach to institutional arrangements. The project's implementation is guided by a *Steering Committee (SC)* which builds coordination, cooperation and communication between key sectors at the national level and between national and regional governments. The SC members have legal powers and duties which allows for more effective coordination, project implementation and, targeting at the coastal zone. The PCO is responsible for coordination the implementation of NACOMA and reports directly to the SC. The PCO is hosted by the Erongo Regional Council offices and has four full time staff members re: a Project Coordinator, a Senior Technical Advisor (STA), an Accounting and Procurement Officer and an Administrative Assistant. A part-time Monitoring and Evaluation Specialist complements the team. The *Integrated Coastal Zone Management Committee (ICZMC)* serves as an advisory body to the Project, and its membership liaises with the SC on all aspects of Project implementation. The *Scientific Group (SG) on coastal biodiversity and ICZM* guides NACOMA's implementation and facilitate access to, and use of relevant data through BENEFIT, BCLME, MFMR and MET as well as other line Ministries own biodiversity knowledge and

monitoring bases. The SG will draw on national expertise through formal and informal organisations.

The NACOMA Project has a very diverse stakeholder base inclusive of line ministries, Regional Councils, Local Authorities, civil society, sectoral stakeholders (e.g. aquaculture, tourism, mining, etc) and support organisations (i.e. academic institutions and donor projects). The PCP has been developed to engage the above stakeholders through activities, methods and tools for communication and participation. The CAS and Action Plan will build on these activities, methods, and tools for stakeholder engagement, during project implementation and, particularly the NACOWP development process.

2. Background to the task

The task deals with two interrelated areas:

- a. Tourism, mainly nature-based, is recognised as the fastest growing sector in Namibia benefiting 69,000 people directly. Tourist arrivals have increased from 254,978 arrivals in 1993 to 777,890 arrivals in 2005 – a 32.8% increase. Tourism comprised 14.2% of the GDP and 18% of the Namibian employment force. The coastal strip is a popular tourist hotspot and offers a range of consumptive and non-consumptive activities. Consumptive activities include fishing excursions, kayaking on the lagoon and paragliding over the coastal deserts to name a few. Non-consumptive activities include birdwatching and National Park entries. Many tourism activities can be damaging to the natural environment (depending on the location, number of visitors and current management practices in place) and the flora and fauna. Such activities are thus potentially unsustainable in terms of the goods and services they draw from the natural environment if not controlled, planned and managed. In addition, the national tourism potential is yet to be fully exploited with many potential beneficiaries in the coastal regions.
- b. More than 60% of Namibia's total population is dependent on natural resources and/ or ecosystem goods and services for their livelihoods. With such a high dependence, and the grim predictions of negative impact of climate change on the environment, it is essential for Namibia to adopt sustainable use practices, to ensure long-term benefit from limited natural resources. Many coastal inhabitants are reliant on coastal and marine ecosystem goods and services. Activities range from fishing (large scale to subsistence and sport), guano harvesting, tourism, mariculture, and collection of shells and other natural material for craft making. It is currently not known i) which of these activities are sustainable and ii) whether their potential is fully exploited in a sustainable manner to increase people's incomes and to benefit a larger number of people.

3. Objectives of the task

To ensure that current and future tourism potential is exploited in a sustainable manner and the income generating activities adopt sustainable use practices, the NACOMA project seeks to commit this study

- i) to identify and assess current unsustainable and sustainable tourism and non-tourism activities on the coast and to recommend practical steps for a shift toward sustainable tourism options and use practices. To recommend a practical methodology to monitor this shift and report in the context of the measurement of OI 2 under NACOMA M&E (a matrix with ratings of various criteria could be used for example),

- ii) to develop and recommend practical options for maximising resource rent capture in the specific context of the activities identified above,
- iii) to refine accordingly, the data for Outcome Indicator (OI) 2 and the related monitoring methodology that currently reads: *Increase in the number of people engaged in sustainable use activities and the proportions of their incomes derived from these activities by year 5 compared to the baseline situation*,
- iv) to confirm, complement, and finalise the current baseline for OI 2 (as defined in the baseline study report as Annex 1),
- v) to fill sections III, IV, and V of the GEF Biodiversity Focal area Strategic Priority Two (SP2) (see Annex 2 of the Terms of Reference in Appendix A).

The study will thus refine essential information and data for Outcome Indicator (OI) 2 that reads:

Increase in the number of people engaged in sustainable use activities and the proportion of their incomes derived from these activities by year 5 compared to baseline situation. It will also serve to assist in monitoring IV and V of the mainstreaming tracking tool (see Annex 2) on a yearly basis.

4. Specific tasks

- a. Review current tourism and non-tourism natural resource use practices along the coast and establish categories and subcategories of activities (e.g. category = adventure tourism, subcategory = land-based adventure tourism);
- b. Establish criteria to, on a sector-by-sector basis, categorise the above identified activities (Annex 1) into sustainable and unsustainable use practices (i.e. on a scale of 1-5). With the aim of showing trends with the available data;
- c. Determine the current income generated from direct tourism activities and draw a comparison between income from sustainable versus unsustainable activities as defined above;
- d. Identify the current direct beneficiaries from tourism activities and their residence (e.g. hotel turnover and benefits will touch only minimum of local people but investors) and indicate the proportions of their income derived from tourism;
- e. Based on a review of the current legal framework and the identified activities, develop and recommend options to maximise resource rent capture for sustainable use activities;
- f. Make recommendations for strategic directions to improve sustainable tourism development. A proposed strategic direction can be for example, a certification scheme, eco-labelling, green tax, etc.
- g. Develop a system for data collection, including frequency and responsible stakeholders to facilitate monitoring and evaluation of tourism trends to fine tune the measurement of OI 2.

It is advised that the Consultant liaises with the Team Leader for the Policy and Laws and, institutional Roles and Mandates review consultancy, the Strategic Environmental Assessment (SEA) Team and the stakeholders involved in the drafting of a Tourism Development proposal for submission to the Millennium Challenge Account (MCA). As well as other related initiatives in this area such as the EU-funded Rural Poverty Reduction Programme.

5. Expected deliverables

- a. A Sustainable Coastal Tourism Options Study Report that:
 - i) Gives an overview of current coastal tourism activities presented in categories and subcategories;

- ii) Presents the above information matrix format under tourism categories as sustainable and unsustainable activities using a ranking system;
 - iii) Presents information on the current income derived from tourism activities along the coastal zone, the beneficiaries and the proportions of their incomes derived from tourism activities by category;
 - iv) Presents a review on the current legal framework and recommendations on how to maximise resource rent capture for sustainable use activities;
 - v) Presents recommendations for strategic directions to improve and assure sustainable tourism development along the coastal zone;
 - vi) Update the baseline for OI 2; presents recommendations for data capturing methodology, frequency of collection and responsibility for collection to facilitate monitoring and evaluation of NACOMA interventions, specifically OI2 and the Tracking Tool (see Annex 2).
- b. A Natural Resource use report that:
- i) Presents information about sector-specific sustainable and unsustainable use practices with practical steps to shift unsustainable use practices toward sustainable use practices;
 - ii) Presents information about beneficiaries of the above activities and the proportions of their income, including practical recommendations to increase beneficiaries' proportions of income through NACOMA interventions.

6. Logistical and other support

- NACOMA will make all relevant documents available to the Firm/Consultant in a timely manner;
- NACOMA will provide the Firm/Consultant with contact detail of all project stakeholders.

7. Reporting

The Consultant will report to the Project Coordinator and the M&E Specialist and submit reports on agreed deadlines. The NACOMA Project reserves the right to have reports reviewed by the Steering Committee (SC), the Integrated Coastal Zone Management Committee (ICZMC), and its Scientific Group (SG).

8. Existing relevant studies and basic data

- Namibia's recently developed Tourism Satellite Accounts (TSAs)
- Draft Tourism Development proposal for MCA funding
- NACOMA's Project Appraisal Document (PAD)
- Participation and Communication Plan (PCP)
- Baseline scenario for three Outcome Indicators (OI's) for Monitoring and Evaluation (Mwiya 2005)
- Development of Outcome Indicators (OI) for Monitoring and Evaluation of Economic benefits in the Coastal Zone for the NACOMA Project (Van Zyl 2005)
- Analysis of the institutional capacity in the Namibia Coastal Regional Councils in relation to the Namibian decentralisation process: Recommendations for institutional strengthening and capacity building (EcoAfrica Environmental Consultants 2004)
- Rapid assessment of the development plans, biodiversity conservation projects and socio-economic situation of the Namib Coastal Regions (EcoAfrica Environmental Consultants 2004)
- Annual tourism statistics collected by the Directorate of Tourism (DoT)

- Relevant data and information on private sector tourism operations (perhaps available through FENATA)
- Data available within MET and MFMR on natural resource use along the coastal zone

9. Profile of the expertise

- Postgraduate qualification in natural resource economics or related field;
- Demonstrated experience in resource use assessments, baseline and diagnostic assessments;
- Knowledge of the use of natural resources at subsistence and semi-commercial/small scale level;
- Knowledge of Namibia's coastal zone stakeholders and their existing mandates regarding natural resource use, livelihoods improvement and poverty reduction;
- Knowledge of Namibia's tourism sector and its stakeholders;
- Knowledge and understanding of Namibia's policy environment, government's decentralisation objectives, long-term development strategies (e.g. NDPs, V2030) and coast and coast-related sectors;
- Knowledge and understanding of ICZM is preferred;
- Good communication skills;
- Computer literate;
- Highly self-motivated and ability to work independently.

APPENDIX B

METHODOLOGY

B.1: Online Survey: Tourism Sustainability Evaluation

B.2: Online Survey: Tour Operator Use Practices

B.3: Coast tourism establishment data

B4: Demographic data

Appendix B.1: Online Survey: Tourism Sustainability Evaluation

QI - HOSPITALITY Management & Sustainability

As part of a study to verify whether hospitality enterprise operations sustainable or unsustainable, the NACOMA coastal biodiversity project is attempting to clearly define the key environmental, socio-cultural, and economic requirements to guide sustainable hospitality management and develop Sustainable Management Systems. At this point of time it was not possible for the consultants to identify any hospitality enterprises with a Sustainable Management System in place in the **coastal zone of Namibia**. Therefore, the following criteria were identified for the **general** evaluation of the hospitality sector with regard to sustainable/unsustainable conduct of business. We respectfully ask you for a few minutes of your valuable time to rate the sector, for each criterion, within the framework of your professional experience and observations within the hospitality sector. You are welcome to add comments. We would be very grateful if you could return your response per e-mail or fax it to 061 227618.

Criteria	Rating	Comments
Environmental	(scale 1-5) 1=very good 2=good 3=fair 4=poor 5=very poor	
Natural areas , flora and fauna, -active support in protection and good management of natural resources		
Sustainable architecture – in terms of insulation, natural ventilation, optimisation of natural light and shade, operating energy efficiency, minimisation of changes to local scenery, mitigation of erosion, construction materials from sustainable sources		
Landscaping in terms of maximum use of native vegetation and the natural environment of the surroundings		
Solid waste -in terms of reduce, re-use, and recycle.		
Liquid effluents - in terms of treatment of waste water (either by connection to public sewage collection and treatment system or by existence of enterprise- owned sewage treatment facilities. Contingency plans to prevent contamination of wastewater by toxic or hazardous products		
Emissions into the air - gases from vehicles, equipment and installations and minimisation of noise from equipment, machinery, leisure entertainment		
Energy efficiency - in terms of planning and implementation of measures to reduce energy consumption, e.g. in kWh per guest /night		
Conservation and management of water usage – use of devices to economise water such as flow restrictor taps and low-flush toilets. Less frequent changing of bed-linen and towels. The use of treated waste water for gardening and other uses. Water-saving campaigns targeted at guests and employees.		
Selection and use of materials for pest control, cleaning and cosmetics and soaps for customer consumption		
Environmental emergency preparedness and response – related to potential risks of accidents and emergency situations in the immediate environment		
Socio-cultural		
Local communities – engagement in contributions to the		

development of communities

Work and income – recruitment of local people and production, encouraging associative behaviour, quality and sustainability

Working conditions- compliance hygiene and safety standards as defined in the legislation

Cultural aspects- promotion of knowledge of the local culture among its customers, attempts to minimise negative impact of excursion activities on host communities, (only applicable if establishment offers activities to customers)

Health and education – implementation of healthcare programmes for workers, such as vaccination campaigns, HIV/Aids counselling, actions to support education for workers

Traditional communities – promoting the effective participation of the traditional community in the activity on its lands or regions, compensating for use of resources, traditions, knowledge

Economic

Economic viability of the enterprise/activity –Compliance with legislation and viability. Regularly updated business plans in place (even simple ones)?

Quality and customer satisfaction (congruent with marketing campaigns?). Provision of information to customers on the protected areas and other natural attractions in the region. Encouragement of consumption of regional products, including highlighting regional cuisine.

Buy local -selection of products, services and materials supplied by local communities.

Production of information material such as folders, maps and plaques that aim to promote the region or actions and programmes of a socio-cultural or environmental nature.

Other: _____

Other: _____

Other: _____

Other: _____

Thank you very much!

Appendix B.2: Online Survey: Tour Operator Use Practices

QII - TOUR OPERATOR¹ Management & Sustainability

As part of a study to verify whether tour operator¹ enterprise operations sustainable or unsustainable, the NACOMA coastal biodiversity project is attempting to clearly define the key environmental, socio-cultural, and economic requirements to guide sustainable tour operator management and develop Sustainable Management Systems. At this point of time it was not possible for the consultants to identify any tour operator enterprises with a Sustainable Management System in place in the **coastal zone of Namibia**. Therefore, the following criteria were identified for the **general** evaluation of the tour operator sector with regard to sustainable/unsustainable conduct of business. We respectfully ask you for a few minutes of your valuable time to rate the sector, for each criterion, within the framework of your professional experience and observations within the tour operator sector. You are welcome to add comments. We would be very grateful if you could return your response per e-mail or fax it to 061 227618.

¹ **land-based** activities (e.g. quad biking, sand-boarding, 4x4 excursions, etc.), **water-based** activities (e.g. dolphin excursions, kayaking, etc.), or **air-based** activities (e.g. paragliding)

Criteria	Rating	Comments
<p>Environmental</p> <p>Natural areas, flora and fauna, -active support in protection and good management of natural resources</p> <p>Compliance with regulations – zone restrictions, signboards for the protection of animals, landscapes, plants. (special focus on abiding with signs relating to road/routes, animals and plants)</p> <p>Solid waste -in terms of reduce, re-use, recycle (special focus on litter)</p> <p>Liquid effluents- contribution to the prevention of contamination of wastewater by avoiding toxic or hazardous products</p> <p>Emissions into the air - gases from vehicles, equipment and installations and minimisation of noise from equipment, machinery, leisure entertainment</p> <p>Energy consumption – Energy-saving campaigns targeted at guests and employees</p> <p>Conservation and management of water usage – Water-saving campaigns targeted at guests and employees.</p> <p>Selection and use of materials for pest control, cleaning, etc</p> <p>Environmental emergency preparedness and response – related to potential risks of accidents and emergency situations in the immediate environment, (especially fire and floods)</p>	<p>(scale 1-5) 1=very good 2=good 3=fair 4=poor 5=very poor</p>	
<p>Socio-cultural</p> <p>Local communities – engagement in contributions to the development of communities</p>		

Work and income – recruitment of local people and production, encouraging associative behaviour, quality and sustainability

Working conditions- compliance with hygiene and safety standards as defined in the legislation

Cultural aspects- promotion of knowledge of the local culture among its customers, attempts to minimise negative impact of excursion activities on host communities, (only applicable if establishment offers activities to customers)

Health and education – implementation of healthcare programmes for workers, such as vaccination campaigns, HIV/Aids counselling, actions to support education for workers

Traditional communities – promoting the effective participation of the traditional community in the activity on its lands or regions, compensating for use of resources, traditions, knowledge

Economic

Economic viability of the enterprise/activity –Compliance with legislation and viability. Regularly updated business plans in place (even simple ones)?

Quality and customer satisfaction (congruent with marketing campaigns?) Provision of information to customers on the protected areas and other natural attractions in the region. Encouragement of consumption of regional products, including highlighting regional cuisine.

Buy local -selection of products, services and materials supplied by local communities.

Production of information material such as folders, maps and plaques that aim to promote the region or actions and programmes of a socio-cultural or environmental nature.

Other: _____

Other: _____

Other: _____

Other: _____

Thank you very much!

Appendix B.3: Tourism establishment data

ACCOMMODATION - ERONGO REGION						
FirmTownCode2	FirmName	No. Beds	No. Rooms	FirmTownCode1	FirmPhysicalAddress	FirmTelephone
Henties Bay	De Duine Hotel	44	20	Henties Bay	34 Duine Road	+ 264 64 500001
Henties Bay	H & H Accommodation	4	2	Henties Bay		+264 64 500908
Henties Bay	Ocean Pearl Hydro	10	5	Henties Bay	1482 Oranje Street	+ 264 64 500550
Henties Bay	Die Oord	64	26	Henties Bay	Rob Street	+ 264 64 500239
Henties Bay	Skeleton Coast Camp	14	7	Windhoek	Skeleton Coast Park	+ 264 61 274500
Henties Bay	Eagle Overnight	30	13	Henties Bay	Flamingk Street 1985	+246 64 500032
Henties Bay	Eagle Holiday Flats	40	10	Henties Bay	174/175/177	+246 64 500032
Henties Bay	J.H.Flats	2	9	Henties Bay	Erf 1410 Hentiesbay	+264 64 500406
Henties Bay	Beach Front 1 Self Catering	8.32	3.26	Henties Bay	Kraai Straat	+ 264 61 237213
Henties Bay	A.P.Visser Accommodation	8.32	3.26	Henties Bay	176 Jakkalsputz Road	+ 264 64 500246
Henties Bay	Beach Front 4	8.32	3.26	Henties Bay	Kraai Street 1237/4	+246 64 500843
Henties Bay	M du Preez	5	2	Windhoek		+246 64 500245
Henties Bay	Regter B O'Linn	7	4	Windhoek		+246 64 500245
Henties Bay	Gamsberg	7	3	Keetmanshoop		+24 64 500604
Henties Bay	Tjailatyt	4	1	Henties Bay	884 KransStreet	+246 64 500505
Henties Bay	Harte Diefie	5	3	Henties Bay	Oester Street 756	+246 64 500604
Henties Bay	G.J.Van Schalkwyk	6	4	Henties Bay	Fishryer Street 323	+246 64 500123
Henties Bay	S.R. van der Westhuizen	1	1	Henties Bay	Sandlaai Street No 268	+246 64 501089
Henties Bay	Desert Stays	8.32	3.26	Henties Bay	Cnr of Spitzkoppe & KarasStreet	+ 264 64 500820
Henties Bay	SMR Rademan Accommodation	8	4	Henties Bay	580 Skaamhaai Street Hentiesbay	+ 264 64 500246
Henties Bay	J.D. Coetzee Accommodation	10	5	Henties Bay	448 Elf Street	+ 264 64 500246
Henties Bay	Beach Front No. 10	8.32	3.26	Oshakati	Kraai Street Hentiesbay	+ 264 65 2205036
Henties Bay	B F Koch	8.32	3.26	Henties Bay		+ 264 62 503077
Henties Bay	A. A. Boerdery	8	4	Henties Bay	Nossob Street 1270	+246 64 500056
Henties Bay	Monvieve Investment C.C	11	3	Henties Bay	1237/5 Kraai Street	+246 64 500843
Henties Bay	Sardyn Street Properties cc	8.32	3.26	Henties Bay	197 Sardyn Street	+246 64 500843
Henties Bay	S J van der Merwe	8.32	3.26	Henties Bay		+246 64 500843
Henties Bay	Draf in Self Catering	7	4	Windhoek	279 Strandloper Street Hentiesbay	+24 61 252056
Henties Bay	Angelier	6	4	Karibib		+24 64 500604
Henties Bay	Elshoekie Holiday Accommodation	27	9	Henties Bay		+264 64 500177
Henties Bay	Lysure Stays	8.32	3.26	Henties Bay	Hentiesbay	+ 264 64 500820
Henties Bay	M. Thom	3	2	Henties Bay		+264 64 570572
Henties Bay	C H Baard	4	2	Windhoek		+246 61 2804727
Henties Bay	C.H. du Bois	6	4	Henties Bay		+246 64 500245
Henties Bay	M du Preez	7	4	Henties Bay	Jakkalsputsweg 1514	+246 64 500245
Henties Bay	J. Basson	4	2	Henties Bay		+246 64 500245
Henties Bay	Haus Estnic Bed and Breakfast	4	2	Henties Bay	Omatako Street 1471	+246 64 500992
Henties Bay	Namib Shore Bed and Breakfast	8	4	Henties Bay	Dolfin Street 303	+246 64 500182
Henties Bay	Byseewah Guest House	18	9	Outjo	2007 Auas Street	+246 64 501111
Henties Bay	Cape Cross Lodge	38	19	Henties Bay	Farm Seaview Erf No 154	+264 64 694017
Henties Bay	Huis Klipdrift	23	5	Aussspanplatz	142 Kabeljou Street	+ 264 61 232491
Henties Bay	CH du Plooy Accommodation	8.32	3.26	Henties Bay	Spikkelhaai Street 711	+ 27 59 623230
Henties Bay	Jireh	6	3	Okahandja	Duineweg 255 Hentiesbay	+ 264 62 549040
Henties Bay	J A Claassen	8.32	3.26	Henties Bay	F6 Dessert Rose Elf Street	+ 264 64 500246
Henties Bay	Beach Front 6	5	3	Windhoek	Jakkalsputsweg 1514	+246 61 2873017
Henties Bay	2 Gether 4 Ever	8.32	3.26	Henties Bay	Marsbanker Street 507	+264 64 500536
Henties Bay	Seemeeu Str.	8.32	3.26	Henties Bay	6 Seemeeu Street	+ 264 64 500246
Henties Bay	Namwater Accommodation	8.32	3.26	Henties Bay	234 Sardyn Street	+ 264 64 500246
Henties Bay	Dare Reich Self Catering	6	3	Henties Bay		+264 64 500888
Henties Bay	Spangels Investment	8.32	3.26	Windhoek	Hentiesbay	+ 264 61 227346
Henties Bay	M.J.C Balt Accommodation	4	2	Henties Bay	159 Hentiesbay	+ 264 64 500246
Henties Bay	R Wagner	6	3	Henties Bay	Erf 1457 Oranje Street	+246 64 500245
Henties Bay	G. Rossouw	8	3	Omaruru		+246 81 2423959
Henties Bay	M.W.H. Prinsloo	7	3	Tsumeb		+246 67 2234339
Henties Bay	A. Mouton	6	3	Windhoek		221970/231
Henties Bay	Tokkelosie	8	4	Henties Bay	265 Sandhaai Street	+264 64 500090
Henties Bay	W.C. Opperman	8.32	3.26	Windhoek	Malgas street 4	+264 61 242004
Henties Bay	Enkruip	8.32	3.26	Henties Bay	1147 Angeliers Street	+264 64 500074
Henties Bay	Maak n' Las	5	3	Henties Bay		+264 64 500449
Henties Bay	Accommodation (Erf 1312)	12	2	Henties Bay	Kavango Street Erf 1312	
Henties Bay	J S Grobler	8.32	3.26	Henties Bay	Tecania Street 1130	264 61 247 260
Henties Bay	Lourenzo	2	1	Henties Bay		+264 64 500479
Henties Bay	H J Blaaw	7	1	Witvlei	Erf 1592 Oranje Street HentiesBay	+ 264 62 570326
Henties Bay	Erf 550 Omaruru Str.	8.32	3.26	Keetmanshoop	Erf 550 Omaruru Street H	+ 264 81 1220229
Henties Bay	Accommodation	8.32	3.26	Okahandja	De Duineweg 411	+ 264 62 501213
Henties Bay	J. de Beer	6	3	Henties Bay	Erf 948	+246 64 500245

Henties Bay	M du Preez	6	3	Koes	Jakkalsputs weg 1514	+246 63 252032
Henties Bay	G.V. Weyer's	6	2	Henties Bay	StrandLoper No 261	+246 64 500888
Henties Bay	Accommodation	4	2	Swakopmund	Paressis Street 1652	+264 64 404130
Henties Bay	Kabouter	8.32	3.26	Henties Bay		+264 64 500534
Henties Bay	G.W. Fourie	6	1	Windhoek	396 Swartmossel Street	+264 61 251643
Henties Bay	I van Vuuren	3	1	Henties Bay	Spitskoppe Street 1775	+264 81 1220027
Henties Bay	Accommodation (Erf 1776)	12	2	Henties Bay	No 1779 Brandberg Street	+264 64 501019
Henties Bay	Johanna de Bruyn Trust	8.32	3.26	Henties Bay	Daisy Street 116	+27 15 491-3838
Henties Bay	Lekker Bly	5	1	Henties Bay	Gamsberg 1710	+264 64 500276
Henties Bay	Erf 724 - Big 5	6	3	Henties Bay	Stand No 724 Duineweg	+264 64 500361
Henties Bay	Aber Jetzt	15	6	Henties Bay	1198 Roos Street	+264 64 500505
Henties Bay	Stutzers	6	3	Henties Bay	885 Kraan Street	+264 64 500505
Henties Bay	Oranje	8	4	Henties Bay	1448 Oranje Street	+264 64 500506
Henties Bay	Jacobsohn Trust	8.32	3.26	Henties Bay	Stand 1832	+27 11 979 1455
Henties Bay	Beerkees Den	8	3	Henties Bay	Kosmos Street 1209	+164 64 500505
Henties Bay	Verf My - Malgas Str 382	8.32	3.26	Okahandja	Malgas Street 382 Hentiesbay	+ 264 62 501219
Henties Bay	Skipskop CC	8.32	3.26	Swakopmund	176 Jakkalsputz Road	+264 64 463752
Henties Bay	J.G. Stadler	8.32	3.26	Henties Bay	Kosmos Street 1206	+264 64 500436
Henties Bay	Engelbrecht	8.32	3.26	Henties Bay	Marsbanker Street 516	+264 64 500604
Henties Bay	Aletta Catering	6	4	Henties Bay	Erf 197 Flamink Street 192	+264 64 500090
Henties Bay	Weskus Glorie	8.32	3.26	Henties Bay	Spitzkoppe Street 1790	+264 64 500 182
Henties Bay	Daisy	5	2	Henties Bay	1117 Daisy Street	+164 64 500505
Henties Bay	F. N. Vermeulen	8.32	3.26	Gobabis	Erf 1134 Mimosa Street	+264 62 562376
Henties Bay	Oester Straat 878	8.32	3.26	Henties Bay	Oester Straat 878	+264 64 500552
Henties Bay	House Hugo	8.32	3.26	Henties Bay	Marsbankers Street 509	+264 64 500604
Henties Bay	House Werner	8.32	3.26	Okahandja	Spitzkoppe Stree 1585 Henties Bay	+264 64 500604
Henties Bay	ZP Cilliers	8.32	3.26	Henties Bay	Erf 469 Marsbanker	+264 64 500604
Henties Bay	J. Moller (Erf 352)	8.32	3.26	Henties Bay		+264 64 500604
Henties Bay	Rendevous	8.32	3.26	Henties Bay	c/o Rob + Marsbancer	+264 64 500604
Henties Bay	House Johan	8.32	3.26	Henties Bay	Corner Of Roos & Kosmos Street	+264 64 500604
Henties Bay	Ettie Cilliers Holiday Homes	8.32	3.26	Henties Bay	Street	+264 64 500604
Henties Bay	Ettie Cilliers Holiday Homes	8.32	3.26	Henties Bay	Krap Street 820	+264 64 500604
Henties Bay	Hause Kavango	8.32	3.26	Henties Bay	Kavango Street 1300	+264 64 500604
Henties Bay	Hause Groeneveld	8.32	3.26	Henties Bay	Krann Street 890	+264 64 500604
Henties Bay	Accommodation	8.32	3.26	Henties Bay	Street	+264 64 500604
Henties Bay	Kapena Ilonga	8	4	Henties Bay	1157 Omarurur Street	+264 64 500505
Henties Bay	Marsbanker	10	4	Henties Bay	475 Marsbanker Street	+264 64 500505
Henties Bay	Hannie Booking Agent (Erf 484)	6	3	Henties Bay		+264 64 500479
Henties Bay	Hannie Booking Agent (Erf 1311)	10	5	Henties Bay	Erf 1311 Kavango Street	+264 64 500479
Henties Bay	Kom Weer No.210	6	1	Henties Bay		+264 64 500125
Henties Bay	Hannie Booking Agent (Erf 797)	6	2	Henties Bay	Oester Street 797	+264 64 500479
Henties Bay	Duineweg 691	8.32	3.26	Windhoek	Duineweg No 691	+264 61 251984
Henties Bay	Le Plek	13	5	Otavi	Stokroos Street Erf 1158	+264 67 234193
Henties Bay	Welmalemu cc JB Boysen No.7	4	1	Swakopmund	Dr. Libertinal Amathila Ave	+264 64 405226
Henties Bay	L. E. Oppermann	8.32	3.26	Henties Bay	Erf 1855 Auas Street	+264 63 280 659
Henties Bay	Tot Hie	5	4	Henties Bay	781 Oester Street	+264 64 500116
Henties Bay	cc	8.32	3.26	Windhoek	Kuiseb Street 1360	+264 61 224467
Henties Bay	Jankie se Dankie	8.32	3.26	Henties Bay	Kiewiet Straat 1236	+264 64 500209
Henties Bay	KPTU	8.32	3.26	Henties Bay	Orange Street	+264 64 500820
Henties Bay	The Fitchat-Kotze Trust	8.32	3.26	Windhoek	Unit 6+2 6 Wasserfall Street	+264 64 500604
Henties Bay	Kiewiets Nest	8.32	3.26	Swakopmund	253 Duineweg	+264 64 406050
Henties Bay	Meerkatgat	6	3	Henties Bay	Erf 1750 Spitzkoppe Street	+264 64 500090
Henties Bay	Alettas Place	8.32	3.26	Swakopmund	837 Omaruru Street	+264 64 500512
Henties Bay	Accommodation	8.32	3.26	Grootfontein	1418 Oranje Street	+264 64 500245
Henties Bay	Sea Shells Properties CC (1668)	8.32	3.26	Oshakati	Gamsberg St 1668	+264 65 220749
Henties Bay	Sea Shells Properties CC (1669)	8.32	3.26	Oshakati	Gamsberg St 1669	+264 65 220749
Henties Bay	Blessing	8.32	3.26	Henties Bay	Erf 1737 Erongo Street	
Swakopmund	Brigadoon Bed & Breakfast	18	8	Swakopmund	16 Ludwig Koch Street	+264 64 406064
Swakopmund	Hotel Pension A LA Mer	22	11	Swakopmund	4 Libertina Amathila Avenue	+ 264 64 404130
Swakopmund	El Jada Rest Camp	13	5	Swakopmund	Farm 176 Road 1901	+264 64 400348
Swakopmund	Sea-Horse Self-Catering	8	3	Swakopmund	Erf 3341 Vineta	+264 64 462 743
Swakopmund	Sphinxblick Reit & Gastefarm	10	5	Swakopmund	Farm Nellsville 76	+ 264 64 462903
Swakopmund	Strand Hotel	90	45	Swakopmund	Beach Front	+ 264 64 400315
Swakopmund	Kolb's Klause	8.32	3.26	Swakopmund	Anton Lubowski Street 33	+ 264 64 405888
Swakopmund	The Alternative Space	8	4	Swakopmund	Kramerdorf	+ 264 64 402713

Swakopmund	Drifters Inn Swakopmund	24	12	Swakopmund	6 Wert Street	+ 264 64 462386
Swakopmund	Hotel Eberwein	33	17	Swakopmund	No 48 Sam Nujoma Avenue	+264 64 414 450
Swakopmund	A Home Away From Home	7	3	Swakopmund	Windhuker Street No 4	+ 264 64 402402
Swakopmund	The Secret Garden Guesthouse	20	8	Swakopmund	36 Bismarck Street	+ 264 64 404037
Swakopmund	Dunes Lodge	56		Swakopmund	12 Anton Lubofski Street	+264 64 463139
Swakopmund	Swakopmund Backpackers	33.1	16.79	Swakopmund	41 Nathaniel Maxulili Street	+ 264 64 401081
Swakopmund	Alte Brucke Holiday Resort	76	23	Swakopmund	Erf 447	+ 264 64 404918
Swakopmund	Private Hotel Deutsches Haus	38	20	Swakopmund		+264 64 404 890
Swakopmund	Hotel Schweizerhaus	48	24	Swakopmund	1 Bismarck Street	+ 264 64 400331
Swakopmund	Hansa Hotel	126	58	Swakopmund	Hendrick Witbooi Street	+ 264 64 414200
Swakopmund	Strauss Holiday & Overnight Flats	25	8	Swakopmund	Hidipo Hamutenya Street No 10	+264 64 412 350
Swakopmund	Sea Breeze Guesthouse	11	5	Swakopmund	Turmalin Street 48	+ 264 64 463348
Swakopmund	Sophia Dale Restcamp	20	10	Swakopmund	Farm 173 Street 1901	+ 264 64 403264
Swakopmund	Dahoa'M Self-Catering	3	2	Swakopmund	Topaas Street 41 Vineta	+ 264 64 461536
Swakopmund	Duneside Guesthouse	6	3	Swakopmund	Aukas Street No 13	+ 264 64 464012
Swakopmund	Hajo Schumacher	2	1	Swakopmund		+ 264 64 402187
Swakopmund	Villa Wiese Backpackers Lodge	47	12	Swakopmund	Street	+264 64 407105
Swakopmund	Intermezzo Guesthouse	13	6	Swakopmund	Dolphin Street No 9	+ 264 64 464114
Swakopmund	Sand Castle Apartments	11	3	Swakopmund	Erf 2186 Woker Street No 4 Vineta	+246 64 405263
Swakopmund	Desert Sky Backpackers Lodge	22	10	Swakopmund	35 Anton Lubowski Road	+ 264 64 402339
Swakopmund	Hotel Haus Garnison	26.22	13.62	Swakopmund		+ 264 64 403340
Swakopmund	Swakopmund Municipal Restcamp	868	189	Swakopmund	Witbooi Street	+ 264 64 410411
Swakopmund	Guestfarm Etendero	16	8	Omaruru	Etendero 95	+ 264 64 570927
Swakopmund	Centre	180	90	Swakopmund	No 2 Theo Ben Gurirab Street	+ 264 64 4105200
Swakopmund	Intermezzo Self-Catering	4	2	Swakopmund		+ 264 81 1242880
Swakopmund	Holiday Flat " Villa Schmo "	4	1	Swakopmund	Waterbank Street 10 Kramerdorf	+ 264 402143
Swakopmund	Adri's Cottage	6	4	Swakopmund		+264 81 2400133
Swakopmund	Annette Gunther - Meyer	4	2	Swakopmund	Street	+ 264 64 2012210
Swakopmund	Jorista Accommodation	8.32	3.26	Swakopmund		+ 264 64 461925
Swakopmund	Hurib Selfcatering Apartments	8.32	3.26	Swakopmund	Rugby Street Vineta	+246 64 403218
Swakopmund	Huis So - By - So	9	5	Swakopmund		+264 64 402139
Swakopmund	Seagull Bed & Breakfast	12	5	Swakopmund	60 Strand Street	+246 64 4004287
Swakopmund	Mile 4	46	22	Swakopmund	Mile 4	+264 64 461781
Swakopmund	Meike's Guest House	10	5	Swakopmund	Windhozeners Street 23	+246 64 405863
Swakopmund	Hotel Europa Hof	65	35	Swakopmund	Bismarck Street No 39	+246 64 405061
Swakopmund	Rossmund Lodge cc	48	22	Swakopmund	Golf Course	+ 264 64 414600
Swakopmund	Mile 4	82	14	Vineta	Mile	+264 64 461781
Swakopmund	Footprints	8.32	3.26	Swakopmund	Erf 2233 Vineta	+264 64 403042
Swakopmund	Maggies Self Catering	4	2	Swakopmund	10 Riesle Street	+264 64 405824
Swakopmund	Atlanta Hotel	24	12	Swakopmund		+264 64 402360
Swakopmund	Guest House Indongo	15.99	7.91	Walvis Bay	12 Moses Garoeb Street	+264 64 414750
Swakopmund	Mariefjie's Guesthouse	12	6	Swakopmund	Otavi Street No 19	+264 64 400121
Swakopmund	Hotel- Pension d' Avignon	22	11	Swakopmund	25 L Amadhila Street	+264 64 405821
Swakopmund	Shalom Accommodation	22	5	Swakopmund	Tamariskia	+ 264 64 461446
Swakopmund	ELCRN Erholungsheim	67	18	Swakopmund	10 Backer Street	+264 64 402093
Swakopmund	Collonen Court	4	1	Windhoek		+264 61 234745
Swakopmund	Swakop Lodge	80	30	Swakopmund	42 Nathaniel Maxulili Street	+264 64 402030
Swakopmund	Beach Lodge	32	16	Swakopmund	1 Stint Street Vogelstrand	+264 64 414500
Swakopmund	Tina's Bed & Breakfast	15	5	Swakopmund	Tin Avenue 217 Tamariskia	+264 64 462017
Swakopmund	Eenyanga Cottage	4	3	Swakopmund	53 Bismarck Street	+264 64 461289
Swakopmund	Das Hausle	4	1	Swakopmund	Hanyeko Street	+264 64 405907
Swakopmund	Hotel Pension Rapmund	46	24	Swakopmund	Bismarck Street 6-8	+246 64 402035
Swakopmund	Prinzessin Rupprecht Heim	46	23	Swakopmund	15 Anton Labowski Street	+264 64 412 540
Swakopmund	Sam's Giardino	19	10	Swakopmund		+264 64 403210
Swakopmund	Ali Krosch	2	1	Swakopmund		+246 64 402520
Swakopmund	House Veronika	7	4	Swakopmund	5 Dolphin Street	+264 64 404825
Swakopmund	Guesthouse Fischreither	12	5	Swakopmund	Fischreither Str 78	+264 64 462930
Swakopmund	Charlottes Guest Home	10	5	Swakopmund	Dr Libertina Amathila Avenue 121	+264 64 405454
Swakopmund	Dunedin Star Guesthouse	24	12	Swakopmund	50 Daniel Tjonagarero Street	+264 64 407105
Swakopmund	Hotel Garni Adler	29	14	Swakopmund	Strand Street 3	+264 64 405045
Swakopmund	Restaurant Gut Richthofen	14	5	Swakopmund	Farm Richthofend No156	+264 64 404309
Swakopmund	W. Dresselhaus	2	1	Swakopmund	25 Windhoek Swakopmund	+264 64 405854
Swakopmund	Haus Von Moltke	10	5	Swakopmund	Tobias Hainyeko Street 32	+264 64 402976
Swakopmund	Tuareg B Owen - Smith	4	1	Swakopmund	Vogel Strand	+264 64 405226
Swakopmund	Schulte Flat	4	1	Swakopmund	Anton Lubowski Str 108	+264 64 405226

Swakopmund	C - View - Samar Place	8	4	Swakopmund	Longbeach	+264 64 405442
Swakopmund	Strand House 17	8	4	Swakopmund		+264 64 405442
Swakopmund	No.13)	5	1	Swakopmund	Nordstrand Park No 1 Nesor Street	+264 64 405226
Swakopmund	An Der Mole No.16	6	1	Swakopmund	Dr. Kock Street 37	+264 62 569755
Swakopmund	Meeresruh No 6	4	1	Swakopmund	Libertina Amathila No 36	+264 64 402847
Swakopmund	Swakop Strand E	4	2	Swakopmund	Swakopmund Street No 5	+264 64 405442
Swakopmund	Altstadthof No.8	6	1	Swakopmund	18 Alstadhof 38 Bismarck Street	+264 64 405226
Swakopmund	Zi Wu No.8	4	1	Swakopmund		+264 64 405226
Swakopmund	Nordstrand 13	8.32	3.26	Swakopmund	Erf 3624	+264 64 405226
Swakopmund	Rietdakkies 1A	4	1	Swakopmund	Woermann Street No 114	+264 64 405226
Swakopmund	Rietdakkies 1B	4	1	Swakopmund	Street No 14	+264 64 405226
Swakopmund	On The Beach No.24	4	1	Swakopmund	Vogelstrand	+264 64 405226
Swakopmund	La Rochelle No.4	4	1	Swakopmund		+264 64 405226
Swakopmund	On The Beach No.22	4	1	Swakopmund	Sandpipea No 2-8	+264 64 405226
Swakopmund	Alstadthof No.19	6	1	Vineta		0811 294 357
Swakopmund	On The Beach B19 Properties	4	1	Swakopmund	Swakopmund	+264 64 461 228
Swakopmund	A. Coetzee- Rietdakkies 2 A	4	1		Erf 281 Woermann Street	+264 64 405226
Swakopmund	Nordstrand park No.4	4	1	Vineta	4 Nesor Street Erf 3624	+264 64 405226
Swakopmund	The Stiltz	20	9	Swakopmund	Plot 31 Strand Street	+246 64 400771
Swakopmund	Sand en See 29	6	3	Swakopmund	Ludwig Kolk Street	+264 64 405442
Swakopmund	Ugab Ally	6	3	Swakopmund	41 Ugab Street Vineta	+264 64 405442
Swakopmund	Nordstrandpark 9	4	2	Swakopmund		+264 62 518323
Swakopmund	Cee - Anne Properties cc	8.32	3.26	Swakopmund		+264 64 405300
Swakopmund	Erf 26 Langstrand BK/ CC	6	3	Windhoek	No 25A 2nd Street Langstrand	+264 61 237439
Swakopmund	Holiday Flat	5	4	Swakopmund	Ebony Street 10	+264 64 405126
Swakopmund	Sea Cottage Investment Three cc	4	1	Swakopmund	15/3 Rhode Allee	+264 64 405245
Swakopmund	Showayapo	7.1	3.59	Swakopmund	Rhode Auee 16	+264 64 403851
Swakopmund	Bruckendorf 10	4	2	Swakopmund	Strand Street	+264 64 405442
Swakopmund	Haus Palafontein	2	1	Swakopmund	Kramersdorf	+264 64 404069
Swakopmund	La - Ro Property Six cc	4	1	Windhoek	Libertina Amathila Street	+264 64 500604
Swakopmund	Alstadthof No.13	6	1	Swakopmund	Bismarck Street No 32:34	+264 64 405226
Swakopmund	Alstadthof No.8	4	1	Swakopmund		+264 64 405226
Swakopmund	Alstadthof No.7	4	1	Swakopmund	Bismarck Street No 32:34	+264 64 405226
Swakopmund	Zur Sudstrand Residenz	4	1	Swakopmund		+264 64 405226
Swakopmund	Kramerspark No 10	8.32	3.26			
Swakopmund	Schiefer Properties cc	4	1	Swakopmund		+264 64 405226
Swakopmund	On The Beach No. 32	4	1	Hosea Kutako Airport	Sean McBride Street 57	0811 224911
Swakopmund	A Strauss Flats	10	3	Vineta	Corner Mawow and Melken No17	+264 81 122 0581
Swakopmund	Pebble Beach 12	5	2	Swakopmund	C/o Plover and Stinit Street	+264 64 405442
Swakopmund	Alstadthof No.21	4	1	Swakopmund	Bismarck Street No 32*34	+264 62 503760
Swakopmund	Sand & See No.11	6	1	Swakopmund	Dr Kuchstacht No 6-12	+264 64 405226
Swakopmund	Pebble Cove No.2	6	1	Swakopmund	Vogelstrand	+264 64 405226
Swakopmund	Mira Mar 2	6	1		Erf 121 Plover Street	+264 64 405226
Swakopmund	Mira Mar 11	4	1			+264 64 405226
Swakopmund	Haus Am Meer No.11	2	1	Swakopmund	Bismarck Street No 12	+264 64 405226
Swakopmund	Sand & See No.1	6	1	Swakopmund		+264 64 405226
Swakopmund	Nordstrandpark 15	6	1	Swakopmund	Erf 3624	+264 64 405226
Swakopmund	Bismarck No.12	4	1		Avenue	+264 64 405226
Swakopmund	Bismarck No 13	4	1	Windhoek	83 Cob street Hentiesbay	+264 0811 245 038
Swakopmund	(Flat) No.6 An Der Waterkant	5	2	Swakopmund	Hanyeko Street	+264 81 243 2745
Swakopmund	W Borg	4	1	Swakopmund	Hendrik Witbooi Street 35	+264 64 402095
Swakopmund	Erf Four One Seven Four cc	10	1	Swakopmund		+264 64 405226
Swakopmund	Ist Avenue No.36	8	1	Swakopmund	36 First Avenue Vineta	+264 64 405226
Swakopmund	La Rochelle No.5	4	1	Swakopmund	Libertina Amathila Street No 35*37	+264 64 405226
Swakopmund	Eagle's Rest Guesthouse	8.32	3.26	Swakopmund	98 Fischreier Street Vineta	+264 64 402550
Swakopmund	Morleen Park No2	4	1	Swakopmund	Anton Lubowski 1-7 Erf 3729	+264 63 252021
Swakopmund	7 Morleen Park	8	4	Swakopmund	Strand Street	+264 081 129 3475
Swakopmund	Wilna Liebenberg	6	3	Swakopmund	16 Arandis Street	+264 64 402640
Swakopmund	Pebble Cove Nr.3	8.32	3.26	Windhoek	Plover Street, 43-54, Vogelstrand	+264 61 248906
Swakopmund	Waterfront G7	4	1	Outjo	G7 Quay Street	+264 811 244 501
Swakopmund	Bush Babies' Inn	6	1	Vineta	47	+264 64 402206
Swakopmund	Le Roux House	6	3	Swakopmund		+264 64 405442
Swakopmund	Vogelsicht 14	4	2	Swakopmund	Street Vogelstrtrand	+264 64 405442
Swakopmund	Hasselholm House	4	2	Swakopmund	70 Schwester Friedo Street Vineta	+264 64 405442
Swakopmund	A. G. Flat 216	4	1	Swakopmund		+264 64 405226

Swakopmund	Nordstrand Park No. 8	4	1	Eros	Nordstrand Park 8	+264 64 405226
Swakopmund	Jetty House 12 Erf 3557	4	1	Swakopmund	Molenweg 12	+264 64 405226
Swakopmund	Sand and Sea Property No.9 cc	6	3	Swakopmund	Koch Street	+264 64 463430
Swakopmund	Bismarck Apartment 14	4	1	Windhoek	No 12 Sam Nujoma Avenue	+264 61 223775
Swakopmund	MDH Properties cc	8.32	3.26	Windhoek	Marine Drive 9 Vineta North	+264 61 232624
Swakopmund	Orange House Swakopmund	10	5	Swakopmund	Richthofen 22	+264 64 405157
Swakopmund	Holiday Cottage Swakopmund	8.32	3.26	Swakopmund	26 Roeder Str	+264 64 463696
Swakopmund	Avocet Cottages CC	8.32	3.26	Karibib	No.55 Tsvorite Str. Hage Heights	+264 64 552013
Swakopmund	House Veronika	7.1	3.59	Swakopmund	Dolphin Street 5	+264 64 404915
Terrace Bay	Terrace Bay Resort	48	22	Swakopmund	Skeleton Park Namib Desert	+264 64 694007
Walvis Bay	Crayfish Creek	18	6	Walvis Bay	170 Kuiseb Avenue Long Beach	+ 264 64 202588
Walvis Bay	Feathers Inn Guest House	12	10	Walvis Bay	69 18th Road	+264 64 209799
Walvis Bay	Casa Mia Hotel	41	23	Walvis Bay	238 Sam Nujoma Avenue	+264 64 205975
Walvis Bay	Jones Bed & Breakfast	5	3	Walvis Bay	6th Road East No.22 Meersig	+ 264 64 209410
Walvis Bay	Gory's Cave	6	1	Walvis Bay	26 B 2nd Street Langstrand	+ 264 81 2438000
Walvis Bay	Casa Yeovella Cc	11	7	Walvis Bay	15 Rebeck Circle	+ 264 64 200502
Walvis Bay	Desert Road House	8		Swakopmund	18th Road No 63	+ 264 81 1282357
Walvis Bay	Khomas Safaris and Guestfarm	12	6	Walvis Bay	Farm Doornkaat No 123	+ 264 64 550895
Walvis Bay	Walvis Bay Lagoon Lodge	16	8	Walvis Bay	2 Kovambo Nujoma Drive	+246 64 200850
Walvis Bay	Esplanade Park	94	27	Walvis Bay	Kovambo Nujoma Drive	+246 64 215500
Walvis Bay	Ana's Inn	6	3	Walvis Bay	4 Atlantic Street Lagoon Area	+ 264 64 209164
Walvis Bay	Namibia Coast B&B	7.1	3.59	Walvis Bay	1rst North No 18 Meersig	+264 64 205505
Walvis Bay	Free Air Guest House	19	10	Walvis Bay	Esplanade 56	+246 64 202247
Walvis Bay	A.S.Vrey	8	4	Windhoek		+246 61 233705
Walvis Bay	Pelican Bay Hotel	100	50	Walvis Bay	Erf 4538 A Portion of Erf 4537	+264 64 214000
Walvis Bay	Lagoon Chalets	143	35	Walvis Bay	South Meersig	+246 64 217900
Walvis Bay	Levo Dolphin Tours & Chalets	18	9	Walvis Bay	3 Street 41 Langstrand	+264 64 207555
Walvis Bay	Courtyard Hotel Garni	35	18	Walvis Bay		+264 64 206252
Walvis Bay	Langholm Hotel Garni	26	13	Walvis Bay	24 Second Street West	+264 64 209230
Walvis Bay	Loubser Bed and Breakfast	9	4	Walvis Bay	3rd Street West No 11	+264 64 203034
Walvis Bay	Gudde Accommodation	6	3	Windhoek	Lalani 24 Langstrand	+246 61 228815
Walvis Bay	Liebenhoff No.2 B cc	4	2	Walvis Bay	Erf 14 2nd Street Longbeach	+264 61 243943
Walvis Bay	A and C van Rensburg	4	2	Walvis Bay	57 Phase 3	+264 64 219 600
Walvis Bay	Dolphin Park	78	21	Walvis Bay	Dolphin Park	+246 61 204343
Walvis Bay	Kleines Nest B&B	8	4	Walvis Bay	76 Esplande	+246 64 203203
Walvis Bay	Bay Self- Catering Accommodation	24	11	Walvis Bay	No 57 First Street North Meersig	+264 81 127 7783
Walvis Bay	LongBeach Tourism cc	6	1	Walvis Bay	34 Fourth Street Longbeach	+264 64 203424
Walvis Bay	Eurodollar Properties CC	8.32	3.26	Walvis Bay	Lagoon Cottages No 11+17	+246 64 204711
Walvis Bay	Lalandi 14	5	3	Swakopmund		+264 64 405442
Walvis Bay	Van Zyl	8.32	3.26	Walvis Bay	Lolandi B8 Longbeach	+264 64 204558
Walvis Bay	Longbeach Lodge	19	13	Walvis Bay	Erf 418 Longbeach	+ 264 64 218820
Walvis Bay	Phil 413 B&B	5	3	Walvis Bay	155 Hage Geingob Street	+264 64 206099
Walvis Bay	Ngandu at Sea	91.26	44.81	Walvis Bay	Corner 1st Road 9th Street West	+264 64 207327
Walvis Bay	The Burning Shore	26	13	Swakopmund	Erf 152 Longbeach	+264 64 207568
Walvis Bay	Seagull's Inn Guest House	15.99	7.91	Walvis Bay	Sam Nujoma Ave 199 Walvis Bay	+264 64 202775
Walvis Bay	Potgieter Investment Trust Two	4	1	Ausspannplatz	Unit B6 Lalandi Longbeach	+264 61 250606
Walvis Bay	Bushveld Safaris cc	7.1	3.59	Walvis Bay	24 1st Street North Meersig	+264 81 2989510
Walvis Bay	Accommodation	6	1	Windhoek	9190	+264 61 224725
Walvis Bay	Ambato	8.32	3.26	Henties Bay	Bay Namibia	+264 64 207722

ACCOMMODATION - KARAS

FirmTownCode2	FirmName	No. Beds	No. Rooms	FirmTownCode1	FirmPhysicalAddress	FirmTelephone
Luderitz	Seaview Hotel Zum Sperrgebiet	43	22	Luderitz	Woermann Street	+264 63 203411
Luderitz	Luderitz Nest Hotel	146	73	Luderitz	820 Diaz Street Ostend	+ 264 63 204000/2
Luderitz	Bayview Hotel	44	22	Luderitz	Diaz Street	+ 264 63 202288
Luderitz	Zur Waterkant	16	6	Luderitz	Bremer Street 471	+ 264 63 203145
Luderitz	Obelix Village Guest House CC	38	15	Luderitz	Old Bay Road	+264 63 203456
Luderitz	Kratzplatz	23	10	Luderitz	No 5 Nachtigal Street	+264 63 202458
Luderitz	House Sandrose	9	3	Luderitz		+264 63 202630
Luderitz	Island Cottage	6	2	Luderitz	Erf 810 Insel Street Shark Island	+264 63 203626
Luderitz	Gunsbewys	4	2	Helmeringhausen	Farm Gunsbewys	+264 638- 6604
Luderitz	Kapps Hotel	27	14	Luderitz	Bay Road	+264 63 202345
Luderitz	Luderitz Backpackers	19	5	Luderitz	7 Schinz Street	+ 264 63 202000
Luderitz	Koimasis Camping Site					
Luderitz	Farm Kanaan Rest Camp	10				

TOUR OPERATORS - ERONGO						
Enterprises	Category	Land-based adventure	Water-based adventure	Air-based adventure	Region	Town
Adventure 4x4 Tours	Tour and Safari Operator	1			Erongo	Walvis Bay
Africa Leisure Travel	Tour and Safari Operator		1		Erongo	Swakopmund
African Adventure Balloons	Activity Operator			1	Erongo	Swakopmund
Alter - Action cc	Activity Operator	1			Erongo	Swakopmund
Angling Tours Namibia	Tour and Safari Operator			1	Erongo	Swakopmund
Aquanaut Tours cc	Tour and Safari Operator			1	Erongo	Swakopmund
Baron Tours	Tour and Safari Operator	1			Erongo	Swakopmund
Bushveld Safaris cc	Tour and Safari Operator	1			Erongo	Walvis Bay
Camel Farm	Activity Operator	1			Erongo	Henties Bay
Cars'n Guides	Tour and Safari Operator	1			Erongo	Swakopmund
Catamaran Charters	Activity Operator			1	Erongo	Walvis Bay
Charly's Desert Tours cc	Tour and Safari Operator	1			Erongo	Swakopmund
Coastways Tours (Pty) Ltd	Activity Operator	1			Erongo	Swakopmund
Damarana Safaris cc.	Tour and Safari Operator	1			Erongo	Swakopmund
Dare Devil Adventures	Activity Operator			1	Erongo	Walvis Bay
Deep Blue Charters CC	Activity Operator			1	Erongo	Swakopmund
Desert Adventure Safaris cc	Tour and Safari Operator	1			Erongo	Swakopmund
Desert Explorers	Activity Operator	1			Erongo	Swakopmund
Desert Friendly Tours cc	Activity Operator	1			Erongo	Walvis Bay
Desert Sky Diving Adventure	Activity Operator			1	Erongo	Swakopmund
Drifters Safaris Namibia cc	Tour and Safari Operator	1			Erongo	Swakopmund
Dune 7 Sandboarding cc	Activity Operator	1			Erongo	Walvis Bay
Gielles Ocean Adventures	Activity Operator	1			Erongo	Henties Bay
Ground Rush Adventures cc	Activity Operator	1			Erongo	Swakopmund
Henry's Fishing Safaris	Activity Operator			1	Erongo	Swakopmund
Kallisto Tours and Services	Tour and Safari Operator	1			Erongo	Swakopmund
Kallisto Tours and Services	Tour and Safari Operator	1			Erongo	Swakopmund
Kuiseb Delta Adventures	Activity Operator	1			Erongo	Walvis Bay
Kunene Tours and Safaris	Tour and Safari Operator	1			Erongo	Swakopmund
Levo Dolphin Tours & Chalets cc	Activity Operator			1	Erongo	Walvis Bay
Loubser's B & B/ Self Catering & Tours	Tour and Safari Operator	1			Erongo	Walvis Bay
Magic Tours	Tour and Safari Operator				Erongo	Swakopmund
Magic Tours	Tour and Safari Operator	1			Erongo	Swakopmund
Mola Mola Safaris CC	Activity Operator			1	Erongo	Swakopmund
Mola-Mola Angling Tours	Activity Operator			1	Erongo	Walvis Bay
Namib Enviro Tours cc	Tour and Safari Operator	1			Erongo	Swakopmund
Namib Shore Guesthouse	Tour and Safari Operator	1			Erongo	Henties Bay
Namib Tours	Activity Operator	1			Erongo	Swakopmund
Namibia Coast Desert Tours	Tour and Safari Operator	1			Erongo	Walvis Bay
Namibia Tours and Safaris	Tour and Safari Operator	1			Erongo	Swakopmund
Nature Adventures	Tour and Safari Operator	1			Erongo	Swakopmund
Nature Adventures	Tour and Safari Operator				Erongo	Swakopmund
Nolte Adventure Safaris cc	Tour and Safari Operator	1			Erongo	Swakopmund
Nolte Adventure Safaris cc	Tour and Safari Operator				Erongo	Swakopmund
Oase Tours CC	Tour and Safari Operator	1			Erongo	Walvis Bay
Ocean Adventures and Angling Tours	Activity Operator			1	Erongo	Swakopmund
Oipuka Travel Consultancy cc	Tour and Safari Operator	1			Erongo	Walvis Bay
Okakambe Trails cc	Activity Operator	1			Erongo	Swakopmund
Ondjamba Safaris Namibia CC	Tour and Safari Operator	1			Erongo	Swakopmund
Outback Orange Namibia cc	Activity Operator	1			Erongo	Swakopmund
Palmwag Lodge and Travel Shop	Tour and Safari Operator	1			Erongo	Swakopmund
Pelican Tours	Activity Operator			1	Erongo	Walvis Bay
Pride of Africa Safaris	Tour and Safari Operator	1			Erongo	Swakopmund
Rossmund Tours & Car Hire CC	Tour and Safari Operator	1			Erongo	Swakopmund
Safari 24	Tour and Safari Operator				Erongo	Swakopmund
Safari 24	Tour and Safari Operator	1			Erongo	Swakopmund
Safari Wise	Tour and Safari Operator	1			Erongo	Swakopmund
Sandtracks Adventures cc	Tour and Safari Operator	1			Erongo	Walvis Bay
Scorpion Safaris	Tour and Safari Operator	1			Erongo	Walvis Bay
Sea Ace Fishing Adventures CC	Activity Operator			1	Erongo	Henties Bay
Sightseeing Tours- Swakopmund	Activity Operator	1			Erongo	Swakopmund
Skeleton Tours	Tour and Safari Operator	1			Erongo	Swakopmund

Sophia Dale Restcamp cc.	Activity Operator	1			Erongo	Swakopmund
Sunrise Tours & Safaris cc	Tour and Safari Operator	1			Erongo	Swakopmund
Swakop Tour Company	Tour and Safari Operator	1			Erongo	Swakopmund
Taro Tours Guestfarm and Safaris CC	Tour and Safari Operator	1			Erongo	Swakopmund
Tommy's Tours & Safaris	Tour and Safari Operator	1			Erongo	Swakopmund
Tours Adventures Safaris cc	Tour and Safari Operator	1			Erongo	Walvis Bay
Tracks and Trails CC	Tour and Safari Operator	1			Erongo	Swakopmund
Trevor Stafford	Tour and Safari Operator	1			Erongo	Walvis Bay
Turnstone Tours	Tour and Safari Operator	1			Erongo	Swakopmund
Uri Adventures	Activity Operator	1			Erongo	Walvis Bay
Walker's Rock & Rope Adventurescc	Activity Operator	1			Erongo	Swakopmund
Walvis Bay Tour Guides	Activity Operator	1			Erongo	Walvis Bay
West & Skeleton Coast Angling Tours & Safaris	Activity Operator		1		Erongo	Henties Bay
Wild Way Safaris CC	Tour and Safari Operator	1			Erongo	Swakopmund
Wild Way Safaris CC	Tour and Safari Operator	1			Erongo	Swakopmund
Wildabout Africa cc	Tour and Safari Operator	1			Erongo	Swakopmund
Wilfried Trumper - Namibia Experience	Tour and Safari Operator	1			Erongo	Walvis Bay
Pleasure Flights & Safaris	Air CharterOperator			1	Erongo	Swakopmund
Atlantic Aviation cc	Air CharterOperator			1	Erongo	Swakopmund
Bush Bird Adventure Flights	Air CharterOperator			1	Erongo	Swakopmund
Renair (Pty) Ltd	Air CharterOperator			1	Erongo	Walvis Bay
Total		61	12	7		
TOUR OPERATORS - KARAS						
Enterprise	Name	Land-base activities	Water-based activities	Air-based activities	Region	Town
Pierre- Henry	Tour and Safari Operator	1			Karas	Luderitz
Ghost Town Tours cc	Tour and Safari Operator	1			Karas	Luderitz
Karas Mountain 4x4 Adventures	Tour Facilliator	1			Karas	Karasburg
Luderitz Safaris & Tours	Activity Operator	1			Karas	Luderitz
Sedina Boat Trips	Activity Operator		1		Karas	Luderitz
Diaz Trails CC	Activity Operator	1			Karas	Luderitz
Total		5	1	0		

Source: NTB figures, 2006

LINKED ACTIVITIES - ERONGO			
Enterprise	Land-based Activities	Region	Town
Namibia Chauffeur Service	Shuttle and Transport Services	Erongo	Swakopmund
Palmwag Lodge + Travel Shop	Shuttle and Transport Services	Erongo	Swakopmund
Raiwin Shuttle Service	Shuttle and Transport Services	Erongo	Swakopmund
Taxi Krauss	Shuttle and Transport Services	Erongo	Swakopmund
Townhoppers cc	Shuttle and Transport Services	Erongo	Swakopmund
Angela Krauze Properties	Booking Agent	Erongo	Henties Bay
ASU	Booking Agent	Erongo	Swakopmund
Capricorn Estates	Booking Agent	Erongo	Swakopmund
Christine Booking Agent	Booking Agent	Erongo	Henties Bay
Dunes Tourism & Property Concept cc	Booking Agent	Erongo	Swakopmund
Desert Sky Backpackers Lodge	Booking Agent	Erongo	Swakopmund
Ettie Cilliers Holiday Homes	Booking Agent	Erongo	Henties Bay
Fish For Fun CC	Booking Agent	Erongo	Swakopmund
Hannie Booking Agent	Booking Agent	Erongo	Henties Bay
Henties Bay Budget Accommodation	Booking Agent	Erongo	Henties Bay
Henties Bay Estates cc	Booking Agent	Erongo	Henties Bay
KAIA Namibia	Booking Agent	Erongo	Swakopmund
Kotie Van Wyk	Booking Agent	Erongo	Henties Bay
Lyda Deysel Agent	Booking Agent	Erongo	Henties Bay
Namib Fun	Booking Agent	Erongo	Swakopmund
Namib I Publicity and Tourism Association	Booking Agent	Erongo	Swakopmund
Namibia 1 on 1 .com.	Booking Agent	Erongo	Swakopmund
Namibia Holiday Services cc	Booking Agent	Erongo	Swakopmund
Namibian Places	Booking Agent	Erongo	Swakopmund
Nel's Estates	Booking Agent	Erongo	Swakopmund
Palmwag Lodge + Travel Shop	Booking Agent	Erongo	Swakopmund
Outback Orange Adventure Centre cc	Booking Agent	Erongo	Swakopmund
ProLink Namibia	Booking Agent	Erongo	Swakopmund
RB Travel & Booking Agent	Booking Agent	Erongo	Swakopmund
Ritz Travel cc	Booking Agent	Erongo	Swakopmund
Rock & Suf Red Estates & Accommodation	Booking Agent	Erongo	Henties Bay
Southern Tourist Promotions	Booking Agent	Erongo	Swakopmund
SAA City Center Ultra Travel (Pty) Ltd	Booking Agent	Erongo	Walvis Bay
Travel Magic (Pty) Ltd	Booking Agent	Erongo	Walvis Bay
Africa Calls CC	Booking Agent	Erongo	Walvis Bay
Walvisbay Tourism Association	Booking Agent	Erongo	Walvis Bay
Cross Roads Car Hire	Vehicle Rental Operator	Erongo	Swakopmund
Ombinda Car & Trailer Hire	Vehicle Rental Operator	Erongo	Swakopmund
Photographic Enterprises Bus Charters	Vehicle Rental Operator	Erongo	Swakopmund
R.D.S Car Hire	Vehicle Rental Operator	Erongo	Walvis Bay
Urban Car Hire	Vehicle Rental Operator	Erongo	Walvis Bay
Coastal Car Hire	Vehicle Rental Operator	Erongo	Walvis Bay
Adozu Tours & Safaris	Tour Facilitator	Erongo	Swakopmund
RB Travel & Booking Agents	Tour Facilitator	Erongo	Swakopmund
African Desk	Tour Facilitator	Erongo	Swakopmund
African Footprints	Tour Facilitator	Erongo	Swakopmund
Arifu - Tours	Tour Facilitator	Erongo	Swakopmund
All Around Namibia	Tour Facilitator	Erongo	Swakopmund
Flamingo Travel CC	Tour Facilitator	Erongo	Walvis Bay
Palmwag Lodge & Travel Shop (Pty) Ltd	Tour Facilitator	Erongo	Swakopmund
LINKED ACTIVITIES - KARAS			
Enterprise	Land-base Activities	Region	Town
Luderitz Safaris & Tours	Booking Agent	Luderitz	Karas
Desert Magic Tours CC	Booking Agent	Luderitz	Karas

Appendix B.4: Demographic data

Distribution of people in coastal zone by main source of income

Region/Area	Ave h/hold size	Total no of people								
Kunene	4.6	64 786								
Erongo	3.6	107 827								
Hardap	4.2	63 479								
Karas	4.0	74 408								
Region/Area	Subsistence farming,crops & animals	Cash cropping	Animal rearing	Business activities	Wages & Salaries	Pension	Cash remittances	Other	Not reported	(%)
Kunene	0.206	0.029	0.046	0.011	0.394	0.132	0.071	0.005	0.007	1.00
Erongo	0.001	0.004	0.008	0.058	0.728	0.079	0.101	0.009	0.002	1.00
Hardap	0.067	0.000	0.016	0.051	0.577	0.125	0.128	0.029	0.006	1.00
Karas	0.020	0.005	0.034	0.048	0.739	0.086	0.068	0.002	0.000	1.00
Region/Area	Subsistence farming,crops & animals	Cash cropping	Animal rearing	Business activities	Wages & Salaries	Pension	Cash remittances	Other	Not reported	Total No of households
Kunene	13346	1879	2980	713	25526	8552	4600	324	454	14084
Erongo	22212	3127	4960	1186	42484	14233	7656	539	755	29952
Hardap	13077	1841	2920	698	25011	8379	4507	317	444	15114
Karas	15328	2158	3423	818	29317	9822	5283	372	521	18602

Adapted from: Namibia Labour Force Survey 2004 (GRN 2006:37)

Distribution of people in coastal zone by secondary source of income

Region/Area	Ave h/hold size	Total no of people									
Kunene	4.6	64786									
Erongo	3.6	107827									
Hardap	4.2	63479									
Karas	4.0	74408									
Region/Area	Subsistence farming,crops & animals	Cash cropping	Animal rearing	Business activities	Wages & Salaries	Pension	Cash remittances	None	Other	Not reported	(%)
Kunene	0.061	0.000	0.020	0.030	0.040	0.052	0.024	0.852	0.000	0.000	1.00
Erongo	0.004	0.000	0.019	0.020	0.014	0.011	0.024	0.906	0.000	0.020	1.00
Hardap	0.036	0.000	0.000	0.022	0.009	0.024	0.060	0.814	0.030	0.032	1.00
Karas	0.010	0.000	0.008	0.034	0.030	0.039	0.048	0.818	0.020	0.011	1.00
Region/Area	Subsistence farming,crops & animals	Cash cropping	Animal rearing	Business activities	Wages & Salaries	Pension	Cash remittances	None	Other	Not reported	Total No of households
Kunene	3952	0	1296	1944	2591	3369	1555	55198	0	0	14084
Erongo	6578	0	2157	3235	4313	5607	2588	91869	0	2157	29952
Hardap	3872	0	1270	1904	2539	3301	1523	54084	1904	1270	15114
Karas	4539	0	1488	2232	2976	3869	1786	63396	2232	1488	18602

Adapted from: Namibia Labour Force Survey 2004 (GRN 2006:37)

APPENDIX C

FINANCIAL AND ECONOMIC LODGE ENTERPRISE MODEL (EXAMPLE FROM CAPRIVI)

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE												
AVERAGE MODEL FOR UP-MARKET LODGE/CAMP - Based on synthesis of empirical enterprise data												
ASSUMPTIONS*												
Production System:	18	bed, up-market lodge offering all inclusive, guided, wildlife viewing.										
Site:	High quality, unfenced area with river/floodplain frontage and mixed population of northeastern woodland species.											
Game Density:	<u>100%</u>	6.23	LSU Equivalents/Sq. Km. or,		16	Hectares per LSU Equivalent						
Carrying Capacity:	<u>100%</u>	0.125	Tourist Beds/Sq. Km. or,		800	Ha. per Tourist Bed						
Concession Size:	14400	Hectares or,		144	Square Kilometres							
Tourist Category:	Overseas	80%	Regional	10%	Resident	5%	Citizen	5%	Adults	90%	Children	10%
Occupancy Rate:	<u>100%</u>	57.5%	Average Length of Stay:		4 Days							
Daily Tariffs (NS):	<u>100%</u>	Overseas	2486	Regional	2486	Resident	2486	Citizen	2486	Children	100%	of Adult Price
Capital Item Prices:	<u>100%</u>	(Variation from Normal for Sensitivity Analysis)										
Capital Sources:	<u>100%</u>	Loan =	25%	Equity =	75%	and:	<u>100%</u>	Foreign	25%	Domestic	75%	
Interest Rates:	<u>100%</u>	Rate for Capital Loans:		10%	Rate for Working Capital Loans:		15%					
Working Capital as Proportion of Annual Operating Costs:					20%							
Park Entry Fees:	<u>100%</u>	Fee per Tourist Night/Day:		P 30.00								
Land Rental and Resource Royalty (NS):	<u>100%</u>	Rental:	17.10	per Ha.	<u>100%</u>	Royalty:	4%	of Turnover				
Manpower Needs:	<u>100%</u>	Managers	6	Skilled Labour	7	Unskilled Labour	15	<u>100%</u>				
	<u>100%</u>	Management:	Foreign		50%	Citizen	50%					
Shadow Wage Adjustment:	<u>100%</u>	Managers	1.00	Skilled Labour	1.00	<u>100%</u>	Unskilled Labour	0.50				
Foreign Exchange Premium:	<u>100%</u>	6%		Adjustment Factor =		1.06						
Tax Adjustments:	<u>100%</u>	General Sales Tax:		11%	Import Taxes: from SACU:		0%	to SACU: n/a				
Discount Rates:	<u>100%</u>	Financial Discount Rate:		8%	Economic Discount Rate:		8%					
Opportunity Cost of Capital:	<u>100%</u>	8%										
<p>Static models depict enterprise at full production. Static financial model includes interest, amortisation government fees, royalties and land rentals. Static economic model takes foreign inflows and outflows into account, excludes other interest and transfers and values enterprise in economic prices before land and government costs</p> <p>Dynamic models presented over 5 and 10 years, to measure IRR and NPV. Financial dynamic model, at constant prices, excludes interest and depreciation, and includes asset residual values. Economic model includes foreign inflows and outflows, and measures value of enterprise in economic prices before inclusion of land costs and public expenditures.</p>												
* Shaded cells indicate degree of conformity with base case values. Underlined shaded cells can be changed												

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE										
TABLE 1: CAPITAL REQUIREMENTS										
ITEM	QUANT.	PRICE NS	FINAN. COST	LIFE Years	AMORT. + INT.	DEPREC- IATION	ECON. DEPR.	FOREX ADJ.	TAX ADJ.	ECON. COST
FIXED CAPITAL										
DOMESTIC ITEMS										
Houses Manager	3	162180	486541	40	57149	12164	10826	1.00	0.89	433021
Houses Labour	18	24388	438984	40	51563	10975	9767	1.00	0.89	438984
Storerooms	1	243880	243880	40	28646	6097	5426	1.00	0.89	217053
Tourist Lodges	1	3182634	3182634	40	373831	79566	70814	1.00	0.89	2832544
Borehole	0	304850	0	40	0	0	0	1.00	0.89	0
Reservoir (Whole Water System)	1	792610	792610	40	93100	19815	17636	1.00	0.89	705423
Reticulation/Pans	0	5460	0	40	0	0	0	1.00	0.89	0
Firebreaks	0.00	7462	0	40	0	0	0	1.00	0.89	0
Hiking Trails	0.00	1092	0	40	0	0	0	1.00	0.89	0
Power/Road to Site	1	60970	60970	40	7162	1524	1357	1.00	0.89	54263
CONTINGENCIES @ 5%			260281	40	30573	6507	5791	1.00	0.89	231650
SUBTOTAL DOMESTIC ITEMS			5465900							4912939
TRADABLE ITEMS										
Boma	0	63882	0	20	0	0	0	1.06	0.89	0
Hiker Camps	0	0	0	15	0	0	0	1.06	0.89	0
Pump/Windmill	1	118300	118300	15	15553	7887	7440	1.06	0.89	111604
Fencing Perimeter	0.00	106707	0	15	0	0	0	1.06	0.89	0
Fencing Internal	0.00	97006	0	15	0	0	0	1.06	0.89	0
CONTINGENCIES @ 5%			5915	15	778	394	372	1.06	0.89	5580
SUBTOTAL TRADABLES			124215							117184
SUBTOTAL- FIXED CAPITAL			5590115							5030123
MOVABLE CAPITAL										
TRADABLE ITEMS										
Land Cruisers/Trucks/Vans	4	245045	980179	4	309218	245045	231175	1.06	0.89	924701
Tools/Office Equipment	1	54054	54054	6	12411	9009	8499	1.06	0.89	50995
Lodge Equipment	1	71171	71171	6	16341	11862	11190	1.06	0.89	67143
Boats	3	12012	36036	6	8274	6006	5666	1.06	0.89	33996
CONTINGENCIES @ 10%			114144	6	26208	19024	17947	1.06	0.89	107683
SUBTOTAL TRADABLES			1255584							1184518
DOMESTIC ITEMS										
Capture: Small Antelope	0	0	0	40	0			1.00	0.89	0
: Large Antelope	0	0	0	40	0			1.00	0.89	0
: Ostrich	0	0	0	40	0			1.00	0.89	0
: Other Animals	0	0	0	40	0			1.00	0.89	0
Horses and Donkeys	0	0	0	40	0			1.00	0.89	0
CONTINGENCIES @ 10%			0	40	0			1.00	0.89	0
SUBTOTAL- DOMESTIC ITEMS			0							0
SUBTOTAL- MOVABLE CAPITAL			1255584							1184518
WORKING CAPITAL										
			LOAN	INTEREST						
VARIABLE			775808	116371						
OVERHEAD			582828	87424						
SUBTOTAL- WORKING CAPITAL			1358636	203795						
TOTALS			8204335	203795	1030806	435874	403907			7654795

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE

TABLE 2: STOCK COMPOSITION BY SPECIES AT FULL PRODUCTION

ITEM	HEAD	LSU FACTOR	LSU
Baboon	6	0.00	0
Black Rhinoceros	0	1.50	0
Buffalo	45	1.00	45
Burchells Zebra	12	0.63	8
Bushbuck	5	0.14	1
Bushpig	12	0.20	2
Cheetah	2	0.00	0
Crocodile	3	0.00	0
Duiker	8	0.07	1
Eland	7	1.00	7
Elephant	225	3.33	749
Giraffe	9	1.43	13
Hippo	23	1.50	34
Impala	38	0.14	5
Kudu	30	0.40	12
Lechwe	15	0.16	2
Leopard	5	0.00	0
Lion	2	0.00	0
Oribi	2	0.08	0
Ostrich	8	0.26	2
Reedbuck	8	0.14	1
Roan	3	0.65	2
Sable	12	0.40	5
Sitatunga	6	0.16	1
Spotted Hyaena	5	0.00	0
Steenbok	8	0.06	0
Tsessebe	4	0.26	1
Warthog	23	0.20	5
Waterbuck	0	0.37	0
Wildebeest	3	0.40	1
TOTAL	524		897
GAME DENSITY:	6.23	LSU PER SQ.KM.;	CONCESSION SIZE:
		14400	HECTARES

TABLE 3: SALES AT FULL PRODUCTION

ITEM	VISITOR DAYS	@	RATE NS/Day	FINANCIAL VALUE	FOREX ADJ.	TAX ADJ.	ECON. VALUE
Overseas Adults	2720	@	2486	6761532	1.06	1.00	7167224
Regional Adults	340	@	2486	845192	1.06	1.00	895903
Resident Adults	170	@	2486	422596	1.06	1.00	447952
Citizen Adults	170	@	2486	422596	1.00	1.00	422596
Overseas Children	302	@	2486	751281	1.06	1.00	796358
Regional Children	38	@	2486	93910	1.06	1.00	99545
Resident Children	19	@	2486	46955	1.06	1.00	49772
Citizen Children	19	@	2486	46955	1.00	1.00	46955
Optional Excursions				0	1.06	1.00	0
Bar				0	1.06	1.00	0
Crafts/Curios				56666	1.06	1.00	60066
TOTALS	3778		GROSS INCOME	9447683			9986371

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE								
TABLE 4: VARIABLE EXPENDITURE AT FULL PRODUCTION								
ITEM	FINANCIAL VALUES			FOREX ADJ.	TAX ADJ.	ECONOMIC VALUES		
	N\$/LSU	N\$/HA.	VALUE			N\$/LSU	N\$/HA.	VALUE
TRADABLE ITEMS								
Marketing Costs: Advertising	1053.25	65.61	944768	1.06	0.89	993.63	61.90	891294
: Agents Fees	1579.87	98.41	1417152	1.06	0.89	1674.66	104.32	1502182
Lodge Running Costs : Accomodation	153.30	9.55	137510	1.06	0.89	144.62	9.01	129727
: Transport	42.31	2.64	37953	1.06	0.89	39.92	2.49	35805
: Optional Activ.	0.00	0.00	0	1.06	0.89	0.00	0.00	0
: Bar	107.31	6.68	96257	1.06	0.89	101.24	6.31	90809
: Crafts/Curios	63.62	3.96	57067	1.06	0.89	60.02	3.74	53837
Fodder and Supplements	0.00	0.00	0	1.06	0.89	0.00	0.00	0
Offtake Costs: Ammunition	0.00	0.00	0	1.06	0.89	0.00	0.00	0
: Supplies and Packaging	0.00	0.00	0	1.06	0.89	0.00	0.00	0
: Transport	0.00	0.00	0	1.06	0.89	0.00	0.00	0
: Live Game Distribution	0.00	0.00	0	1.06	0.89	0.00	0.00	0
: Biltong Distribution	0.00	0.00	0	1.06	0.89	0.00	0.00	0
Fuels, Oils and Miscellaneous Costs	39.86	2.48	35753	1.06	0.89	37.60	2.34	33729
SUBTOTAL TRADABLES	3039.51	189.34	2726460			3051.69	190.10	2737382
DOMESTIC ITEMS								
Veterinary and Medicine Costs	0.00	0.00	0	1.00	0.89	0.00	0.00	0
Licence Fees: Park Entrance Fees	126.35	7.87	113333	1.00	1.00	0.00	0.00	0
: Hunting Licences	0.00	0.00	0	1.00	1.00	0.00	0.00	0
Sales Tax	1158.57	72.17	1039245	1.00	1.00	0.00	0.00	0
SUBTOTAL DOMESTIC ITEMS	1284.92	80.04	1152578			0.00	0.00	0
TOTAL VARIABLE EXPENDITURE	4324.43	269.38	3879038			3051.69	190.10	2737382
TABLE 5: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION								
ITEM	FINANCIAL VALUES			FOREX ADJ.	TAX ADJ.	ECONOMIC VALUES		
	N\$/LSU	N\$/HA.	VALUE			N\$/LSU	N\$/HA.	VALUE
DOMESTIC ITEMS								
Salaries and Wages: Unskilled Labour	340.87	21.23	305760	1.00	1.00	340.87	21.23	152880
: Skilled Labour	596.52	37.16	535080	1.00	1.00	596.52	37.16	476221
: Managers	1704.34	106.17	1528800	1.00	1.00	1704.34	106.17	1528800
Administration	79.13	4.93	70980	1.00	0.89	79.13	4.93	63172
Maintenance and Repairs	146.30	9.11	131236	1.00	0.89	146.30	9.11	116800
Insurance	381.59	23.77	342285	1.00	0.89	381.59	23.77	304634
Travelling	0.00	0.00	0	1.00	0.89	0.00	0.00	0
TOTAL OPERATING OVERHEAD EXPEND.	3248.74	202.37	2914141			3248.74	202.37	2642507

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE

TABLE 6: STATIC FINANCIAL MODEL (AT FULL PRODUCTION)

ITEM	UNITS		TOTAL
Concession Extent	Hectares		14400
Concession Stock	Large Stock Units (LSU)		897
Total Capital Requirement	N\$		8204335
	N\$/LSU	N\$/HECTARE	N\$
GROSS INCOME	10532.46	656.09	9447683
VARIABLE COSTS	4324.43	269.38	3879038
GROSS MARGIN	6208.04	386.71	5568645
OVERHEAD COSTS			
Overhead Operating Costs	3248.74	202.37	2914141
Loan Amortisation and Interest	287.29	17.90	257702
Provisions for Capital Replacement	364.44	22.70	326906
Interest on Variable Working Capital	129.73	8.08	116371
Interest on Overhead Working Capital	97.46	6.07	87424
Land Rental	274.52	17.10	246245
Resource Royalty	421.30	26.24	377907
TOTAL OVERHEAD COSTS	4823.49	300.46	4326696
NET CASH INCOME	1384.55	86.25	1241949
NET CASH INCOME/N\$100 TOTAL CAPITAL INVESTMENT	15.14		
"TOTAL BENEFITS"*/N\$100 TOTAL CAPITAL INVESTMENT	65.68		
"TOTAL BENEFITS"*/HECTARE	374.19		
* "Total Benefits" = all of Net Cash Income, Salaries and Wages, Licences and Duties, Rental and Royalties.			

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE			
TABLE 7: STATIC ECONOMIC MODEL (AT FULL PRODUCTION)			
ITEM	UNITS		TOTAL
Concession Extent	Hectares		14400
Concession Stock	Large Stock Units (LSU)		897
Total Capital Requirement	N\$		7654795
Economic Depreciation Cost	N\$		403907
Foreign Financing (Prorated)	N\$		115507
Foreign Amortisation	N\$		28877
Foreign Capital Replacement Provision	N\$		86630
Foreign Interest Cost	N\$		211663
Domestic Interest Cost	N\$		634989
ECONOMIC BENEFITS	N\$/LSU	N\$/HECTARE	N\$
Gross Income	11133.00	693.50	9986371
ECONOMIC COSTS			
DOMESTIC COMPONENT			
Shadow Unskilled Citizen Wages	170.43	10.62	152880
Other Citizen Wages	1383.07	86.15	1240621
Opportunity Cost of Capital	682.70	42.53	612384
Other Domestic Economic Costs	540.25	33.65	484606
SUBTOTAL DOMESTIC COMPONENT	2776.45	172.95	2490491
TRADABLE COMPONENT			
Foreign Remuneration	852.17	53.08	764400
Foreign Services	2134.64	132.97	1914781
Foreign Interest	235.97	14.70	211663
Foreign Lease Payments	0.00	0.00	0
Foreign Rentals	0.00	0.00	0
Foreign Net Income	366.91	22.86	329117
Other Tradable Economic Costs	917.05	57.13	822602
SUBTOTAL TRADABLE COMPONENT	4506.73	280.73	4042562
TOTAL ECONOMIC COSTS	7283.18	453.68	6533053
GROSS VALUE ADDED TO NATIONAL INCOME	3849.83	239.81	3453318
NET VALUE ADDED (Excluding Depreciation)	3399.54	211.76	3049412
STATISTICAL GROSS VALUE ADDED	5403.33	336.58	4846820
DOMESTIC RESOURCE COST RATIO =	0.53		
NET VALUE ADDED/N\$100 TOTAL CAPITAL COST =	39.84		
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED =	273386		
NUMBER OF EMPLOYMENT OPPORTUNITIES/1000 HA.	1.94		

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE												
TABLE 8: CAPITAL PHASING, DEPRECIATION SCHEDULE AND CALCULATION OF RESIDUAL VALUE (NS)												
ITEM	LIFE (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
"Forty Year" Items	40											
Total Expenditure		5465900										
Phased Expenditure		3279540	2186360	0	0	0	0	0	0	0	0	0
Depreciation		81988	136647	136647	136647	136647	136647	136647	136647	136647	136647	136647
Residual value		3279540	5383911	5247264	5110616	4973969	4837321	4700674	4564026	4427379	4290731	4154084
"Twenty Year" Items	20											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual value		0	0	0	0	0	0	0	0	0	0	0
"Fifteen Year" Items	15											
Total Expenditure		124215										
Phased Expenditure		74529	49686	0	0	0	0	0	0	0	0	0
Depreciation		4969	8281	8281	8281	8281	8281	8281	8281	8281	8281	8281
Residual value		74529	119246	110965	102684	94403	86122	77841	69560	61279	52998	44717
"Six Year" Items	6						6					
Total Expenditure		275405						275405				
Phased Expenditure		192784	82622	0	0	0	0	192784	82622	0	0	0
Depreciation		32131	45901	45901	45901	45901	45901	45901	45901	45901	45901	45901
Residual value		192784	243275	197374	151473	105572	59671	206554	243275	197374	151473	105572
"Four Year" Items	4											
Total Expenditure		980179				980179				980179		
Phased Expenditure		980179	0	0	0	980179	0	0	0	980179	0	0
Depreciation		245045	245045	245045	245045	245045	245045	245045	245045	245045	245045	245045
Residual value		980179	735134	490090	245045	980179	735134	490090	245045	980179	735134	490090
NON DEPRECIABLE ASSETS												
Stock	-											
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Residual value		0	0	0	0	0	0	0	0	0	0	0
Working Capital	-											
Phased Expenditure		1358636	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		3279540	2186360	0	0	0	0	0	0	0	0	0
Tradable Component		1247492	132308	0	0	980179	0	192784	82622	980179	0	0
Total Financial Value		4527032	2318667	0	0	980179	0	192784	82622	980179	0	0
Total Economic Value		4095674	2070679	0	0	924701	0	181872	77945	924701	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		3279540	5383911	5247264	5110616	4973969	4837321	4700674	4564026	4427379	4290731	4154084
Tradable Component		1247492	1097655	798429	499202	1180155	880928	774485	557880	1238832	939606	640379
Financial Value		4527032	6481566	6045692	5609818	6154123	5718249	5475158	5121906	5666211	5230337	4794463
Economic Value		4095674	5827209	5423302	5019395	5540190	5136283	4914249	4588287	5109081	4705175	4301268

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE												
TABLE 9: LOAN FINANCING SCHEDULE (N\$)												
ITEM	PERIOD	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	(Yrs)	0	1	2	3	4	5	6	7	8	9	10
LONG TERM LOANS												
TWENTY YEAR LOAN 20												
Total Expenditure		1366475										
Loan Disbursements		819885	546590	0	0	0	0	0	0	0	0	0
Loan Payments		96303	160506	160506	160506	160506	160506	160506	160506	160506	160506	160506
Amortisation		40994	68324	68324	68324	68324	68324	68324	68324	68324	68324	68324
Interest Payments		55309	92182	92182	92182	92182	92182	92182	92182	92182	92182	92182
Loans Outstanding		819885	1325481	1257157	1188833	1120509	1052186	983862	915538	847214	778891	710567
FIFTEEN YEAR LOAN 15												
Total Expenditure		31054										
Loan Disbursements		23290	7763	0	0	0	0	0	0	0	0	0
Loan Payments		3062	4083	4083	4083	4083	4083	4083	4083	4083	4083	4083
Amortisation		1553	2070	2070	2070	2070	2070	2070	2070	2070	2070	2070
Interest Payments		1509	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013
Loans Outstanding		23290	29501	27431	25361	23290	21220	19150	17080	15009	12939	10869
SIX YEAR LOAN 6												
Total Expenditure		68851						68851				
Loan Disbursements		48196	20655	0	0	0	0	48196	20655	0	0	0
Loan Payments		11066	15809	15809	15809	15809	15809	15809	15809	15809	15809	15809
Amortisation		8033	11475	11475	11475	11475	11475	11475	11475	11475	11475	11475
Interest Payments		3033	4334	4334	4334	4334	4334	4334	4334	4334	4334	4334
Loans Outstanding		48196	60819	49343	37868	26393	14918	51638	60819	49343	37868	26393
FOUR YEAR LOAN 4												
Total Expenditure		245045				245045				245045		
Loan Disbursements		245045	0	0	0	245045	0	0	0	245045	0	0
Loan Payments		77304	77304	77304	77304	77304	77304	77304	77304	77304	77304	77304
Amortisation		61261	61261	61261	61261	61261	61261	61261	61261	61261	61261	61261
Interest Payments		16043	16043	16043	16043	16043	16043	16043	16043	16043	16043	16043
Loans Outstanding		245045	183784	122522	61261	245045	183784	122522	61261	245045	183784	122522
SHORT TERM LOANS												
Working Capital 1												
Overdraft		1358636	1358636	1358636	1358636	1358636	1358636	1358636	1358636	1358636	1358636	1358636
Interest Payments		203795	203795	203795	203795	203795	203795	203795	203795	203795	203795	203795
TOTAL LONG TERM LOAN DISBURSMENTS												
Domestic Component		852312	431257	0	0	183784	0	36147	15492	183784	0	0
Foreign Component *		301150	152377	0	0	64937	0	12772	5474	64937	0	0
TOTAL LONG TERM LOAN AMORTISATION												
Domestic Component		83881	107348	107348	107348	107348	107348	107348	107348	107348	107348	107348
Foreign Component *		29638	37930	37930	37930	37930	37930	37930	37930	37930	37930	37930
TOTAL INTEREST PAYMENTS												
Domestic Component		209768	238775	238775	238775	238775	238775	238775	238775	238775	238775	238775
Foreign Component *		74118	84367	84367	84367	84367	84367	84367	84367	84367	84367	84367
TOTAL LOANS OUTSTANDING												
Domestic Component		852312	1199688	1092340	984992	1061428	954080	882879	791023	867459	760111	652763
Foreign Component *		301150	423890	385960	348031	375038	337108	311951	279495	306502	268573	230643
* Economic Values												

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE

TABLE 10: FINANCIAL ANALYSIS - 5 YEARS (N\$)

ITEM	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5		
EXPENDITURE								
Capital Expenditure	4527032	2318667	0	0	980179	0		
Variable Expenditure	387904	2327423	3879038	3879038	3879038	3879038		
Overhead Expenditure	3538293	3538293	3538293	3538293	3538293	3538293		
TOTAL EXPENDITURE	8453229	8184383	7417331	7417331	8397510	7417331		
INCOME								
Gross Income	0	4723842	8502915	9447683	9447683	9447683		
Asset Residual Value	0	0	0	0	0	5718249		
TOTAL INCOME	0	4723842	8502915	9447683	9447683	15165932		
NET BENEFIT/COST	-8453229	-3460542	1085584	2030352	1050173	7748601		
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS				=	0.00%			
NET PRESENT VALUE (NPV) @		8.00%		=	-2842117		Per Hectare =	-197.37

TABLE 11: FINANCIAL ANALYSIS - 7 YEARS (N\$)

ITEM	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
EXPENDITURE								
Capital Expenditure	4527032	2318667	0	0	980179	0	192784	82622
Variable Expenditure	387904	2327423	3879038	3879038	3879038	3879038	3879038	3879038
Overhead Expenditure	3538293	3538293	3538293	3538293	3538293	3538293	3538293	3538293
TOTAL EXPENDITURE	8453229	8184383	7417331	7417331	8397510	7417331	7610115	7499953
INCOME								
Gross Income	0	4723842	8502915	9447683	9447683	9447683	9447683	9447683
Asset Residual Value	0	0	0	0	0	0	0	5121906
TOTAL INCOME	0	4723842	8502915	9447683	9447683	9447683	9447683	14569589
NET BENEFIT/COST	-8453229	-3460542	1085584	2030352	1050173	2030352	1837568	7069636
FINANCIAL RATE OF RETURN (FRR) OVER 7 YEARS				=	4.72%			
NET PRESENT VALUE (NPV) @		8.00%		=	-1553875		Per Hectare =	-107.91

TABLE 12: FINANCIAL ANALYSIS - 10 YEARS (N\$)

ITEM	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	4527032	2318667	0	0	980179	0	192784	82622	980179	0	0
Variable Expenditure	387904	2327423	3879038	3879038	3879038	3879038	3879038	3879038	3879038	3879038	3879038
Overhead Expenditure	3538293	3538293	3538293	3538293	3538293	3538293	3538293	3538293	3538293	3538293	3538293
TOTAL EXPENDITURE	8453229	8184383	7417331	7417331	8397510	7417331	7610115	7499953	8397510	7417331	7417331
INCOME											
Gross Income	0	4723842	8502915	9447683	9447683	9447683	9447683	9447683	9447683	9447683	9447683
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	4794463
TOTAL INCOME	0	4723842	8502915	9447683	9447683	9447683	9447683	9447683	9447683	9447683	14242146
NET BENEFIT/COST	-8453229	-3460542	1085584	2030352	1050173	2030352	1837568	1947731	1050173	2030352	6824815
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS				=	8.11%						
NET PRESENT VALUE (NPV) @		8.00%		=	71758		Per Hectare =	4.98			

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE

TABLE 13: ECONOMIC ANALYSIS - 5 YEARS (N\$)

ITEM	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	4095674	2070679	0	0	924701	0
Unskilled Wages	152880	152880	152880	152880	152880	152880
Other Domestic Costs	1380182	1725227	1725227	1725227	1725227	1725227
Tradable Costs	347291	2083743	3472906	3472906	3472906	3472906
Foreign Amortisation	29638	37930	37930	37930	37930	37930
Foreign Profits	0	23038	263293	329117	329117	329117
Foreign Loans Outst.	0	0	0	0	0	337108
TOTAL COSTS	6005664	6093498	5652236	5718059	6642760	6055168
ECONOMIC BENEFITS						
Gross Income	0	4993186	8987734	9986371	9986371	9986371
Asset Residual Value	0	0	0	0	0	5136283
Foreign Financing	301150	152377	0	0	64937	0
TOTAL BENEFITS	301150	5145563	8987734	9986371	10051308	15122654
NET BENEFIT/COST	-5704514	-947935	3335498	4268312	3408548	9067487
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS				=	36.28%	
NET PRESENT VALUE (NPV) @		8.00%		=	7724359	Per Hectare = 536.41

TABLE 14: ECONOMIC ANALYSIS - 10 YEARS (N\$)

ITEM	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	4095674	2070679	0	0	924701	0	181872	77945	924701	0	0
Unskilled Wages	152880	152880	152880	152880	152880	152880	152880	152880	152880	152880	152880
Other Domestic Costs	1380182	1725227	1725227	1725227	1725227	1725227	1725227	1725227	1725227	1725227	1725227
Tradable Costs	347291	2083743	3472906	3472906	3472906	3472906	3472906	3472906	3472906	3472906	3472906
Foreign Amortisation	29638	37930	37930	37930	37930	37930	37930	37930	37930	37930	37930
Foreign Profits	0	23038	263293	329117	329117	329117	329117	329117	329117	329117	329117
Foreign Loans Outst.	0	0	0	0	0	0	0	0	0	0	230643
TOTAL COSTS	6005664	6093498	5652236	5718059	6642760	5718059	5899931	5796004	6642760	5718059	5948702
ECONOMIC BENEFITS											
Gross Income	0	4993186	8987734	9986371	9986371	9986371	9986371	9986371	9986371	9986371	9986371
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	4301268
Foreign Financing	301150	152377	0	0	64937	0	12772	5474	64937	0	0
TOTAL BENEFITS	301150	5145563	8987734	9986371	10051308	9986371	9999143	9991845	10051308	9986371	14287639
NET BENEFIT/COST	-5704514	-947935	3335498	4268312	3408548	4268312	4099212	4195841	3408548	4268312	8338937
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS				=	41.17%						
NET PRESENT VALUE (NPV) @		8.00%		=	16617402	Per Hectare = 1153.99					

FINANCIAL/ECONOMIC MODEL - HIGH QUALITY AREA TOURISM - CAPRIVI, NAMIBIA 2006 - BASE CASE					
TABLE 15: SUMMARY OF RESULTS					
ITEM	UNITS				TOTAL
Concession Extent	Hectares				14400
Concession Stock	Large Stock Units (LSU)				897
Annual Visitor Days (VD)	Number				3778
ITEM	% of TCI	N\$/VISITOR DAY	N\$/LSU	N\$/HECTARE	N\$
Total Financial Capital (TCI)	-	2171.75	9146.35	569.75	8204335
Financial Gross Income	115.15%	2500.88	10532.46	656.09	9447683
Variable Financial Costs	-	1026.81	4324.43	269.38	3879038
Fixed Financial Costs	-	1145.31	4823.49	300.46	4326696
Net Cash Income	15.14%	328.75	1384.55	86.25	1241949
Local Community Cash Income	14.85%	322.61	1358.68	84.64	1218747
Land Rental	-	65.18	274.52	17.10	246245
Resource Royalty	-	100.04	421.30	26.24	377907
FRR (@ 10 Years)	-	-	-	-	8.11%
FNPV (@ 8%, @ 10 Years)	-	-	-	4.98	71758
Total Economic Capital	-	2026.28	8533.72	531.58	7654795
Economic Gross Income	130.46%	2643.47	11133.00	693.50	9986371
Economic Costs	85.35%	1729.35	7283.18	453.68	6533053
Incremental Gross Value Added	45.11%	914.12	3849.83	239.81	3453318
Incremental Net Value Added	39.84%	807.20	3399.54	211.76	3049412
Statistical Gross Value Added	63.32%	1282.99	5403.33	336.58	4846820
ERR (@ 10 Years)	-	-	-	-	41.17%
ENPV (@ 8%, @ 10 Years)	-	-	-	1153.99	16617402
Economic Capital Cost/Job	-	-	-	-	273386
Domestic Resource Cost Ratio	-	-	-	-	0.53
Policy Analysis Matrix	: Effects of Policy / Market Imperfections		: on Output		-538688
			: on Tradable Inputs		1316102
			: on Domestic Factors		-2584876
	: Net Effects of Policy / Market Imperfections		: on Annual Net Income		-1807462
			: on Net Present Value (10 Years)		-16545644

APPENDIX D

MONITORING TOOLS

D.1: Tool for monitoring sustainability shift

D.2: Indicator report card adapted from TOMM

Appendix D.1: Tool for monitoring sustainability shift

Monitoring tool for collection of data and ongoing monitoring of the shift from unsustainable to sustainable **tourism** activities with a ranking of 1-5 (2 objective (i) ToR.

<u>LAND-BASED ACTIVITY TOUR FACILITATORS AND OPERATORS</u> <input type="checkbox"/>			
<u>WATER-BASED ACTIVITY TOUR FACILITATORS AND OPERATORS</u> <input type="checkbox"/>			
<u>LAND-BASED ACTIVITY TOUR FACILITATORS AND OPERATORS</u> <input type="checkbox"/>			
Subsector	e.g. Tour operator (land-based activities)		
Name of Establishment	e.g. Gecko Dune Tours		
Location	Mittel Street, Swakopmund		
List top activities	e.g. Quad biking, guided 4 x 4 drives		
Ownership details/use rights	Owner		
Number of staff (OWNER NOT INCLUDED)	Permanent	Temporary	
	# _____ year _____	# _____ year _____ High season _____ low season _____	
Wages/salaries (RANGE)	601-1000 = ____ 1001-1600 = ____ 1601-2200 = ____ 2201-2800 = ____ 2801-3400 = ____ 3401-4000 = ____ 4001 > = ____	N\$ /hour	Ave = _____ hours/day
<u>LAND-BASED ACTIVITIES</u>			
Issues & activities	Criteria	YES/NO and other information	Score 0=very low,1=low, 2=medium,3=high, 4=very high,5=excellent
Dunes	Quad bike tours + average no of tours and people p.a.?		
	Noise ? high/mid/low		
	Sand-boarding + average no p.a.?		
	4x4 dune driving + average no of cars p.a.?		
	Dune climbing + average no of tours and people p.a.		
Birdwatching	Noise?		
	Average no of people and tours p.a.?		
Lagoon birdwatching	Feeding of birds?		
	Trash?		
	Average no of people and tours p.a.?		
Beach activities	No of tours and people p.a.? (incentives, combos)		
	Trash? (what and qty (bags)?)		
<u>WATER-BASED</u>			

ACTIVITIES			
Issues & activities	Criteria	YES/NO and other information	Score 0=very low,1=low, 2=medium,3=high, 4=very high,5=excellent
Dolphins	Feeding? (what, qty)		
	Average no of people and tours p.a.		
	Trash? (what, qty? (bags)		
	Number of boats?		
Offshore boat fishing (e.g. shark fishing)	Average no of tours and people p.a.?		
	Number of boats?		
	Trash? (what and qty?) (bags)		
Recreational line fishing	Guided?		
	Transport of guests in 4x4?		
	Beach driving?		
	No of tours and people p.a.?		
	Trash? (what, qty (bags)?		
<u>AIR-BASED ACTIVITIES</u>	Criteria	YES/NO and other information	Score 0=very low,1=low, 2=medium,3=high, 4=very high,5=excellent
Paragliding	Noise levels? High/mid/low		
	No of tours and people p.a.?		
	Trash? (what, qty (bags)?		
Ballooning	Noise levels? High/mid/low		
	No of tours and people p.a.?		
	Trash? (what, qty (bags)?		
Fly-in safaris	Noise levels? High/mid/low		
	Air pollution?		
	Trash? (what, qty (bags)?		
Low-flying in lagoon area	Noise levels? (high/mid/low		
	Air pollution?		
	Trash? (what, qty (bags)?		
<u>GENERAL</u>	Criteria	YES/NO and other information	Score 0=very low,1=low, 2=medium,3=high, 4=very high,5=excellent
Environmental practice	Environmental policy in place?		
Guest information	Guest notification in place?		
Staff	Staff training running?		
Purchasing policy	Sustainable purchasing policy in place?		
Guest safety measures	Precaution information and first aid?		
Waste	Non-toxic cleaners?		
	Food waste?		
	Reduce, reuse and recycle (other)?		
	Other?		

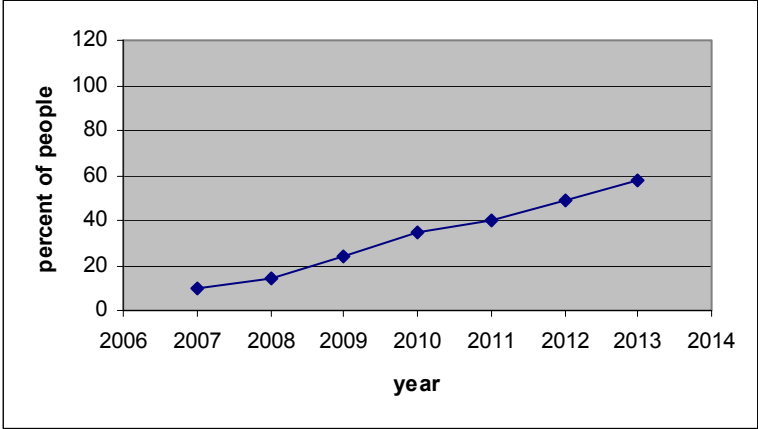
Appendix D.2: Indicator report cards adapted from TOMM

Indicator Report Card

Economic

Growth of number of people

The data for this indicator are collected by NACOMA through the Enterprise/Project Survey

Indicator Summary	STATUS	Management Action	Progress on Action																
<p>Optimal Condition: Growth of local employment is consistent.</p> <p>Indicator: % Increase in the number of People who derive all or some of their income from tourism</p> <p>Acceptable Range: 1 – 5 % annual growth</p>	 <table border="1"> <caption>Data for Growth of local employment</caption> <thead> <tr> <th>Year</th> <th>Percent of people</th> </tr> </thead> <tbody> <tr><td>2007</td><td>10</td></tr> <tr><td>2008</td><td>15</td></tr> <tr><td>2009</td><td>25</td></tr> <tr><td>2010</td><td>35</td></tr> <tr><td>2011</td><td>40</td></tr> <tr><td>2012</td><td>50</td></tr> <tr><td>2013</td><td>60</td></tr> </tbody> </table>	Year	Percent of people	2007	10	2008	15	2009	25	2010	35	2011	40	2012	50	2013	60	<p>-Consider reviewing the acceptable range (adding an upper limit for this indicator to maintain a sustainable balance of industries across the coastal zone.</p>	<p><input type="checkbox"/> Action Plan being determined</p> <p><input type="checkbox"/> Completed</p> <p><input type="checkbox"/> Currently being implemented</p> <p><input type="checkbox"/> Monitoring</p> <p><input type="checkbox"/> no action</p> <hr/> <p><u>STATUS</u></p> <hr/> <p style="text-align: center; color: red; font-size: 2em;">X</p>
Year	Percent of people																		
2007	10																		
2008	15																		
2009	25																		
2010	35																		
2011	40																		
2012	50																		
2013	60																		

Adapted from the TOMM

Indicator Report Card

Economic

% of people deriving most of their income from tourism

The data for this indicator are collected by NACOMA through the Enterprise/Project Survey

Indicator Summary	STATUS	Management Action	Progress on Action																
<p>Optimal Condition: Tourism provides employment for local people</p> <p>Indicator: % of people deriving most of their income from tourism</p> <p>Acceptable Range: 1 – 3 % annual growth</p>	<table border="1"> <caption>Data for % of people deriving most of their income from tourism</caption> <thead> <tr> <th>Year</th> <th>Percent of people</th> </tr> </thead> <tbody> <tr><td>2007</td><td>10</td></tr> <tr><td>2008</td><td>12</td></tr> <tr><td>2009</td><td>15</td></tr> <tr><td>2010</td><td>25</td></tr> <tr><td>2011</td><td>30</td></tr> <tr><td>2012</td><td>35</td></tr> <tr><td>2013</td><td>40</td></tr> </tbody> </table>	Year	Percent of people	2007	10	2008	12	2009	15	2010	25	2011	30	2012	35	2013	40	<p>-Consider reviewing the acceptable range (adding an upper limit for this indicator to maintain a sustainable balance of industries across the coastal zone).</p> <p>-Consider reviewing the number of part-time jobs converted into full-time jobs</p>	<p><input type="checkbox"/> Action Plan being determined</p> <p><input type="checkbox"/> Completed</p> <p><input type="checkbox"/> Currently being implemented</p> <p><input checked="" type="checkbox"/> Monitoring</p> <p><input type="checkbox"/> no action</p> <hr/> <p><u>STATUS</u></p> <hr/> <p style="text-align: center; color: red; font-size: 2em;">X</p>
Year	Percent of people																		
2007	10																		
2008	12																		
2009	15																		
2010	25																		
2011	30																		
2012	35																		
2013	40																		

Adapted from the TOMM