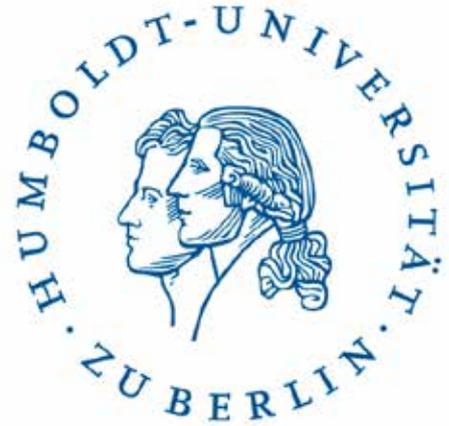

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CAN PRIVATE CONSERVATION FOSTER VALID RESULTS?

**ECOTOURISM AND SUSTAINABLE RESOURCE MANAGEMENT
IN THE NAMIBRAND NATURE RESERVE, NAMIBIA**

Berlin, August 4th, 2014. Submitted by

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*“To move, to breathe, to fly, to float,
To gain all while you give,
To roam the roads of lands remote,
To travel is to live.”*

– Hans Christian Andersen

In loving memory of my grandma and Tina,
who probably both would have liked the cheesy quote on the previous page.

I terribly miss you.

ABSTRACT

Given a paradigm shift in nature conservation from public towards private protected areas, ecotourism becomes a major instrument to finance biodiversity conservation. In economically disadvantaged countries, ecotourism furthermore offers means of poverty alleviation and hence is increasingly applied in development cooperation. Therefore, this thesis helps to gain important insight into how private conservation models work, what makes them successful and where their weaknesses and risk lie, using a case study of a private nature reserve from southern Namibia, the NamibRand Nature Reserve. The case study gives evidence that private conservation can effectively generate positive results of environmental protection, while at the same time creating more jobs as compared to other land uses and contributing important community support to the destination area. On the contrary, deficits in the resource monitoring and management obstacles of the reserve are found. It is also emphasized that external quality assurance of ecotourism is of essence in private conservation. It ensures visitors of proper sustainable destination management but also assesses the operator's performance and encourages improvements as well as the business development. Therefore, the application of the existing IUCN protected area categories to private protected areas is highly recommended in order to help evaluate private protected areas among themselves and in comparison to public protected areas on a global scale.

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LIST OF ABBREVIATIONS

CBD	Convention on Biological Diversity
CBNRM	Community-based natural resource management
CBT	community-based tourism
CIA	Central Intelligence Agency (of the USA)
EANA	Ecotourism Awards Namibia Alliance
EMS	Environmental Management System
GSNL	Greater Sossusvlei-Namib Landscape
GSTC	Global Sustainable Tourism Council
IUCN	International Union for Conservation of Nature; as well referred to as the World Conservation Union
MET	Ministry of Environment and Tourism
NACSO	Namibian Association of CBNRM Support Organizations
NaDEET	Namib Desert Environmental Education Trust
NAM-PLACE	Namibia Protected Landscape Conservation Areas Initiative
NICE	Namibian Institute of Culinary Education
NNI	Net national income
NOI	Net operating income
NRAC	NamibRand Desert Research and Awareness Center
NRCF	NamibRand Conservation Foundation
NRNR	NamibRand Nature Reserve
NTA	Namibian Training Authority
NTB	Namibia Tourism Board
PPA	Private protected area
SWAPO	South-West Africa People's Organization
TEDP	Tourism and Economic Development Plan
UN	United Nations
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNWTO	United Nations World Tourism Organisation
VAT	Value added tax
WCMC	World Conservation Monitoring Centre (by UNEP)
WCPA	World Commission on Protected Areas
WDPA	World Database on Protected Areas
WTTC	World Travel & Tourism Council
WWF	World Wildlife Fund

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“A journey of a thousand miles must begin with a single step.” – Lao Tzu

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“A journey of a thousand miles begins with a cash advance.” – Anonymous

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1 Introduction

For a long time, the matter of nature conservation was solely seen as a task of governments, but the world experienced a paradigm shift in conservation during the last decades. An ongoing trend towards private ownership of protected areas was observed which LANGHOLZ (1999, as in EAGLES et al., 2002, p. 35) explains by “a greater public interest generally in biodiversity protection, governments’ inability to safeguard all biodiversity, and the expansion in ecotourism”. Ecotourism, as a form of nature-based tourism, plays a very important role in private conservation because it is “by far the most popular revenue option used by known private protected areas worldwide” (LANGHOLZ, 2010, p. 13). Thus, ecotourism is increasingly employed as a tool to finance biodiversity and nature conservation. But ecotourism is as well more and more adopted in development cooperation, preferably in the form of community-based tourism, because of its potential for poverty alleviation.

Indeed, tourism in general offers a chance for job creation, infrastructure development, economic growth and poverty reduction in many parts of the world’s poorest regions. Already, tourism is one of the largest and fastest growing economic sectors in the world (UNWTO, 2013b). In 2012, international tourist arrivals hit the one billion mark for the very first time in history (UNWTO, 2013a), generating an income of US\$ 1,075 billion (€ 837 billion) and by this representing 9 % of the world’s GDP. In the year 2012, tourism received major international recognition at the Rio+20 United Nations Conference on Sustainable Development and the G20 Summit in Mexico, when world leaders acknowledged the potential of tourism for the ease of some of the world’s most urgent issues (ibid.).

However, in the light of growing arrival numbers, tourism also needs to face some major challenges and the practice of sustainable forms of tourism becomes of great importance. With an increasing world population of over 7 billion people, growing middle classes and rising disposable incomes in especially emerging economies like the BRIC¹ countries, tourism will only further expand and continue to put pressure on natural resources. Here, the combination of private conservation and ecotourism may offer valid means to reduce this pressure.

¹ BRIC = Brazil, Russia, India and China.

1.1 Private protected areas

In contrast to the more common form of public protected areas, private protected areas (PPAs) play an increasing role in biodiversity conservation as their numbers continue to proliferate around the world. It was shown that PPAs can be an effective mechanism to balance the three pillars of sustainability – people, planet and profits (LANGHOLZ, 2010). PPAs are a large and growing subset of the world's protected areas and the trend is predicted to continue to expand into the future (MITCHELL, 2008 and LANGHOLZ, 2010) but they are the least understood of the four main governance types recognized by the International Union for Conservation of Nature (IUCN) (see 1.1.1; IUCN, 2014). The first global assessment of privately owned and managed protected areas is currently carried out by the Private Protected Areas and Nature Stewardship Specialist Group of the IUCN World Commission on Protected Areas (WCPA) and will be presented at the Sixth World Parks Congress 2014 in Sydney, Australia (ibid.).

1.1.1 Brief history overview

PPAs existed in many forms for a long time. They are rooted in the nobility's royal hunting grounds as seen in Europe, Africa and Asia (RUNTE 1979 as in LANGHOLZ, 2010 and LANGHOLZ & LASSOIE, 2001). The first scholarly reference to PPAs is connected to the First World Parks Congress in 1962 when the existence of PPAs was acknowledged and a call for the further establishment of more PPAs was forwarded (ADAMS, 1962 as in LANGHOLZ 2010 and LANGHOLZ & LASSOIE, 2001). From the 1970s on, a shift in nature conservation developed away from top-down towards more integrative and bottom-up approaches. This advancement, together with the rise of ecotourism in the 1980s, triggered a global proliferation of PPAs with several countries creating legal frameworks supportive of PPAs during the 1990s, such as Australia, Brazil and Peru (LANGHOLZ, 2010).

The year 2003 marked a milestone in the development for PPAs when the Fifth IUCN World Parks Congress in Durban, South Africa, formally recognized four main governance types of protected areas which are:

- I. Government managed protected areas,
- II. Co-managed protected areas (i.e. multi-stakeholder management),
- III. Privately managed protected areas and

IV. Indigenous and community managed protected areas.

(IUCN, 2014)

Of these four governance types privately managed protected areas are the only type that does not include ownership or direct control by a government of any kind. The World Parks Congress in 2003 furthermore adopted the *Durban Action Plan* which involved a *Private Protected Area Action Plan*. The plan laid out a framework to enhance and expand the development of PPAs worldwide (LANGHOLZ, 2010) and provided the first internationally accepted definition for PPAs:

“A land parcel of any size that is

- I. predominantly managed for biodiversity conservation;
- II. protected with or without formal government agency recognition; and
- III. owned or otherwise secured by individuals, communities, corporations, or non-governmental organisations”.

(IUCN, 2014)

In 2004, the United Nations’ (UN) Convention on Biological Diversity (CBD) – the world’s highest and most authoritative body for biodiversity issues – approved a *Programme of Work on Protected Areas* which addressed a number of means that should be applied by member states to support PPAs, such as reviewing the status of PPAs, promoting the international sharing of experience with the governance of PPAs or developing national incentive mechanisms, institutions and legislative frameworks to support the establishment of PPAs (ibid.).

Further attention was brought to PPAs in 2007 during the IUCN Categories Summit in Almeria, Spain, when it was acknowledged that PPAs can represent an effective means to achieving conservation objectives, that they can be more efficient than governments and that their contributions reduce the management burden on government authorities (MITCHELL, 2008).

Finally, LANGHOLZ (2010) identified five global trends in the current development of PPAs which are:

- I. Increasing policy mandates: The current global movement of conservation is in favor of the establishment of PPAs.
- II. Diversification of types: No single PPA model exists, but variations in PPAs stimulate ongoing innovation and adaptation. Diverse models include individual and group landownership, pure private and parastatal landownership, strict protection and sustainable land use approaches, small, bigger and co-operative models.
- III. Diversification of revenue streams: Multiple sources to finance PPAs are cultivated with most promising revenues coming from ecotourism, hunting and payments for carbon sequestration.
- IV. Connecting spatially: PPA owners can benefit ecologically and economically from efficiencies of scale through co-operations. PPAs have worldwide connected spatially through private-public partnerships and private-private partnerships.
- V. Concerns about quality: Evidence shows that the conservation motivations of early PPAs are discredited by many later entrants who have created PPAs primarily in order to make money. PPA managements should cultivate a reputation for high quality by adopting Environmental Management Systems (EMS) and certification programs (see chapter 1.3).

(LANGHOLZ, 2010)

1.1.2 Current state of reporting

Historically, the development of protected areas and the bodies that have been created to regulate and manage them were focused on public protected areas management by governments. The United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) is the global organization responsible for tracking protected areas. The UN list of the world's protected areas – incorporated by the World Database on Protected Areas (WDPA) – long excluded privately owned parks and there is no database merely for PPAs. But the WDPA is at the threshold of major change. At the IUCN Categories Summit in 2007 in Spain, a higher representation of PPAs in the body of areas recognized by the IUCN was postulated and successively demanded to be reported in the WDPA (MITCHELL, 2008). Furthermore, it was stated in the summit report that the IUCN protected area categories can also be applied to PPAs. Moreover, the “category system holds the potential to assist governments in monitoring private

conservation activities, evaluating both the management objectives of PPAs and their effectiveness” (MITCHELL, 2008, p. 162). Consequently, in 2008, a Private Protected Area Task Force was initiated by formal vote at the World Conservation Congress to focus on incorporating PPAs into the IUCN protected area category system. The findings are also expected to be presented at the Sixth World Parks Congress 2014 in Sydney, Australia.

1.1.3 Strengths

PPAs have several strengths and weaknesses to be considered by decision makers. According to the three pillars of sustainability they can as well be divided into the categories ecological, economic and social issues.

Ecological advantages of PPAs are their protection of biodiversity and the environmental services they provide, e.g. climate regulation, purification of air and water, production of renewable resources etc. Often, PPAs are established out of private conservation initiatives to protect lands which are under strong development pressures, or habitats which are underrepresented in a country’s public national parks. That way, they serve as kind of precursors to public protection by providing temporary security for threatened lands until governments are willing or able to take over the conservation work (LANGHOLZ, 2001).

Clear economic strengths of PPAs are their potential for profitability, especially if they are engaged in ecotourism. Since PPA managements are smaller in size and confronted with less bureaucracy they can react quicker to economic fluctuations than cumbersome governments. Variations in PPA types and managements stimulate ongoing innovation and adaptation to external changes which makes them more viable than publicly managed parks. Furthermore, economic benefits occur not only to landowners but also to governments in the forms of saved expenses for conservation work (ibid.).

Social benefits from PPAs may arise through the generation of employment opportunities and therefore income tax revenues for governments. In order to create values for surrounding communities PPA owners and managers should seek to invest in communal development projects beyond the provision of employment like the building of schools, construction of roads, promotion of environmental awareness or else (ibid.).

1.1.4 Weaknesses

One potential ecological weakness of PPAs is their small size on average. Although African PPAs tend to be essentially larger than elsewhere (LANGHOLZ, 1996 as in LANGHOLZ, 2001), most private reserves lack sufficient space to protect mega-flora and fauna or to avoid the adverse effects of fragmentation. PPA owners can also benefit from a country or region's good conservation reputation, stimulating low quality copycat conservation models. This development is advantaged by the fact that PPAs are only informally protected which further raises questions about their conservation quality. In order to increase sector attractiveness for ecotourism hunting exotic species might be introduced to PPAs or certain animal species might be overstocked or held in captivity to enhance sightings and artificially support hunting success.

Economic disadvantages are certainly PPAs' vulnerability to market fluctuations if they engage in touristic activities. The ecotourism industry is vulnerable to wide fluctuations caused by terrorism, political unrest, and natural disasters or else which limit the private sector approach for conservation. Due to this vulnerability to market fluctuations a conflict of interest between ecology and economics arouses. PPA owners, who are dependent on tourism, may be tempted to degrade resources for the sake of profits rather than protect and conserve them (LANGHOLZ, 2001).

Finally, several social and political issues arise from the establishment of PPAs. Privately owned parks affect local residents but at the same time contribute to the decentralization of resource control (as other privately owned lands) and diminish public participation abilities in resource decision making. This results in strong disadvantages of PPAs. They are at risk to become islands of the elite where wealthy landowners generate more income and hence contribute to the concentration of wealth and land ownership by a small class of population (ibid.). Governmental incentive programs that support private reserves can unintentionally contribute to this development. For instance did BRINKATE (1996 as in LANGHOLZ, 2001) report that wealthy landowners in South Africa protected their lands from governmental land redistribution schemes by declaring them as conservation areas. Further threats to local social justice are foreign ownerships of private reserves, especially in developing countries where crucial income streams are discharged to the disadvantage of local populations. A large foreign ownership presence might as well be considered land grabbing or a subtle form of neocolonialism.

All these disadvantages require outside monitoring and evaluation to private conservation efforts for better quality control.

1.2 Tourism, nature conservation and development cooperation

1.2.1 Concept

Biodiversity is considered to be an indicator of an intact and sustainable natural environment. But biodiversity is threatened in many ways, reducing its ability to provide ecosystem products and services to people which is necessary for the survival of human mankind. “The interaction of multiple drivers, including demographic, economic, socio-political, scientific and technological ones, is known to increase pressures on biodiversity, leading to further decline, degradation and loss” (UNEP, 2012, p. 139). Hence, biodiversity and nature conservation is of long-term global interest but at the same time is opposed with short-term national and regional interests of development. Conservation is already confronted with considerable difficulties of implementation and enforcement in developed countries and has an even harder stand in developing countries as issues like poverty alleviation, food security, health care and education are of higher importance. Often, marginalized local communities around conservation areas have no other options than the non-sustainable use of their resources in order to survive. Since the adoption of the CBD and the Agenda 21 at the Earth Summit in Rio de Janeiro, Brazil, in 1992, international development cooperation has been focusing more and more on biodiversity and nature conservation and the protection of resources through their sustainable use. Extensive development projects were implemented, which intended to facilitate the sustainable use of resources by marginalized rural communities in order to combine poverty alleviation and biodiversity protection. It was expected that this bottom-up approach would foster democratic participatory structures, capacity building and empowerment among poor populations (VORLAUFER, 2007).

Conservation and development cooperation are both mainly publicly subsidized systems which are suffering from budget cuts. A paradigm shift in both systems towards more participatory, bottom-up approaches offers the opportunity to turn towards tourism as an instrument to generate important funding / income. LANGHOLZ (2010, p. 13) states that “Ecotourism is by far the most popular revenue option used by known private protected areas worldwide.” Data on profitability furthermore indicate that ecotourism can be in

fact profitable on private protected areas when especially compared to alternative land uses such as grazing and agriculture (SIMS-CASTLEY et al., 2005 as in LANGHOLZ, 2010). The UNEP and the United Nations World Tourism Organisation (UNWTO) in their report *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* (2011) acknowledge that tourism has the potential to drive global economic growth, support the local economy, create jobs and reduce poverty. The UNEP and UNWTO estimate that one job in the core tourism industry creates about one and a half additional or indirect jobs in the tourism related economy. It is also the main source of foreign exchange for one third of developing countries and one half of least developed countries. With a focus on environmental sustainability, tourism can be designed to decrease the costs of energy, water and waste and increase the value of biodiversity, ecosystems and cultural heritage. Furthermore, it was assessed that under a green economy investment scenario significant environmental benefits from tourism include reductions in water consumption by 18 %, energy use by 44 % and CO₂ emissions by 52 % compared to a business as usual scenario (UNEP & UNWTO, 2011). The overlapping fields of the systems conservation, development cooperation and tourism are displayed in Figure 1.1.

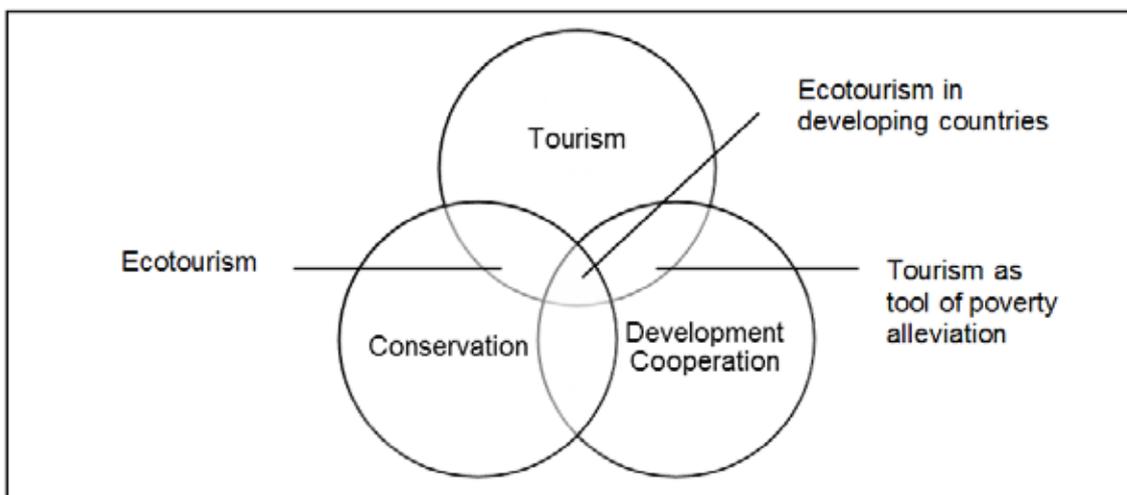


Figure 1.1: Ecotourism in the overlapping fields of tourism, conservation and development cooperation (adapted from STRASDAS, 2001)

In development cooperation tourism is preferably applied as community-based tourism (CBT), a form of community-based natural resource management (CBNRM) in conservancies. CBT means the involvement of local populations in tourism activities in a participatory manner. CBNRM programs follow three main elements: (i) the conservation and sustainable management of natural resources, (ii) the development of rural areas by devolving rights and responsibilities to rural communities in order to

provide for opportunities of income generation and enterprise development and (iii) the empowerment of rural communities to allow for capacity building so that communities are able to self-sustain and proactively develop their own future (NACSO, n.y.b).

PALM (2000) describes four levels of community participation in tourism activities with increasing importance to, and effects of sustainable development: (i) Community members are informed about actions; (ii) community members are consulted and can express their opinions; (iii) community members are involved in decision making and (iv) community members become active and initiate projects. Community members shall be enabled to earn income as land managers, entrepreneurs, service and produce providers, and employees. Furthermore, a part of the income from tourism is set aside for projects which provide benefits to the community as a whole (RESPONSIBLETRAVEL.COM, n.y.).

Unique benefits for the visitor to community-based tourism accommodations and sites are first-hand information about traditional cultures, rituals and wisdoms. Usually, conservancies that employ tourism have outstanding natural attractions and wildlife related activities to offer (e.g. wildlife watching, photo safaris or trophy hunting). Economic development through natural resource-based activities and the monetary value placed on their natural and cultural assets advances the community's appreciation of their resources and will foster their understanding for conservation of these resources.

1.2.2 Relevance

CBT as an instrument of development cooperation and conservation measures has been proven beneficial in various cases. In several Sub-Saharan African countries tourism has been utilized by CBNRM programs. In the case of Namibia, CBNRM conservancies generated 95.6 % of their income through tourism and tourism related products in 2011 (NACSO, 2013). If estimated indirect benefits to the broader national economy are taken into account, the CBNRM program in Namibia is thought to have generated a cumulative addition to the net national income (NNI) from 1990 – 2011 of more than N\$ 2.4 billion² (ibid.). This includes the value of all goods and services that the CBNRM program contributed to the NNI. The overall cumulative numbers reflect an economic rate of return of 21 % over 21 years from 1990 – 2011. Net present values at

² Figure has been adjusted to inflation and reflects Namibian dollars in 2011; pre adjustment figure: N\$ 2.8 billion.

an estimated real discount rate of 6 % show that the program generated a return of N\$ 451 million³.

Additionally, increases in wildlife stocks should be accounted to NNI contribution of the CBNRM program. NACSO (2013) estimates a total value in stock increase between 1990 and 2011 of N\$ 413 million⁴. This does not only add to the capital value of the CBNRM program but as well raises Namibia's attractiveness as a destination for tourists even more and may contribute to higher returns in the future (VORLAUFER, 2007). Besides monetary values, there are other advantages of the CBNRM program which are not monetarily quantifiable, e.g., empowerment and capacity building by the rural population. Positive effects like these may lead again to more positive regional economic development effects in the long-run (ibid.).

The big challenge of tourism in developing countries, especially if it is not initiated by development projects but private markets, is to involve and foster benefits for local communities. Traditional forms of tourism do not directly address this issue but sustainable tourism and ecotourism focus on that issue.

1.2.3 Sustainable tourism vs. ecotourism

The terms ecotourism and sustainable tourism are often interchangeably used. But looking at the definitions reveals that there is a distinct difference between both terms.

Sustainable tourism

The UNEP & UNWTO (2005) define sustainable tourism as tourism "that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities". This definition depicts tourism that complies with the principles of sustainable development according to a triple bottom line. Furthermore, the underlying conceptual definition anticipates that "sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments" (ibid.).

According to the definition by UNEP & UNWTO (2005), sustainable tourism therefore should:

³ Figure has been adjusted to inflation and reflects Namibian dollars in 2011.

⁴ Figure has been adjusted to inflation and reflects Namibian dollars in 2011.

- I. “Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.
- II. Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.
- III. Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.”

(UNEP & UNWTO, 2005)

The UNWTO recommends that sustainable tourism should also maintain a high level of tourist satisfaction in order to ensure a positive and essential experience to promote sustainable tourism practices.

Sustainable resource management

Based on the *Brundtland Report* (UN, 1987) sustainable resource management refers to the management of resources in a way that the needs of the present generation are met without compromising the ability to meet those of future generations. This means that resources should be utilized as to ensure their long-term availability for future production opportunities and ideally to maintain a sustainable yield of resource services over time. Sustainable resource management is a continuous process and requires constant monitoring of impacts, introducing the necessary preventive and / or corrective measures whenever necessary, in order to as well protect and preserve the resource.

Ecotourism

During the UN International Year of Ecotourism 2002 a common official definition of ecotourism was adopted by the UNEP and UNWTO. This definition explains the characteristics of ecotourism as follows:

- I. “All nature-based forms of tourism in which the main motivation of the tourists is the observation and appreciation of nature as well as the traditional cultures prevailing in natural areas.
- II. It contains educational and interpretation features.

- III. It is generally, but not exclusively organised by specialised tour operators for small groups. Service provider partners at the destinations tend to be small, locally owned businesses.
- IV. It minimises negative impacts upon the natural and socio-cultural environment.
- V. It supports the maintenance of natural areas which are used as ecotourism attractions by:
 - generating economic benefits for host communities, organisations and authorities managing natural areas with conservation purposes,
 - providing alternative employment and income opportunities for local communities,
 - increasing awareness towards the conservation of natural and cultural assets, both among locals and tourists.”

(UNWTO, 2002)

The definition of ecotourism includes the criteria of sustainable tourism but adds the aspects of education, small groups of tourists, locally owned operators and the support of nature conservation. Furthermore, it is important to clearly state that ecotourism always is nature-based tourism but not all nature-based tourism is ecologically sustainable. Nature-based tourism, according to CEBALLOS-LASCURÁIN (1996), depends “on the use of natural resources in a relatively undeveloped state, including scenery, topography, water features, vegetation and wildlife” and as well may include “hunting, countryside motorbiking, and white-water rafting”.

Term	Meaning
Wildlife tourism	Tourism where the main attraction is the opportunity to watch wild animals
Adventure tourism	Tourism where the main attraction is an outdoor activity with an excitement-based component
Cultural tourism	Tourism that focuses on exposing or introducing tourists to different local cultures
Outdoor tourism	All forms of tourism that take place outdoors: essentially the same as nature-, eco- and adventure tourism, but including high-impact and consumptive tourism such as motorized vehicles, hunting, etc.

Table 1.1: Product terms related to ecotourism (adopted from BUCKLEY, 2009, p. 6)

BUCKLEY (2005), on the other hand, distinguishes here further. He defines nature-based tourism as tourism where “the principal activity is essentially observation or contemplation”. If high-impact and consumptive activities add to the characteristics he

considers it as outdoor tourism. A brief overview of further eco- and nature-based tourism related product terms after BUCKLEY (2005) are shortly described in Table 1.1 above.

1.2.4 Hard vs. soft ecotourism

In ecotourism two major forms at opposite ends of the ecotourism spectrum are discussed: hard ecotourism and soft ecotourism. The characteristics of both forms are contrasted in Table 1.2 below.

Hard ecotourism	Soft ecotourism
· Direct, personal experiences	· Less intense experience
· Small groups	· Larger groups
· Physically challenging	· Less physically challenging
· Favors remote, exotic and untouched locations of high conservation significance	· Takes place in less pristine, less fragile or sensitive natural and cultural environments
· Authentic and direct, rather than staged or mediated contact with indigenous cultures	· Staged or mediated contact by guides or intermediaries with indigenous cultures

Table 1.2: Hard vs. soft ecotourism (adopted from BLACK & CRABTREE, 2007c, pp. 491-492)

BLACK & CRABTREE (2007c) argue that hard ecotourism, by being physically challenging, conducted in small groups and leading to remote, exotic and hard to reach places, is elitist and restricted to the fit and wealthy. Hence, the numbers of tourists involved are very limited and thus educational and awareness-increasing features of ecotourism will miss their ability for significant change on a broader scale. Hard ecotourism products address target groups who already maintain a certain sensitivity for conservation and sustainability issues which decreases educational effects further. Moreover, economically successful ecotourism, leading to very sensitive locations of high conservation significance, may pave the way for mainstream tourism, neglecting conservation and sustainability issues.

Soft ecotourism, on the contrary, has a higher potential for significant shifts in environmental and cultural sustainability by reaching broader masses of tourists. Small changes in a single tourist's behavior can accumulate to a significant overall change by simply reaching large numbers of consumers. Furthermore, soft ecotourism – usually being mediated in some form and leading to less pristine, less sensitive natural and cultural environments – has a lower potential for significant damages. However, soft ecotourism may be executed so superficially that it converts into mainstream tourism

with – again – too little or no emphasis on ecotourism and sustainability principles (BLACK & CRABTREE, 2007c).

1.3 Quality assurance and certification in ecotourism

The rapid growth of the ecotourism sector as well led to an increased misuse of the term itself. There is no institution to restrict or govern the use of the term ecotourism which might be especially because of the many disputes and confusion over a precise definition of what it really determines. Thus, the reasons for misuse can be misinterpretation of ecotourism but as well lack of awareness or even intentions of green-washing (BLACK & CRABTREE, 2007a).

1.3.1 Instruments of quality control

The growth of ecotourism also mirrors in the proliferation of quality assurance tools which have been extensively developed over the last two decades. Quality assurance tools, on the one hand, are supposed to help customers to separate the wheat from the chaff and, on the other hand, to continuously improve ecotourism. The hierarchical spectrum of quality assurance tools is displayed in Figure 1.2. Enforceable, mandatory requirements by the government, such as legislation, regulations, licensing and permits, build the bottom of the pyramid, i.e. they are the minimum standards every tourism operation must comply with in order to receive permission to operate. Any frauds against these standards can and, most importantly, should be penalized by national authorities. All other quality assurance tools above the minimum legal requirements are voluntarily so far.

Of course, depending on the legislative situation of a nation, minimum standards can vary extensively across the globe. Generally, legislation, regulating for instance the use of natural resources and waste management, tends to be stricter in developed countries than in less developed countries. Especially due to these circumstances, voluntary initiatives to demonstrate best practices are highly valuable to quality assurance in any business establishment.

A code of conduct is probably the easiest quality assurance tool to implement. With little costs of development and only little expenditure of time it is as well the weakest tool of quality control. The code of conduct is a list of self-imposed rules which is rarely checked upon compliance by a third party and therefore, unenforceable and not

penalized. However, it may raise awareness of serious problems and thus influence tourists, tourism operators and legislation. To enhance the meaning of its code of conduct, an enterprise may add the commitment to sign a declaration that requires compliance with certain standards. This increases the risk of public exposure in case of non-compliance and thus bad reputation (BLACK & CRABTREE, 2007a).

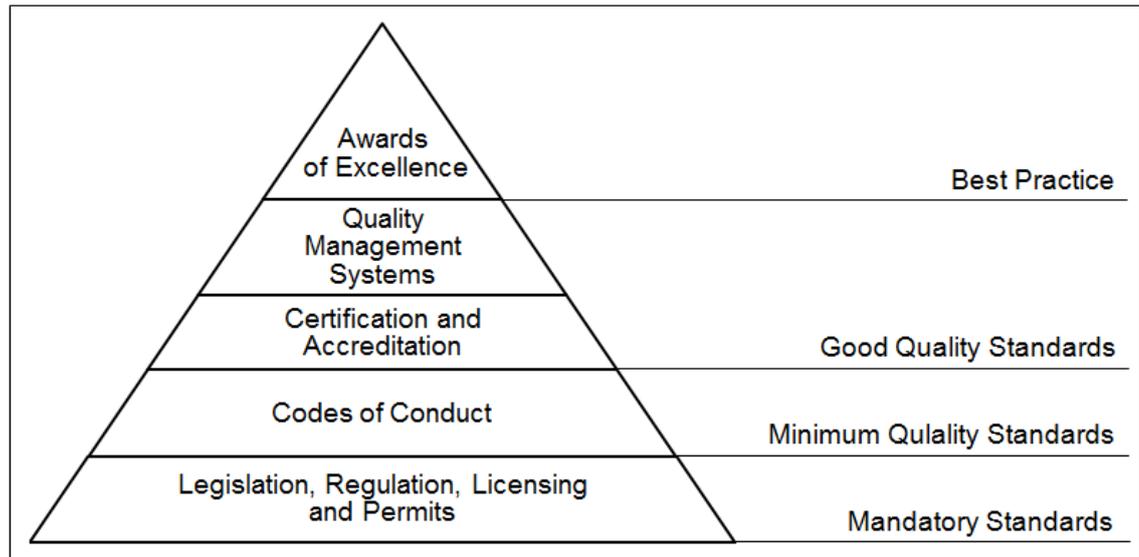


Figure 1.2: Hierarchy of tools for quality assurance in ecotourism (adapted from BLACK & CRABTREE, 2007a and TOPLIS, 2007)

The next higher voluntary level in quality assurance would be certification. A certification program determines, assesses and gives written assurance in form of a certificate or label that a business, process, product or service complies with certain requirements (ibid). These certificates and labels may include ratings and are usually valid for a limited period of time. Subsequent audits are preconditions to monitor quality levels in order to reassure requirements are continuously complied with and a certificate or label can still be carried. To assure the credibility of a certification program, it is of importance how it is structured and set up. What are the criteria? Are they relevant? Can they be easily achieved or are they of strict nature? Who are the assessors? And most importantly, how is the program financed? A certification program that is merely financed by fees paid by the organizations to be certified cannot be independent and therefore not be credible. A small application fee for enterprises in order to allow for costs directly related to the application process on the other hand is reliable, but major financing for the certification program needs to come from independent sources. As well, the assessors need to be independent and the criteria critical enough to assure quality.

In order to help ensure a certification program is of quality and trustworthy accreditation of certification programs is a suitable solution. Accreditation for ecotourism certification programs means, that an authoritative global body officially recognizes and approves the applied criteria, evaluation methods and operations of a certifier. In 2009, the Sustainable Tourism Stewardship Council was launched as an initiative of the UNEP, UNWTO, the United Nations Foundation, the Rainforest Alliance and other supporters like NGOs and industry groups (RAINFOREST ALLIANCE, 2008 and UNWTO, n.y.) as “a body that increases credibility around sustainable tourism certification programmes, and ultimately helps protect the environment, rights and livelihoods of local communities” (RAINFOREST ALLIANCE, 2008) to take on the task of accreditation. In 2010, the Sustainable Tourism Stewardship Council was merged with the *Global Sustainable Tourism Criteria*, published by the UNEP Regional Office for North America (see UNEP RONA, 2010), to form the Global Sustainable Tourism Council (GSTC) which since then has been building up a worldwide network of partners and members to improve sustainable tourism. The GSTC developed the *Global Sustainable Tourism Criteria* further to two criteria lists, one for hotels and tour operators and one for destinations (GSTC, n.y.). Accreditation through the GSTC is a three-stage process which constitutes as follows:

- I. Stage one is called *GSTC Recognition*. It recognizes that a certification standard is consistent with the GSTC Criteria.
- II. Stage two is called *GSTC Approval*. It confirms that a certification program uses a GSTC-recognized standard. It is “the evaluation of the processes for certification to ensure they are transparent, impartial and conducted by people with technical competence.”
- III. The third and final stage is full *GSTC-Accreditation* and will presumably be implemented in December 2014.

(UNWTO, 2012)

In order to assess whether certain quality standards are achieved or maintained over time, monitoring and evaluation play an important role. A decent quality management system uses monitoring instruments and procedures as indicators, reporting and benchmarking. Monitoring should be a fundamental part of every tourism operation as it identifies and helps to understand impacts tourism has on its surroundings. Regular evaluations give information if standards are continuously met or if adjustments are

necessary. A quality management system as well supports subsequent audits which are inevitable to guarantee the credibility of a certification or accreditation program and are usually exercised on a bi-annual basis.

BLACK & CRABTREE (2007a) place awards of excellence at the lower end of the quality continuum spectrum because of considerable variation of credibility. They claim that for some awards no on-site assessment and verification are executed. Others see awards of excellence as a mechanism to encourage continuous improvements in quality (TOPLIS, 2007). From a normative point of view an award of excellence should decorate best practices and outstanding businesses. The precondition for a tourism operator to qualify for an award should be accredited certification, which is why here, it is placed at the top of the pyramid for instruments of quality assurance.

1.3.2 Stakeholder perspectives on quality control

There is a wide range of stakeholders in ecotourism like the public sector (local, regional and national governments), the ecotourism industry with all its operators, NGOs, consumers, host communities, tour guides or funding and development agencies and more. However, an overview of only the most important stakeholders to the following analysis is given at this point in order to present an impression of their perspectives on quality control and its justification, who profits in what ways from quality assurance and who carries the costs.

Ecotourists

Quality assurance instruments for ecotourism can help consumers, the tourists, to identify tourism operators and destinations that are concerned about environmental and sociocultural standards in order to make reflected decisions. But consumer recognition of certified businesses and their preferred choices for these businesses were poor so far (SYNERGY, 2000; FONT & BUCKLEY, 2001; UNWTO 2002 and 2006 as in BLACK & CRABTREE, 2007). This issue may be rooted in the extensive variety of certification programs and other quality assurance tools that are used in the industry. The overload of information with too many certificates and labels leads to confusion among consumers which may easily result in ignorance of such standards. A universal recognition and accreditation of such instruments, as aspired by the GSTC, could facilitate the matter for the tourist, but what has been achieved so far is still not sufficient to promote a widely noticed and accepted label (e.g.) for ecotourism among consumers. Furthermore, while

consumers may express concerns about the environment and social aspects this may not translate into actual purchases of sustainable tourism products. Consumers' intentions and their actions vary widely what EPLER WOOD (2004, as in BLACK & CRABTREE, 2007b) calls the *green gap*. It seems there are other facts (e.g. price, location, facilities) that outweigh the consumers' concerns for sustainability. However, quality assurance instruments help to monitor for positive consumer experiences which are important to successfully promote and support ecotourism.

Local communities

For host communities quality control of ecotourism presents a clear advantage. As a tool for poverty alleviation ecotourism emphasizes the involvement and emancipation of local employment, businesses, products and services to boost the local economy. Furthermore, benefits of ecotourism may be the improvement of infrastructure, education and training, greater community awareness and value of local culture. Quality assurance initiatives such as certification programs offer an opportunity to check if these criteria are met for the host community and to assess and re-emphasize their true benefits. However, most local communities consist of diverse interest groups and do not represent a homogenous opinion. In order to develop quality ecotourism participatory processes with local communities are recommended (SWARBROOKE, 1999 as in BLACK & CRABTREE, 2007b).

Ecotour guides

An ecotour guide plays a pivotal role in ecotourism since he / she is the link between the assets of an ecotourism destination and the visitor. Ecotour guides can be employed by ecotourism operators, public park managements, NGOs or educational institutions. They show tourists around natural or cultural sites while utilizing the principles of ecotourism and providing interpretation of the area. The interpretation of the guide is crucial for the visitors' experience and their understanding of the natural and cultural environment, low impact practices and the importance and benefits that ecotourism has. Ecotour guides represent the destination in all its facets and therefore, their knowledge and educational, leading, hosting and entertaining skills need to be of high quality to assure customer satisfaction. Quality assurance initiatives should stipulate minimum guiding standards and qualifications which in turn may highlight training needs and therefore should foster opportunities of training and professional development for tour guides. Additionally, certification of ecotour guides could be used to benchmark standards and thus contribute

to overall improvement in ecotour guiding (BLACK & CRABTREE, 2007b and BLACK & CRABTREE, 2000 as in BLACK & CRABTREE, 2007b).

Protected area managements

Protected areas are at the heart of ecotourism. They present the unique natural capital with its flora, fauna and distinctive landscapes which draw visitors to ecotourism destinations. The difficult task to balance ecotourism interests with the needs of nature conservation rests with protected area managers. According to the *user pays* principle, tourists and tourism operators usually pay entrance fees to access and experience protected areas and, in this manner, help finance nature conservation. In this context, protected area managers need to know and understand the ecosystems of their protected area, set rules and standards for visitors coming to the area and monitor and manage the impact of tourism. Furthermore, they educate and inform visitors through visitor centers, guided walks and interpretive programs. This way, protected area managers constitute an important source of information for ecotourism standard developments and can actually contribute to certification programs for the industry. However, around the world, protected areas face increasing pressure and negative impacts from rising numbers of visitors. Ecotourism quality assurance initiatives, like certification programs, can actually help the management of protected areas to communicate standards to tourists and tourism operators and furthermore, manage access to the pristine areas. In Australia, for instance, some protected area management agencies use certification for ecotourism operators as precondition for access to protected areas or for privileged rights like extended permits (BLACK & CRABTREE, 2007b).

Ecotourism industry

The ecotourism industry includes stakeholders from the private and the public sector. It consists of all actors and activities that produce products and services which are consumed by tourists (BLACK & CRABTREE, 2007b). “The players may include, among others, outbound and inbound tour operators, travel agents, the travel media, tour guides, transportation carriers, hotels and restaurants, visitor attractions and tourist information centers. The scale and type of organizations may vary considerably from locally owned, one-person enterprises through to nationally owned chains that operate across the domestic market to large-scale, foreign-owned or controlled chains or corporations that are transnational in their operations. Ecotourism enterprises may deliver a diverse number of different products, ranging from tours and attractions to

accommodation, from experiences lasting a few hours to multi-day trips, from small bed and breakfast establishments to large ecolodges” (BLACK & CRABTREE, 2007b, p. 142). Because of the different interpretations of ecotourism, it sometimes is difficult to define the boundaries of the industry. Quality assurance initiatives support defining ecotourism and its values and identifying true participants in the industry. Voices and initiatives for ecotourism quality control come from inside the ecotourism industry and the major costs for the establishment of those mechanisms have to be carried by the businesses and operators. The implementation of the mechanisms of quality control – like developing and applying indicators and standard procedures to measure, monitor and evaluate impacts (e.g. EMS), taking corrective actions and executing certification applications and procedures – are costly, labor and time consuming. But a direct benefit is often not indicated straightaway as many tourism enterprises claim that certification programs would not translate into increases in revenue (BLACK & CRABTREE, 2007b), which for many ecotourism players is a viable reason to not participate in these programs and causes low uptake rates. Moreover, critical voices complain that quality assurance initiatives are used for self-regulation of the ecotourism industry in order to prevent legislative regulation. The question is if a self-regulated body with so many actors, operation levels and different interests can produce non-enforceable standards which are still of high quality? However, it is upon the ecotourism industry participants to make the point that self-induced quality control can make a difference for sustainability.

Ecotourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation and consensus building. Achieving high ecotourism standards is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and / or corrective measures whenever necessary. Quality assurance instruments are an inevitable part of this process and therefore require special attention.

1.3.3 Challenges in measuring quality in ecotourism

Besides the difficulties in defining true ecotourism there also exist some challenges to actually measure quality in ecotourism. On the one hand, there are ‘hard facts’ which can be measured and evaluated using case specific indicators. Those indicators focus on environmental criteria, such as energy, water and waste management, and socio-cultural criteria, such as salaries, other employee benefits, work conditions, numbers and

composition (e.g. ethnos, gender) of locals employed etc. These elements are relatively easy to quantify and can be benchmarked. However, the majority of criteria focuses on environmental components which offer eco-savings and thus are probably paid more attention to by commercial enterprises, whereas the socio-cultural aspects for sustainability require expenditures for (e.g.) fair wages, health insurance, community projects or else.

And on the other hand, there are 'soft components' of ecotourism which are hard to measure, like the actual educational effect of received guiding and interpretation. Although guides and interpretation programs may be certified and high in quality it is difficult and probably little economical "to assess long-term behavioral and attitudinal changes as a result of an ecotourism experience" (HAIG, 1997 and BEAUMONT, 1999 as in BLACK & CRABTREE, 2007c, pp. 490-491). More and more certification programs include quality guiding and interpretation in their standards but a significant change in behavior can hardly be attributed directly and solely to an ecotourism experience.

Lastly, TWINING-WARD (2007) stresses that indicators, besides their usefulness to help to improve understanding of sustainability, to track changes and to promote partnerships, should also be able to influence policy making in order to have any long-term practical value. Studies showed (NEF, 2001; PASTILLE, 2002 as in TWINING-WARD, 2007) that sustainability indicators are appreciated for their significance but do not have much impact on policy making. As well, sustainability programs are perceived as marginal which limit their potential for significant change in business procedures.

1.4 Research question and aim

With no category and reporting system in place for PPAs to be registered and monitored and the pressures that tourism can place on a region, the question arises if private conservation, which is financed through tourism, actually can foster valid results? Furthermore, it needs to be asked to what extent this tourism that, as a logical consequence should be sustainable but at least environmentally friendly, really is sustainable in support of the conservation effort?

The increasing public awareness of climate change and related problems surely has an influence on business and consumer behavior in the tourism industry as growing sustainable and ecotourism sectors indicate. But how genuine can these progresses in

the tourism industry be as green-washing and low quality copycat businesses pose risks to the credibility of the sustainable and ecotourism industry? How can the consumer be assured of a high quality sustainable or ecotourism product if even certification programs may be biased or merely insufficient and the only global accreditation system for all the different ecotourism certification programs around the world is still in its very infancy?

This thesis aims to elaborate these issues by analyzing a well-respected PPA with the objective to develop a significant description of the state of its conservation and tourism work. Furthermore, recommendations for the future development of the PPA itself shall be derived as well as general suggestions for the management of PPAs.

1.5 Structure of the paper

In the further course of this thesis, the methodology is presented in detail in chapter 2. An overview of the research area is given in chapter 3 including an introduction to the Republic of Namibia, a brief overview of its history and population as well as the tourism development of the country in order to provide appropriate background information for the later discussion. Furthermore, the chosen PPA for the case study, NamibRand Nature Reserve (NRNR), is introduced with its geographical and socio-economic features, history, concept and management approach and concessionaires. In chapter 4, the findings of the investigation of the NRNR and the concessionaires are presented according to the three pillars of sustainability: ecologic, economic and social aspects. The results, conclusions and their limitations are then discussed in chapter 5. The paper closes with specific recommendations for the NRNR and general recommendations for the management of PPAs in chapter 6.

2 Methodology

As case study for the analysis the NRNR in Namibia was chosen. Namibia is considered to be the first country in the world to include nature protection in its constitution (VAN SCHALKWYK, 2006). The country pursues nature conservation through both, top-down and bottom-up approaches with public, parastatal and private projections and therefore offers a variety of examples of PPAs. In a study, which was executed in 2006 on behalf of the former German Gesellschaft für Technische Zusammenarbeit (now Gesellschaft für Internationale Zusammenarbeit) and the Namibia Tourism Board (NTB), the NRNR

was pointed out as best practice example of private nature conservation in the Pro-Namib region (see KEUTMANN, 2007). The NRNR is a private reserve with multiple landowners that uses tourism as a tool to finance its conservation work. The management claims it is one of the largest private nature reserves in southern Africa, “established to help protect and conserve the unique ecology and wildlife of the south-west Namib Desert” (NAMIBRAND NATURE RESERVE, n.y.).

Moreover, using the NRNR as an example LANGHOLZ’ five trends of current PPA development can be observed which indicates that the NRNR is suitable to serve as a case study for the objectives of this thesis:

- I. The Namibian government is in favor of PPAs.
- II. The NRNR is developed in an environment with a variety of PPA models, where it is established as a co-operative, private nature reserve of considerable size and group landownership.
- III. Revenues are derived from five ecotourism concessionaires.
- IV. The NRNR represents a spatially connected private-private partnership which offers ecological and economic benefits.
- V. The NRNR shows individual attempts of quality assurance through certification programs.

On the basis of the proposed research questions and objective of this thesis, the following three questions evolve for the analysis of the case study:

- I. Is private biodiversity and nature conservation effective in the NRNR?
- II. Is natural resource management in the NRNR sustainable?
- III. Is tourism in the NRNR sustainable?

The responsibilities for nature conservation and tourism are strictly divided in the NRNR. The NRNR solely manages the conservation but all tourism business is operated by the concessionaires. Due to this situation a dual method approach was applied: On the one hand, the quality of the conservation area as a sustainable destination for tourism was investigated and on the other hand, the tourism concessionaires were examined for their suitability as tourism operators inside a conservation area.

In order to evaluate a company’s or venture’s quality of sustainability a considerable list of indicators according to the three pillars of sustainability – economic, environmental

and socio-cultural feasibility – needs to be applied. As discussed in chapter 1.3, a vast variety of certification programs and award systems for ecotourism have been developed over the past two decades using this kind of indicator list. Not all of them are sufficient enough and thus do not fulfill modern standards of quality in sustainable tourism and ecotourism. Hence, the GSTC was founded in order to develop a global accreditation system for the various certification and award programs. As mentioned earlier, the GSTC developed two criteria lists – one for destinations and one for hotel and tour operators. These two separate criteria lists were consulted, each to evaluate the NRNR management and the concessionaires respectively.

The assessment of the NRNR and the concessionaires was supported by a research expedition to Namibia and the research area lasting from September 24th to December 18th, 2013. During that expedition accommodation on the premises of the NRNR was facilitated through the NamibRand Desert Research and Awareness Center (NRAC) which was established to support research in the NRNR. The NRAC is based in an old farmhouse on one of the former farms which now form the NRNR: Toekoms. The residence on the NRNR territory allowed for visitations to the concessionaires and field trips with the NRNR staff which facilitated a better research outcome.

2.1 NamibRand Nature Reserve

The collection of information about the NRNR for its assessment, according to the GSTC criteria catalogue for sustainable destinations, was conducted using a mixed approach in three steps. First, documents provided by the NRNR were consulted, such as the Articles of Association, the Management Plan, the Tourism and Economic Development Plan (TEDP), the Vade Mecum (see Table 4.4), Financial Statements and more, as well as promotion material, such as the NRNR website www.namibrand.com or printed information. Secondly, a questionnaire was derived from the GSTC criteria catalogue (see Appendix C1). The questionnaire additionally included questions regarding general business data, the Eco Awards Namibia Alliance (EANA; see chapter 2.2) and demographic data. This questionnaire was then used to interview the CEO of the NRNR. The interview was recorded and later transcribed. Thirdly, the received information was complemented by informal interviews with NRNR staff on-site as well as participating in field trips with NRNR staff, social events and living on-site at the NRAC.

For evaluation purposes, the GSTC criteria were then opposed in a tabular format (see Appendix D1.3.2) with the derived questions and the respective parts of the transcribed interview. The information from the interview transcription parts were complemented with additional information gathered throughout the research stay on the NRNR. A total score was assigned to the GSTC criteria according to key words / criteria asked for. The gathered information about the NRNR was evaluated and a score according to the fulfilled key words / criteria was given. This happened in two steps. First, points were strictly given according to the GSTC standards that were fulfilled by the NRNR directly. And secondly, the score was adjusted to the individual situation of the NRNR as some criteria could not have been fulfilled due to the local conditions on the one hand and, on the other hand, some criteria were only fulfilled indirectly through the concessionaires and / or the co-operation with a regional development project, the Greater Sossusvlei-Namib Landscape (GSNL) project. The GSNL is part of a nationwide public-private landscape conservation project called the Namibia Protected Landscape Conservation Areas Initiative (NAM-PLACE). The final score was expressed in a percentage of the total possible score.

2.2 Concessionaires

Originally, the concessionaires should have been evaluated according to the GSTC criteria list for hotels and tourism operators of which a questionnaire should have been derived as was done for the evaluation of the NRNR. But since the NRNR actually recommends Namibia's Eco Awards Namibia Alliance (EANA) certification program for ecotourism operators to its concessionaires, it was chosen to use the EANA self-assessment questionnaire for tourism operators on Namibian freehold⁵ land. The EANA was founded in 2006 and is supported by a variety of Namibian tourism organizations, both governmental and non-governmental. Amongst others, it is sponsored by the World Wildlife Fund (WWF) who as well technically supported the development of the evaluation criteria. The EANA certification criteria are adjusted to Namibia's regional conditions and comply with modern certification standards according to the GSTC criteria. Another reason to choose the EANA self-assessment over the GSTC criteria list was its potential to lower possible access barriers when co-operating with the concessionaires. The criteria lists were quite long and time consuming to complete. Using a criteria list the concessionaires were familiar with – or even had already used

⁵ Private.

but at least had heard of – increased the likelihood of positive co-operation. Like the questionnaire used for the evaluation of the NRNR the one for the concessionaires as well included additional questions regarding general business data, the EANA, economic and demographic data (see Appendix C2).

The assessment of the five tourism concessionaires of the NRNR was as well conducted using a mixed approach by applying (i) the EANA self-assessment questionnaire, (ii) on-site visitations and (iii) informal interviews. With support of the NRNR's CEO, persons in charge of the concessionary tourism operators were contacted via email. An introduction to the questionnaire (see Appendix D1.3.1), as well as the questionnaire, were provided and in order to conform to individual schedules and preferences three options for collaboration were presented. The concessionaires were offered to (i) fill out the questionnaire all by themselves and send them back via email, (ii) fill out the questionnaire partly and answer the rest of the questionnaire in an interview or (iii) respond to all questions during an interview. In a second step, visitations to the concession sites at the NRNR were organized through NRNR staff. During visitations, concessionaire staff guided around the premises and were informally interviewed. Additional information was as well gathered through NRNR documents and interviews with NRNR staff. In one case, a concessionaire could already provide a completed EANA self-assessment of the year 2011 which was equivalently used to the questionnaire.

All returned questionnaires were then again analyzed in a tabular form (see Appendix D1.3.3). As the EANA self-assessment already used a scoring system, no total score needed to be assigned. The analysis revealed three different issues with the questionnaires which were solved as described:

- I. Since the EANA self-assessment questions were designed in a way that all pro-sustainability answers should be “yes”, some questions were misleadingly worded, e.g. “Do you have no swimming pool on the premises?” Hence, some questions were misunderstood by the respondents when answering the questionnaire. Identifiable wrong answers in the completed questionnaires were corrected according to acquired information.
- II. Moreover, the concessionaires showed different perceptions of their and the NRNR's responsibilities towards conservation (under section 2) in the questionnaire. As some stated clearly “covered by the NRNR” in the

conservation section of the questionnaire, others explained their own efforts which led to very different scorings. Due to the clear division of conservation and tourism in the NRNR, all “covered by the NRNR”-answers were accepted. Further, because of this specific division, all concessionaires should be scored identical in the conservation section of the questionnaire. Hence, a total score of eleven out of twelve possible points for conservation was given to all concessionaires which was taken from an EANA assessment of one of the concessionaires in 2011.

- III. Finally, the self-assessments by the concessionaires were contrasted, where different, with information from interviews and on-site visitations. Scores were adjusted accordingly.

Consequently, due to these issues, two different scores accrued: one score from the original answers by the concessionaires and an adjusted score reflecting all gathered background knowledge. Only the adjusted score was used for the results (see chapter 4)

Additionally to the NRNR staff and concessionaires, more stakeholders were interviewed, such as direct and indirect neighbors of the NRNR (within the framework of a different study), and an employee of the Ministry of Environment and Tourism (MET) as well as an NAM-PLACE employee. Information was also withdrawn from a GSNL project meeting. All interview partners and concessionaire references in this paper were coded for the purpose of anonymization (see Appendix D1.1). Where no anonymization was practiced the information was publicly available, mostly through promotional material on websites. This certainly counts for the community projects and social engagement of the concessionaires. The use of coding, where information about the concessionaires was publicly available, would make the coding invalid as information, which was not publicly available, could subsequently easily be decoded.

3 The research area

3.1 Namibia

3.1.1 Introduction

Namibia is located in south-western Africa bordering the Atlantic Ocean to the West, Angola and a bit of Zambia to the North, Botswana to the West and South Africa to the

South. With 824,292 km² the country covers an area larger than double the size of Germany but only inhabits 2,198,406 people (CIA, 2014). The resulting very low population density rate of 2.67 inhabitants per km² (also see Appendix A16) can be assumed as a direct consequence of the country's climatic conditions as most parts of Namibia have arid and semi-arid climate and the South is shaped by desert and Karoo⁶ landscapes (see Appendix A11).



Figure 3.1: Geographic representation of the Republic of Namibia; left: Namibia in relation to Africa; right: map of Namibia (CIA, 2014)

Namibia is the driest country south of the Sahara (CHRISTELIS & STRUCKMEIER, 2011). Namibia's most outstanding climatic conditions are the scarcity and unpredictability of rainfall. With average precipitation rates of about 600 mm per year in the very North-East, and less than 50 mm in the West and South-West (see Appendix A1), Namibia receives very little rain. Moreover, the areas receiving least rain experience the highest variations in rainfall (see Appendix A2). Often, regions obtain the total annual precipitation only within the few months of the rainy season.

As little rain as reaches the ground even much less stays. Due to long average hours of sunshine per day (see Appendix A7) and high average values of solar radiation (see Appendix A8), Namibia suffers nationwide from a water deficit (see Appendix A4) since annual evaporation rates are constantly higher than annual rainfall (see Appendix A3 and Appendix A1 respectively). It was estimated that 83 % of rain evaporates

⁶ The Karoo is an eco-region, situated in the Northern Cape in South Africa and southern Namibia and describes a semi-desert landscape. In Namibia two particular forms of Karoo are present, the Nama Karoo and the Succulent Karoo (see Appendix A11).

directly off the ground, another 14 % is transpired by plants and 2 % enters the drainage systems, which only leaves 1 % to recharge the aquifers (BARNARD, 1998). Consequently, only 0.97 % of the country is arable land (CIA, 2014).

Due to its precipitation rates and different elevation levels Namibia can be divided into five major forms of landscape which run parallel to the coast of the Atlantic Ocean from the North to the South. First, (i) the *Namib Desert* runs along the entire coastline in an 80 to 130 km wide strip which reaches up to altitudes of 600 m where it borders the (ii) *Great Escarpment*. The Great Escarpment rises up to 2000 m but only measures 30 to 120 km in width. To the East, the Escarpment borders the (iii) *Central Plateau* which on average expands to altitudes of 1700 m across 200 to 400 km to the East (see Appendix A9: Elevations and relief). East Namibia is shaped by the (iv) *Kalahari Desert* until the borders of Botswana and South Africa (KÜPPER & KÜPPER, 2003). Finally, in the North-East of Namibia, the *Bushveld* is found stretching along part of the Angolan border through the Caprivi Strip. The area receives significantly more precipitation than the rest of Namibia and temperatures are lower and more moderate as well (REPUBLIC OF NAMIBIA, 2014).

Namibia is a net importing country and its economy is highly dependent on the extraction and processing of minerals for exports as mining accounts for more than half of foreign exchange income (CIA, 2014). The second most important economic sector is fishery which contributes another 25 % to earnings from exports (NAMIBISCHE BOTSCHAFT, n.y.). A further important income driver of foreign exchange is the growing sector tourism. Finally, the fourth important economic sector is agriculture. Although it only contributes 7.7 % to GDP, 16.3 % of the labor force finds occupation in that sector and about two-thirds of the rural population depends on subsistence agriculture (2008 estimate; CIA, 2014).

3.1.2 Brief history

At this point, only a very brief overview of the historical developments in Namibia shall be given in order to establish contextual understanding with the reader for the topics discussed in this paper. The Embassy of Namibia in Germany recommends one of the most comprehensive “Chronology of Namibian History – From Pre-historical Times to Independent Namibia” by DIERKS (2000) for more extensive reading on Namibian history.

After the two Portuguese sailors, Diogo Cão and Bartolomeu Diaz, as first Europeans set foot onto Namibian ground in the late 15th century, it was only until the beginning of the 19th century until first European settlers – missionaries and traders – came to the area as Namibia has one of the world's most barren and inhospitable coastlines (NAMIBIA.DE, n.y.l).

During the Congo Conference (*Berliner Kongokonferenz*) in Berlin in 1884 – 85, Africa was divided among the European colonial powers and most of the territory which represents Namibia today was declared a German colony called German South-West Africa (Deutsch-Südwestafrika). The German colonization period took 30 years and was marked by many conflicts between the German troops (Deutsche Schutztruppe) and the pre-colonial population. With the beginning of WWI in 1914, the South African expeditionary army invaded German South-West Africa. The colony soon after surrendered in 1915 (NAMIBIA.DE, n.y.m).

With its defeat in WWI, Germany was denied all colonies in the Treaty of Versailles in 1919 and South-West Africa was henceforward administered by South Africa as a League of Nations mandate territory. When the League of Nations was replaced by the United Nations in 1946, South Africa refused to give up its mandate over South-West Africa to be assigned to a UN trusteeship agreement. Instead, South Africa applied to incorporate South-West Africa as a colony which was denied by the UN. In the following years, South Africa was several times requested by the UN to surrender its mandate but did not respond (RUMPF, 2003).

South Africa as well expanded its Apartheid policy to South-West Africa, which was manifested in the Odendaal Plan in 1964. The plan included proposals for the separate development of ethnic groups through the creation of *homelands* in the territory (see Appendix A21).

In 1960, the South-West Africa People's Organization (SWAPO) formed and after the International Court of Justice officially revoked South Africa's mandate in 1966, the SWAPO launched its guerrilla war for independence. Years of struggle followed until in 1988, South Africa finally agreed to give up South-West Africa. The first elections were held in 1989 and on March 21st, 1990 Namibia declared its independence as the Republic of Namibia (RUMPF, 2003).

Since its independence, Namibia is being ruled as a multiparty parliamentary democracy with regular elections held. So far, the SWAPO party won all elections and placed the first president, Sam Nujoma, and his successor, Hifikepunye Pohamba, the acting president.

3.1.3 Population

As already mentioned, in 2013, Namibia counted almost 2.2 million inhabitants of which 87.5 % were black, 6 % were white and 6.5 % were mixed (CIA, 2014). The official language is English, the common language is Afrikaans but German and diverse indigenous languages are spoken as well. There are two major families of indigenous languages: Khoisan (with characteristic click sounds) and Bantu. Namibia, as many other African countries, has a diverse cultural landscape with up to 13 different ethnic groups represented in its population.

San

San, also called Bushmen, represent about 35,000 or 2 %, of Namibians. They belong to the group of Khoisan tribes and are presumed to be the native people of Namibia together with the Damara and the Nama and have been living in the area for the longest time of all ethnical groups. San lived as hunters and gatherers in the Savanna regions but have been urged to migrate into the Kalahari Desert by pastoral tribes, as the Nama and Herero, looking for grazing (NAMIBIA.DE, n.y.a, CIA, 2014 and NTB, n.y.h).

Nama

The Nama determine about 5 % of the Namibian population (CIA, 2014). As descendants of the Khoekhoe they also belong to the Khoisan language group and already used to live thousands of years ago in the area between the Oranje River and the Swakop River but as well in regions of today's South Africa. The Nama employed a mixture of economic systems, as they were hunters and gatherers as well as nomadic livestock breeders, which allowed for a certain flexibility according to environmental circumstances. Before the arrival of European settlers in the Namibian region, Nama were involved in conflicts with Herero and Himba. The traditional Nama society is almost non-existent any longer today (NAMIBIA.DE, n.y.b and NTB, n.y.g).

Damara

The Damara (7 % of Namibian population) are the third ethnic group considered to be the natives of Namibia together with the San and Nama. These three groups all belong to the family of Khoisan languages. But although Damara speak Khoisan they look very different from the San and Nama. Their exact origin is unknown but Damara are thought to have migrated from western Africa to Namibia and then assimilated with the Nama culture. Like the Namas, they employed a mixture of hunting, gathering and livestock breeding but as well agriculture as they are a settled population. Damara were especially valued by the Herero and Namas for their blacksmithing and hence have been forced to work for them in the past. Today, most Damara live in the mountains of the middle northwest, between the Erongo district and the Kaokoveld (NAMIBIA.DE, n.y.c and NTB, n.y.a).

Topnaar

Topnaar, like the Nama, are descendants of the Khoekhoe which is why their language also features the distinct click sounds. Today, they herd sheep and goat in the areas of the Kuiseb River or work in Walvis Bay but originally Topnaar have been nomadic beachcombers who lived on the shores of the Atlantic (NTB, n.y.i).

Herero

Herero belong to the family of Bantu languages. It is assumed that they are related to the Himba and that both tribes together migrated from the Great Lakes of eastern Africa to the Kaokoveld region in the 16th century where they later parted. The Herero today mainly live in the mid North-East of Namibia, the so-called Sandveld, in a population of about 100,000 – 130,000 (7 % of Namibian population; CIA, 2014). Before European settlers arrived, Herero used to live as livestock nomads but had to switch to a local form of livestock breeding and agriculture as German occupiers claimed their territory. Herero were often involved in conflicts about grazing territories for their livestock with different neighboring tribes as well as with the German settlers. The colonial wars with the Germans culminated in a battle in the Waterberg area which ended in the genocide of the Herero in 1905 (NAMIBIA.DE, n.y.e and NTB, n.y.d).

Himba

As the Herero, the Himba belong to the family of Bantu languages and are traditional semi-nomadic pastoralists. Together with the Herero, the Himba immigrated to the North-West of Namibia to the inhospitable Kaokoveld (or Kunene Region) during the

16th century, where the Himba stayed when they parted from the Herero and long were safe from external influences of other ethnic groups, missionaries and European settlers. During South Africa's mandate power the Kaokoveld was declared a homeland which was not cared much about. These circumstances favored an isolation of the Himba culture and makes them the only Namibian ethnic group living in their most original and traditional form today (NAMIBIA.DE, n.y.f and NTB, n.y.e).

Caprivians

Caprivians is a collective term for six ethnic groups living in the Caprivi Strip in the far North-East of Namibia. They determine a population of about 80,000 – 100,000 or 4 % of overall Namibians (CIA, 2014). Due to climatic conditions in the water-rich, sub-tropic Caprivi with irregular floods, Caprivians employ a mixed economic system of agriculture, livestock breeding, fishing and crafting (NAMIBIA.DE, n.y.g and NTB, n.y.c).

Ovambo

With slightly over 50 % Ovambo determine the majority of Namibians (CIA, 2014). Together with the Herero and Himba they count to the family of Bantu-speaking people and probably migrated as well from the Great Lakes to the northern regions of Namibia during the 16th century. Since their settlement in Namibia, Ovambo lived in rather small, permanent communities. They traditionally employed agriculture and livestock breeding. Since Ovambo provided the majority of SWAPO members during the years of guerrilla fights for independence, they have been representing the vast majority of the government since Namibia's independence. Therefore, many Ovambo live and work in Namibia's cities today. Also, Ovambo engage much in migratory labor (NAMIBIA.DE, n.y.d and NTB, n.y.j).

Kavango

The, as well, Bantu-speaking Kavango are thought to have migrated during the 17th century from the same origin in eastern Africa as the Ovambo, Herero and Himba. Their population counts to about 200,000 (9 %) and mainly lives in the North of Namibia at the banks of the Okavango River between the Ovamboland and the Caprivi Strip. The Kavango basically employ subsistence agriculture, livestock breeding and fishing (NAMIBIA.DE, n.y.h, CIA, 2014 and NTB, n.y.f).

Tswana

With only 8,000 members the Tswana determine the smallest ethnic group of Namibia. They are related to the Batswana people of Botswana and the Northern Cape Region of South Africa. Tswana live in the Gobabis Region, between Windhoek and the Botswana boarder (NTB, n.y.l).

Rehoboth Basters

The Rehoboth Basters are an Afrikaans-speaking mixed ethnic group who are descendants of early Dutch settlers (Boers) and Khoekhoe women who migrated from South African territories to Namibia in the late 19th century and settled in and around the city of Rehoboth. Although they are a mixed ethnic group, Rehoboth Basters are a very homogeneous population and determine about 2 % of all Namibians (NAMIBIA.DE, n.y.i, CIA, 2014 and NTB, n.y.k).



Figure 3.2: Geographical representation of Namibia's ethnic groups (SOUTHERN DOMAIN, 2010)

Coloureds

In contrary to the Rehoboth Basters the so-called Coloureds determine a rather heterogeneous mixed ethnic group. They are descendants of Caucasians, Indians, Malaysians and Khoisan people who came to Namibia during South Africa's mandate-times. Coloureds live scattered in the South of Namibia and Windhoek (NAMIBIA.DE, n.y.j and NTB, n.y.b).

Whites

The proportion of the white population in Namibia (6 %) is mostly determined by descendants from the Boers, Germans, English and Portuguese who live all across Namibia. Their backgrounds differ. Many Germans stayed after Germany lost its colony Deutsch-Südwest in 1915. English and Boers mainly migrated from South Africa to South-West Africa when it administered the region as a mandate. South Africa motivated its settlers moving to South-West Africa by providing farmland and financial support to strengthen its powers in the area. Since the independence of Angola in 1975, many Portuguese as well moved south to Namibia. Although Whites only determine a minority they hold the majority of farmland and mining rights due to historical developments (NAMIBIA.DE, n.y.k).

Even though Namibia's GDP per capita is relatively high compared to other countries in the region, its GINI coefficient of 59.7 (2010) reveals one of the highest inequalities of income distributions in the world (CIA, 2014). In comparison, Germany's GINI coefficient was 27.0 in 2006 (CIA, n.y.). Furthermore, Namibia suffers from a very high unemployment rate of 51.2 % (2008 est.; CIA, 2014).

Another issue is Namibia's high HIV / AIDS prevalence rate which was in 2012 at 13.3 % and thus ranks as the sixth highest worldwide. The excess mortality due to HIV / AIDS mirrors as well in a lower population growth rate of estimated 0.67 % for 2014 (ibid.).

3.1.4 Tourism in Namibia

Since vast parts of Namibia are hyper-arid to semi-arid landscapes, which do not suit agricultural activities, often there is no other option for land use than tourism. Tourism is the fastest growing industry in Namibia (MILLENNIUM CHALLENGE ACCOUNT NAMIBIA, 2013). Incomes from tourism have steadily been increasing for the last ten years except for the years 2008 and 2009, most likely due to an overall economic downturn because of the global financial crisis. The direct contribution of travel and tourism to Namibia's GDP was 3 % in 2013 and is estimated to grow by 7.1 % in 2014. On average, the direct contribution of travel and tourism is expected to grow by 9.2 % annually over the next ten years to constitute an overall 5.3 % of Namibia's GDP in 2024 (WTTC, 2014).

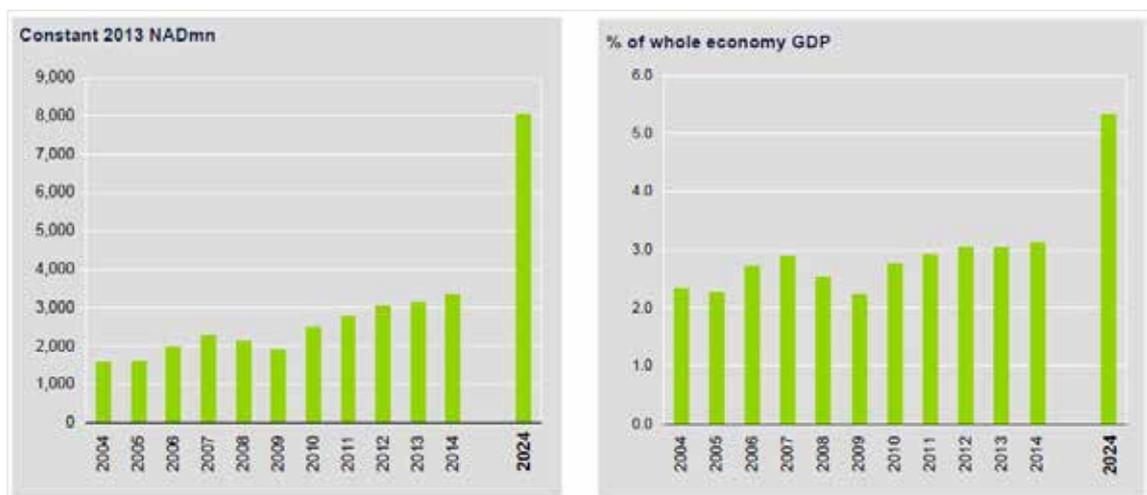


Figure 3.3: Direct contribution of travel and tourism to Namibian GDP (WTTC, 2014)

These figures do not appear too powerful until the indirect⁷ and induced⁸ impacts of tourism are also taken into account. The World Travel & Tourism Council (WTTC, 2014) states a total contribution of the travel and tourism industry on Namibia's GDP in 2013 of 14.8 %. The WTTC further forecasts a growth of the total industry by 5.2 % in 2014 and an overall growth of 7.6 % annually for the next ten years so that travel and tourism will contribute 22.2 % in total to the GDP of Namibia.

Namibia has very outstanding landscapes, flora and fauna to offer. More precisely, nature is Namibia's greatest tourism potential as 67 % of holiday tourists in the *Namibia Tourist Exit Survey of 2012-2013* stated that their reasons for visiting would be wildlife and 61 % (multiple answers were possible) stated they would visit for the scenery (MILLENNIUM CHALLENGE ACCOUNT NAMIBIA, 2013). Therefore, the main activities of holiday tourists where nature-based activities like game viewing (34 %) and nature / landscape touring (25 %) as well as hiking / trekking (6 %), adventure sports (5 %), hunting (4 %) and fishing (3 %) (ibid.).

Consequently, the protection and conservation of its natural assets should be of great importance to the Namibian government. In fact, Namibia is the first country in the world to incorporate nature conservation into its constitution of 1990. About 14 % of the land is protected by the government, including the entire Namib Desert coastal strip (CIA, 2014).

But Namibia's conservation landscape is manifold and counts as well community conservancies, community forests⁹, freehold conservancies and private reserves as conservation areas as shown in Figure 3.4. Therefore, in total, 44 % of Namibia's land is now considered to be under conservation management (FIRST FOR WILDLIFE, 2014).

Contributing to this high number of conservation areas is the circumstance that the state has passed the ownership rights for natural resources to freehold landowners (in 1975) and community conservancies (in 1996; ODENDAAL & SHAW, 2010). This legislation saved mostly wildlife in Namibia but also other natural resources such as forests. When natural resources were state-owned they had typical common good characteristics of

⁷ Indirect contribution: The contribution to GDP and jobs of the following three factors: (i) capital investment, (ii) government collective spending and (iii) supply-chain effects (WTTC, 2014).

⁸ Induced contribution: The broader contribution to GDP and employment of spending by those who are directly or indirectly employed by travel and tourism (ibid.).

⁹ Community conservancies and forests both belong to the CBNRM program as mentioned under 1.2.1 and 1.2.2.

non-excludability and rivalry which led to poaching and overexploitation. Furthermore, farmers gained no benefits from wildlife on their land as game was considered to compete directly with livestock for resources, like water and grazing, and predators were shot as a preventive measure.

Once farmers and communal area residents were assigned rights to use and manage the natural resources on their land (i.e. for game farming, safari tourism or trophy hunting) they were also able to benefit financially through the utilization of these resources which in turn was an incentive for sustainable management of the resources. Especially Namibia's CBNRM program has internationally been rated a success for its conservation philosophy but as well for being an instrument to achieve rural development, poverty alleviation, empowerment and capacity building (NACSO, n.y.b).

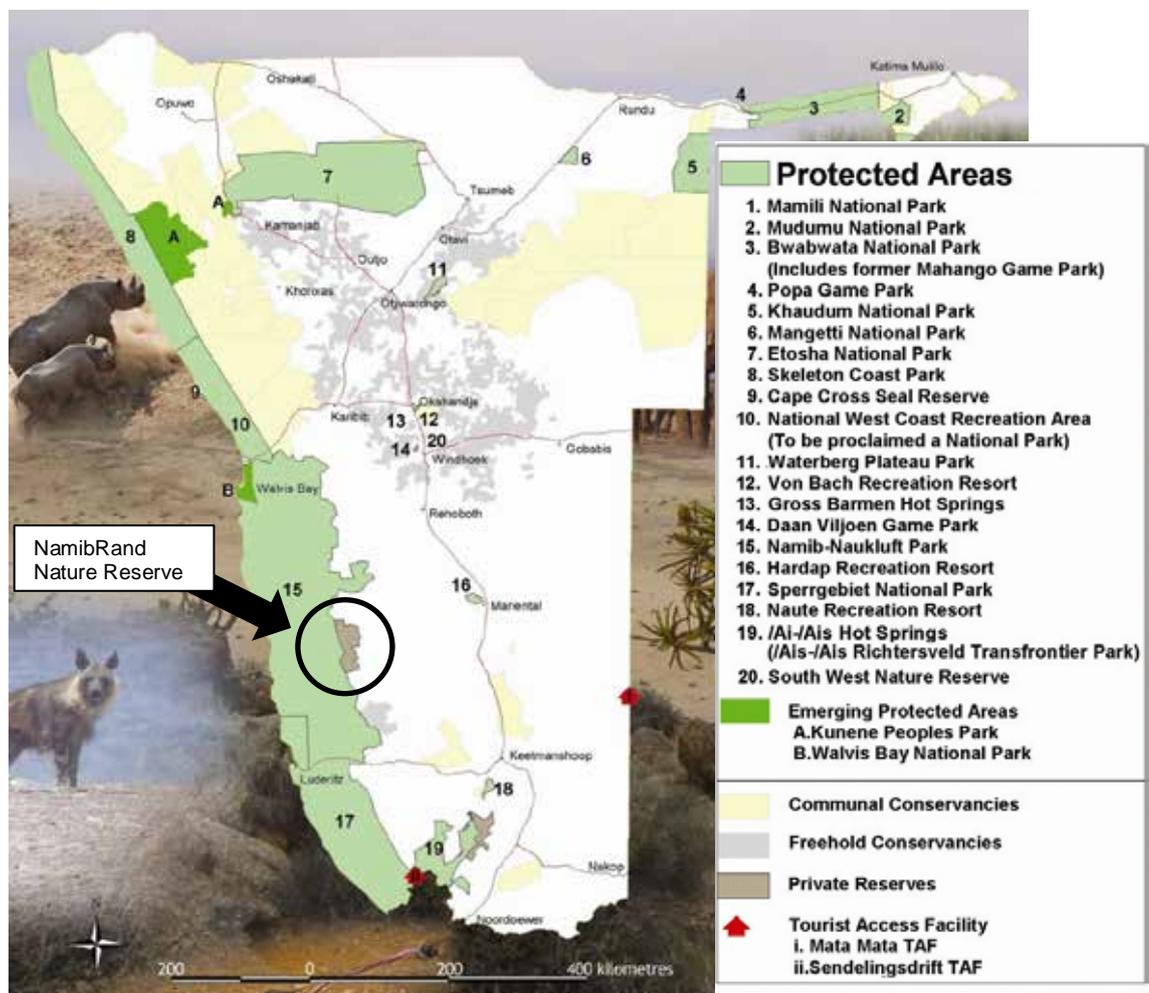


Figure 3.4: Namibia's protected area network (REPUBLIC OF NAMIBIA, latest version as of April 5, 2014)

But also the approach of Namibia's private reserves has found international recognition, in which multiple adjoining ranchers connected their ranches for wildlife conservation

and tourism (LANGHOLZ, 2010). MENDELSON (2006) estimated that 88 % of Namibia's large mammals live on freehold farms and only 8 % and 4 % live on communal lands and state-protected areas respectively¹⁰. The higher numbers of large mammals on freehold lands may be caused by a longer history of wildlife use on these lands since the state passed ownership rights of common plains game to individual freehold landowners already in 1975. However, this highlights the importance of private protected areas to the conservation of biodiversity in Namibia. One of them, the NamibRand Nature Reserve, was chosen as case study for this paper and is introduced in the following.

3.2 The NamibRand Nature Reserve

3.2.1 Geographical features

The NRNR is located in the Midwest of the Hardap District in southern Namibia (see Appendix A20), in the Pro-Namib¹¹ region. To the West, it shares a 100 km border with the Namib Desert or rather Namibia's largest national park, the Namib-Naukluft National Park, and to the East, it borders the Nubib Mountains on the edge of the Great Escarpment (see Appendix A10). Furthermore, the NRNR is only approximately 30 km south of the Sesriem area which is the gateway to the Sossusvlei, one of Namibia's most famous attractions. Consisting of 16 former livestock farms and measuring 202,291 ha (2,020 km²) the NRNR is supposed to be one of southern Africa's largest private nature reserves.

The annual average rainfall in this region is 50 to 150 mm with variations of 50 to 70 % which indicates a high unpredictability of rain. Precipitation occurs usually during the rainy season from December to April but can also vary to a large extent across years as the area has experienced several droughts as well over several years. With this little precipitation, an average of nine or more hours of sunshine per day (see Appendix A7) and an average solar radiation of 5.8 to 6 kWh / m² per day (see Appendix A8), the region suffers of average evaporation rates of 3,000 to 3,600 mm per year (see Appendix A3), causing a water deficit of 2,100 to 2,500 mm per year (see Appendix A4).

¹⁰ For instance, compare the distribution of freehold conservancies and private reserves in Figure 3.4 with the density of oryx in Appendix A14.

¹¹ The area along the eastern edge of the Namib Desert.

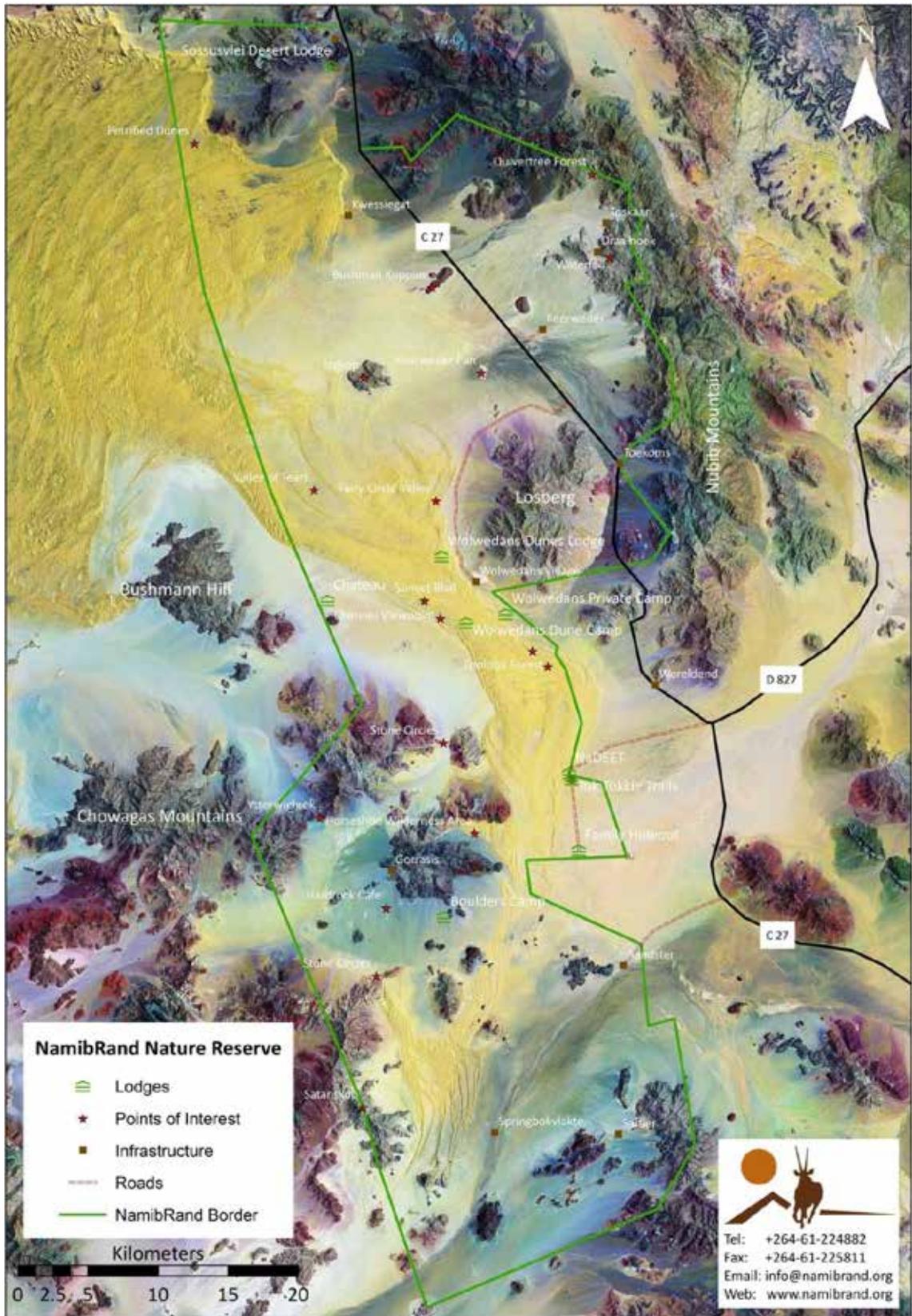


Figure 3.5: Map of the NamibRand Nature Reserve (NAMIBRAND NATURE RESERVE, 2012)

The annual average temperature in the NRNR area is 18-21°C (see Appendix A5) but diurnal amplitudes can vary extensively as the arid climate supports low temperatures at

night and high temperatures by day. During winter nights, the region may even experience up to ten days of frost per year (see Appendix A6).

The arid to hyper-arid climate strongly limits the biological diversity as well as the options for human development. The NRNR is shaped by extensions of the Namib Desert and the Nama Karoo (see Appendix A11), with a mix of inselbergs, mountains, gravel plains, sand and dune habitats (see Appendix B1), as well as sparsely covered by grass- and shrubland (see Appendix A12). The average green vegetation biomass production ranges from bare grounds to low development (see Appendix A13).

3.2.2 Socio-economic features

The Hardap is a sparsely populated region of Namibia which counted 79,507 inhabitants in 2011 with less than one person per km² (NAMIBIA STATISTICS AGENCY, 2013; also see Appendix A16).

In the western Hardap, where the NRNR is located, the majority of households have access to clean water (see Appendix A17) but, because of its remote location in a rough environment, no access to the national electricity network NamPower (see Appendix A18). Consequently, all households need to be self-sustaining in terms of electricity supply, using fuel-consuming generators, gas or solar power.

The major use of land is tourism and agriculture on freehold lands (see Appendix A19). Due to the ecologic and climatic conditions of the area, as described earlier, the carrying capacity is quite low, ranging from four to 19 kg / ha (see Appendix A15). Hence, for agricultural uses only very extensive forms of cattle and small livestock (sheep and goats) ranching are manageable, which causes large farm sizes often above 10,000 ha.

For the Hardap District an unemployment rate of 28.8 % was denoted in a 2012 labor force survey (NAMIBIA STATISTICS AGENCY, 2013).

3.2.3 History

The area of what represents the greater NRNR region today was populated since prehistoric times. Due to its ecological and climatic conditions the region only experienced low population densities as it rather is a marginal area for human settlement in which different population groups have been pushed for different reasons. As mentioned under 3.1.3, the San are thought to be the first population group living in

southern Namibia. They later were ousted by descendants of the Khoekhoe, the Nama and the Topnaar, who migrated from the Cap Region to southern Namibia when European settlers took their lands. The first German troops came into the region during a conflict with the Witboois, a Nama sub-group, in 1894. The Witboois were defeated and consequently the Germans took over the area (TUSCHMANN, 2002).

The region was slowly colonized starting from the first German troop stud, Nauchas, along the valleys and river beds (rivier) which provided enough water to the settlers. After WWII, from 1946, a higher populating pace occurred, driven by the distribution of the land by the South African government to veterans (ibid.) in order to strengthen its mandate powers in South-West Africa. Farms were established as close as to the dunes of the Namib Desert. TUSCHMANN (2002) as well reasons the faster distribution and fragmentation of the land after WWII with the increased breeding of Karakul, which is a certain breed of sheep that was very popular for its fur back then.

The Karakul was introduced to Namibia by the Germans in 1906 and its production peaked with 3.5 million furs in 1969. Because of the extraordinary high prices for Karakul furs, many farmers intensified their livestock farming which lead to a quick degradation of the arid and very sensitive land. Several severe droughts during the 1970s and 80s as well as the collapse of the Karakul market¹² set the seal to the end of the Karakul era in the Pro-Namib. As a consequence, poaching increased to substitute for incomes from farming and hence, wildlife stocks heavily decreased. In some regions of Namibia, certain species even declined by 90 % (VORLAUFER, 2007).

The land degradation again led to a devaluation of land prices in the Pro-Namib area. It was that time when businessman Johann Albrecht (Albi) Brückner, founder of NEC Power & Pumps (Namibian Engineering Corporation as the then known South West Engineering company, SWE) who was engaged in the water pump business, jumped at the opportunity and bought the farm Gorrasis in 1984. The adjacent farms Die Duine and Stellarine followed in 1988. Initial attempts at indigenous livestock farming soon proved unsustainable on the severely stressed land (ODENDAAL & SHAW, 2010). Albi Brückner sought advice on what to do with his land during a workshop in 1990 and was suggested to engage in private conservation. Consequently, the private holding

¹² The harvest of Karakul fur is quite controversial as it is taken from the new-born lambs before their age reaches 24 hours. Increasing awareness of conservation and animal rights in the Western World caused a collapse of the Karakul market.

NamibRand Desert Trails (Pty) Ltd. was founded in order to raise the necessary capital and buy more farms to merge them into a conservation area.

Above all, the heavy poaching in the late 1970s and early 1980s led to the fencing of the eastern boundary of the Namib-Naukluft National Park. But due to the vastness of the area and distances involved, monitoring of the border fence by nature conservation authorities proved extremely challenging and poaching continued. Due to these circumstances the former Department of Nature Conservation¹³ encouraged the formation of an additional private conservation area between the national park and livestock farming areas in the late 1980s, which would act as a buffer to keep poachers out but as well benefit wildlife directly by re-establishing natural east-west migration routes (ODENDAAL, 2005 and ODENDAAL & SHAW, 2010).

With the political support of the Department of Nature Conservation the then called *NamibRand Game Ranch Nature Reserve* was created, a strategic plan was formulated in 1991 to change the primary land use of the area to conservation and in 1992, the NamibRand Game Ranch Nature Reserve was registered (NAMIBRAND NATURE RESERVE, n.y.). First, the primary form of sustainable resource utilization focused on trophy hunting which was again banned in the late 1990s as it was contradicting the ecotourism activities that had been established in the NRNR since 1994 (ODENDAAL & SHAW, 2010).

By utilizing the holding NamibRand Desert Trails (Pty) Ltd. Albi Brückner purchased and resold several more farms until 2000 as needed in order to inject capital into the expanding project (ibid.). However, all resold land was only sold to new landowners under the condition to continue to dedicate it to the conservation area. Finally, all landowners belonging to the reserve signed the Articles of Association and adopted a constitution in 2002 which sets the land aside for conservation (NAMIBRAND NATURE RESERVE, n.y.). In March 2002, the *NamibRand Nature Reserve Association* was finally registered as an *incorporated association not for gain* under Section 21 of the Companies Act, 1973 (Act No 61 of 1973) (TEDP; see Appendix D2.4).

¹³ After independence, the Department of Nature Conservation became part of the newly established MET.

3.2.4 Concept and management

The NRNR is a PPA that demonstrates holistic biodiversity conservation financed through low impact, high-quality ecotourism. Tourism concessions have been awarded to five tourism operators, which collect a daily per-bed fee from their guest for the reserve in order to support conservation work. The concessionaires are namely the Wolwedans Collection, the Sossusvlei Desert Lodge, the NamibRand Family Hideout, Tok Tokkie Trails and Namib Sky Balloon Safaris. Furthermore, a non-profit organization, the Namib Desert Environmental Education Trust (NaDEET), is situated in the NRNR but does not have to pay the bed-fee nor any other concession fee.

By the act of the constitution, the landowners keep the title deed to their land but leave the land management to the NRNR and make it available for tourism utilization, e.g. game drives and sundowners¹⁴. In some cases, the tourism concessionaires are also the landowners. But if the concessionaire is not the owner of the land where the respective facilities are located, a lease is paid to the landowner. All obligations and responsibilities are recorded in the concession contracts which are concluded between the three parties NRNR, landowner and concessionaire. However, the landowners are still granted the right to visit and stay on their land. They may further take the opportunity to serve as directors on the NRNR's managing board.

Although the NRNR is registered as *an association not for gain* which is dedicated to nature conservation, Namibian legislation currently does not provide for private conservation reserves but in form of freehold conservancies. Hence, the land which constitutes the NRNR is still zoned as agricultural land and agricultural land tax is paid accordingly. In Namibia, agricultural land tax is paid no matter if any form of agricultural activity is performed on the land or not as the tax is determined by the land's potential for agricultural productivity. By contract, the land tax is compounded by the NRNR and not by the landowners.

Currently, the reserve employs a CEO, based in Windhoek, and eleven staff on-site in the NRNR. The staff in the NRNR is represented by a Control Warden, an Environment and Research Warden, a Resource Management Ranger, two Senior Field Rangers, four Field Rangers and two Field Base Managers. Albi Brückner still serves as Custodian

¹⁴ A sundowner is an alcoholic drink taken at sundown. In southern African tourism the drink is usually taken at a beautiful spot with a scenic view and eventually combined with a game drive.

and Chairman of the NRNR (NAMIBRAND NATURE RESERVE, n.y.). The NRNR staff and their families live on-site and are located at the farms Keerweder, Aandstêr and Toekoms (see Figure 3.5). Field guides, employed by the concessionaires on the NRNR, additionally assist with wildlife monitoring and resource management which is vital in order to control the vast area.

Although the constant management of the NRNR is sufficiently funded through tourism, supplementary funding is raised through the live sale of wildlife which is basically a population management function rather than a steady source of income. Apart from the daily management of the NRNR some additional projects require extra funding. In order to help finance such projects, the NRNR established the NamibRand Conservation Foundation (NRCF) which raises funds through the sale of Fairy Circles (Adopt-a-Fairy-Circle program). Fairy Circles are mysterious bare sand circles in the landscape stretching along the edge of the Namib Desert. Numerous scientists have already researched these circles but their cause or purpose was not determined to date. The NRCF provided the NDAC and NaDEET with considerable funding so far as both organizations receive 30 % of funds raised (ODENDAAL & SHAW, 2010). The remaining 40 % are allocated to other environment and conservation projects.

The NRNR, above all, is engaged in the GSNL project which is part of a Namibian public-private NAM-PLACE landscape conservation project. The project was initiated in 2007 as a collaborative management project among custodians and property owners of the region and aims to collectively manage for enhanced landscape and biodiversity conservation as well as regional socio-economic development. In March 2013, the constitution of the co-management association was signed and a management plan was approved.

3.2.5 Concessionaires

The Wolwedans Collection

The Wolwedans Collection (hereafter referred to as Wolwedans) by NamibRand Safaris (Pty) Ltd. (hereafter referred to as NamibRand Safaris) lies at the heart of the NRNR on the farm of the same name. Wolwedans was founded by Albi Brückner's youngest son, Stephan Brückner, in 1994 (NAMIBRAND SAFARIS (PTY) LTD., n.y.a). It has a standard capacity of 44 beds and consists in total of four camps which are namely the Dune Camp (constructed in 1994, twelve beds), the Dunes Lodge (constructed in 1999 and re-

build after a fire in 2003, 18 beds plus the Mountain View Suite with and beds), the Private Camp (constructed in 2002, four beds) and Boulders Safari Camp (constructed in 2007, eight beds), which is located about 45 km south of Wolwedans on the premises of Aandstêr and is closed down during off-season. Additionally to the camps Wolwedans maintains a *staff village*, where all staff live, and a base with all relevant facilities to cater to the guests, including guest reception and an airstrip as approximately 40-50 % of guests fly in on a flight safari.

All traveling parties at Wolwedans receive their individual guide who represents their contact person throughout the stay. Activities offered at Wolwedans include scenic drives and flights, horseback riding and a sustainability village tour. Furthermore, activities offered by other concessionaires, like walking safaris by Tok Tokkie Trails and hot air ballooning by Namib Sky Balloon Safaris, are advertised through Wolwedans, too.

Wolwedans is the flagship of the NRNR especially in terms of sustainability. The camps are designed to minimize environmental impact, utilizing innovative, landscape-adopted building techniques and sustainable technologies. All guestrooms at the lodge and camps have no air condition and mini bars but are equipped with an autarkic photovoltaic system and solar water heaters. Wolwedans further maintains a hybrid system with an integrated solar farm, a grey water system and vegetable gardens at the village.

Pre-eminent is Wolwedans' engagement in human resource development. In 2007, Wolwedans launched the Desert Academy on-site, a hotel school and vocational training project. The program syllabus was created in co-operation with the NTB and the Namibian Training Authority (NTA) and was approved by the Namibian Qualifications Authority. Students are trained in hospitality, housekeeping, laundry, restaurant and bar service, administration and kitchen and food preparation. If students advance to specialize in all three levels, the program encompasses 24 months of training. Also in 2007, NamibRand Safaris started the Namibian Institute of Culinary Education (NICE) which combines a restaurant with a chef training facility in Windhoek. Part of the vocational training program at NICE is the on-the-job training at Wolwedans.

In order to support funding for the vocational training programs at the Desert Academy and NICE NamibRand Safaris set up the Wolwedans Foundation Trust in 2010. The trust and Wolwedans further support NaDEET on occasion and offer tourists a visit to NaDEET's environmental information center. Wolwedans was certified a *Global Ecosphere Retreat Long Run Destination* by the Zeitz Foundation in November 2011.

In October 2013, about 86 staff were employed at Wolwedans in the NRNR. Additionally, 13 staff were employed at headquarters in Windhoek and 48 at the NICE restaurant. As typical for the tourism industry high turnover rates of staff cause varying numbers. On average, NamibRand Safaris employs about 140 staff including Wolwedans, headquarters and the NICE restaurant.

The Sossusvlei Desert Lodge

The Sossusvlei Desert Lodge is situated in the North of the NRNR on the farm Vreemdelingspoort. The lodge was established in 2000 by Afro-Ventures Namibia (Pty) Ltd. who then merged with &Beyond (andBeyond Namibia Travel (Pty) Ltd. owned by the And Beyond Holdings (Pty) Ltd.). &Beyond is a renowned international luxury ec lodge and safari business operating on the African continent and India.

The Sossusvlei Desert Lodge consists of ten chalets with 20 guest beds in total. The site further includes the main house with the dining room, bar, wine cellar, pool and curio shop as well as an observatory with a twelve inch Meade LX200R telescope for star gazing as the NRNR is a certified International Dark Sky Reserve. The Sossusvlei Desert Lodge staff is accommodated in the *staff valley* which is nestled behind a mountain; close-by but out of guests' sight.

The Sossusvlei Desert Lodge is mostly booked as part of a circuit trip through Namibia or the southern African region. Activities offered are for instance scenic drives, quad biking, scenic flights, guided nature walks or excursions to Sossusvlei and are included in the price (except for scenic flights and ballooning). Like Wolwedans, the lodge also advertises Namib Sky Balloon Safaris.

As an &Beyond policy is to support local communities the Sossusvlei Desert Lodge started a school food program at Maltahöhe which caters basic nutrition to children in primary school. The lodge as well supports NaDEET with financial funding.

The NamibRand Family Hideout and Campsite

The NamibRand Family Hideout and Campsite (hereafter referred to as the Family Hideout) are located in the South of the NRNR on the farm Stellarine. The Family Hideout was established in 1999 by Albi Brückner's son Andreas Brückner and his wife Amanda Brückner to serve the local and regional tourism market of Namibians and South Africans in contrast to the international luxury segment targeted by Wolwedans and the Sossusvlei Desert Lodge.

The Family Hideout is a self-catering accommodation consisting of an old farmhouse from the times of Karakul farming (ten beds) and a private campsite (for up to eight persons), which was added in 2010 and is approximately about 1 km away from the farmhouse in order to offer appropriate privacy to parties staying at either facility. Both, the farmhouse and the campsite, are rented to one party only at one time.

Activities offered by the Family Hideout are guided scenic drives and sand boarding. The Family Hideout is the only tourism destination on the NRNR which allows for unguided activities on the premises such as a self 4x4 drive and dune walks on demarcated routes.

The Family Hideout was not designed to run large profits but to offer locals an opportunity to stay at a lower cost at the NRNR. Hence, the Family Hideout is rather run as a sideline business of Andreas and Amanda Brückner, which is why they only employ one more staff on-site besides Amanda who manages the administration from their Windhoek-based office. For this reason, the Family Hideout does not operate any community projects but as guests arrive via the NaDEET reception they are invited to visit the NaDEET environmental education and information center to learn about the desert ecosystem and nature conservation.

Tok Tokkie Trails

Tok Tokkie Trails (hereafter referred to as Tok Tokkies) by Unlimited Travel & Car Hire c.c. offer three days / two nights circuit walking safaris to visitors of the NRNR since 1997. Groups of two to eight people at a time explore the Pro-Namib with a skilled guide, carrying nothing but their day-packs, while a so called back-up team caters to the group in designated pick-nick spots and camps. All food is prepared at the base and then transported to the pick-nick spots. The guests are received in fully equipped camps where they dine three courses in the middle of the pristine landscape of

the NRNR and sleep in bed rolls on camping beds under the stars. Facilities provided at the camps include open air long-drop toilets with scenic views and hot bucket showers.

Tok Tokkies employ about twelve staff in Windhoek and on-site at the base which is located on the farm Die Duine in the South of the NRNR, together with the Family Hideout base and the NaDEET base (all together referred to as the *staff village*).

Due to the business model, Tok Tokkies have a strongly reduced resource consumption and hence are positioned sustainably per se. Tok Tokkies donate 10 % of the sale of their merchandise products to NaDEET.

Namib Sky Balloon Safaris

Namib Sky Balloon Safaris c.c. (hereafter referred to as Namib Sky) were the first tourism concessionaire on the premises of the NRNR as the business started in 1991, even before the NamibRand Game Ranch Nature Reserve was founded. Namib Sky was established by a family of Belgian descent who used to live in the Congo and moved to Namibia on their search for a suitable destination to offer hot air balloon rides. The Sossusvlei area provided excellent conditions and Albi Brückner allowed them to restore a farm stead on Kwessiegat of the NRNR. Namib Sky started with a small balloon for five passengers and a camp for eight persons on-site of the NRNR but had to relocate when the farm was sold to an investor. The business moved to an adjacent farm to the North of the NRNR, Geluk, where it still operates from today.

Meanwhile, Namib Sky grew into a successful and expanding business that helped to develop tourism in the area by building two lodges – Kulala Lodge and the original lodge which constitutes the Le Mirage lodge today. For strategic reasons the two lodges have been sold and with 25 employees and a standard capacity to carry 60 passengers at one time in all balloons Namib Sky now only operates the balloon business.

Namib Sky established the Little Bugs project, which is a pre-school, on their premises Geluk. Due to the remoteness of the area and no public transportation available, early childhood education is hardly accessible in the Pro-Namib, if at all. The Little Bugs pre-school was originally established to offer day care to Namib Sky employees for their children but it quickly gained prominence and requests from employees of other tourism businesses in the area were forwarded. Currently, the pre-school accommodates twelve children but another 40 are already on the waiting list. Hence, an extension of the Little

Bugs pre-school capacities is envisioned as well as a primary school for addition. In order to raise funds for their community project Namib Sky recently set up the Namib Sky Community Foundation. Namib Sky is also member of the GSNL project which supports the installation of a school bus in the area to shuttle the children to and from Little Bugs.

NaDEET

Technically, NaDEET is not a concessionaire of the NRNR but its role is pivotal regarding the community engagement of the NRNR as well as of its concessionaires. Furthermore, NaDEET accommodates employees and a good amount of visitors on the premises of the NRNR which concerns the resource management of the reserve.

NaDEET is a non-profit organization that was founded in 2003. It aims to invite primarily school classes but also adult community groups from all over Namibia to stay for one week of environmental education in their model training center on Die Duine of the NRNR. The on-site stays and participation in the program are either paid by the schools / parents or funded through grants for those schools which cannot afford the entire price in order to allow all Namibians to participate regardless of income. Through the environmental education program NaDEET hopes to build capacity and know-how of the indigenous Namibian environment and conservation issues in participants through hands-on, experiential learning and learner-centered educational methods. Besides the education center on the NRNR, NaDEET has established an environmental literacy project and several student internship positions to also target the tertiary education level. The NGO finances its projects through program fees, donations and grants.

During their stay at NaDEET, participants live at the training center which is a model of sustainable living in the desert. Participants immediately practice what they learn during the classes. For instance, they measure their environmental footprint by conducting water, energy and waste audits. Furthermore, they learn ways to reduce, reuse and recycle resources as well as how to solar cook. Dune walks shall facilitate to explain the unique biodiversity of the Namib Desert and foster a sense of respect and responsibility for the natural environment of Namibia.

Moreover, NaDEET exercises an open door policy and invites tourists of the NRNR to their environmental information center. The NRNR and its concessionaires promote NaDEET and offer support through financial and other donations.



Landscapes of the NRNR: mountains (Photos by Judith Schulze)



Landscapes of the NRNR: dunes (Photos by Judith Schulze)



Landscapes of the NRNR: inselbergs (Photos by Judith Schulze)



Landscapes of the NRNR: plains of gravel, shrubs and sand (Photos by Judith Schulze)



Wildlife of the NRNR; left: oryx antelope seeking shade; right: female oryx antelope with two calves (Photos courtesy of Stephanie Haberl)



Wildlife of the NRNR; left: oryx antelopes and zebra by the waterhole; right: a group of red hartebeest in the dawn (Photos by Judith Schulze)



Wildlife of the NRNR; left: ostriches; right: cheetah feeding on springbok (Photos courtesy of Stephanie Haberl)



Wildlife of the NRNR; left: male kudu (Photo courtesy of Stephanie Haberl); right: two springbok (Photo by Judith Schulze)



Wildlife of the NRNR; left: plains zebras; right: social weaver bird nest (Photos courtesy of Stephanie Haberl)



Quiver trees at NRNR (left: Photo courtesy of Stephanie Haberl; right: Photo by Judith Schulze)



The NRAC at Toekoms, NRNR; left: approaching the NRAC and staff accommodation (Photo by Judith Schulze); right: the NRAC (Photo courtesy of Stephanie Haberl)



The NRNR is a gold-certified International Dark Sky Reserve. Left: welcome sign with the International Dark-Sky Association certification at entrance (Photo by Judith Schulze); right: the Milky Way over the NRNR (Photo courtesy of Stephanie Haberl)



Sun sets over NRNR with Keerweder in the distance (Photo by Judith Schulze).



Oddities at NRNR; left: marble-shaped granite rock; right: Fairy Circles (Photos by Judith Schulze)



Impressions of Wolwedans; left: vegetated dune; right: staff village and the base between dunes in the West, the Losberg in the East and the Nubib mountain range in the background (Photos by Judith Schulze)



Wolwedans Collection: Dunes Lodge; left: approaching lodges (Photo by Judith Schulze); right: fire place with view to oryx-populated waterhole (Photo courtesy of Stephanie Haberl)



Luxury at Wolwedans; left: pool with sun beds at Dunes Lodge; right: approx. 40-50 % of guests arrive on flight safaris (Photos by Judith Schulze)



Wolwedans Collection: Private Camp; left: bedroom ; right: sun beds facing waterhole (Photos courtesy of Stephanie Haberl)



Wolwedans Collection: Dune Camp; left: tent with opened canvas for ventilation; right: dining room (Photos courtesy of Stephanie Haberl)



Wolwedans Collection: Boulders Camp; left: camp nestled between rocks; right: bathroom with a view (Photos taken from website, NAMIBRAND SAFARIS (PTY) LTD., n.y.)



Sossusvlei Desert Lodge; left: housing and pool (Photo courtesy of Stephanie Haberl); right: guest chalet (Photo by Judith Schulze)



Sossusvlei Desert Lodge: left: view to the NRNR; right: lobby (Photos courtesy of Stephanie Haberl)



Sossusvlei Desert Lodge: left: bright bathroom; right: private outdoor shower with a view (Photos taken from website, AND BEYOND HOLDINGS (PTY) LTD., n.y.)



Family Hideout; left: farmhouse; right: satellite room (Photos by Judith Schulze)



Interior of the Family Hideout farmhouse; left: living room; right: kitchen
(Photos by Judith Schulze)



Family Hideout; left: campsite; right: facilities at campsite (Photos by Judith Schulze)



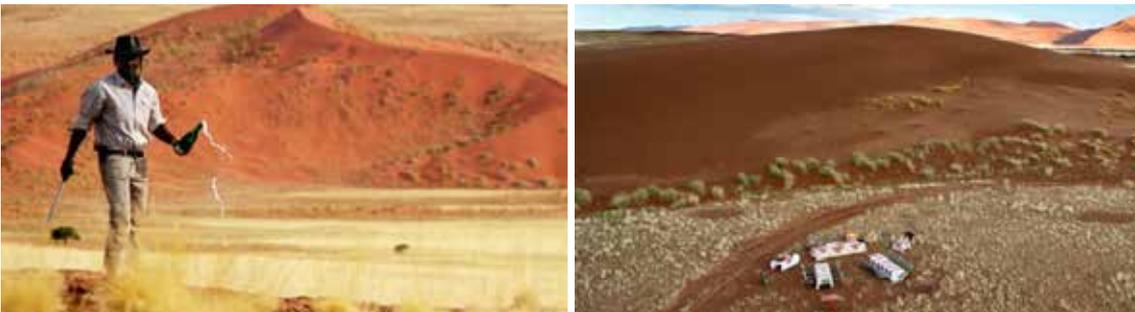
Tok Tokkie Trails; left: facilities at Horseshoe Camp; right: dinner table prepared by chef
Jawnesty Naobes (Photos taken from website, UNLIMITED TRAVEL & CAR HIRE C.C., n.y.)



Tok Tokkie Trails; left: shower with a view (Photo: Judith Schulze); right: veldbed in the dunes
(Photo taken from website, TRAVEL NEWS NAMIBIA, 2012)



Namib Sky Balloon Safaris: balloons over NRNR
(Photo taken from website, NAMIB SKY BALLOON SAFARIS C.C., n.y.)



Namib Sky Balloon Safaris; left: welcome at the pick-nick spot with champagne; right: breakfast in the middle of nowhere (Photos taken from website, NAMIB SKY BALLOON SAFARIS C.C., n.y.)



NaDEET; left: training center and housing; right: environmental education class
(Photos courtesy of Stephanie Haberl)



Beautiful Deadvlei (Photo by Judith Schulze)

4 Results

As provided by the GSTC criteria catalogue for sustainable destinations the questions for the evaluation of the NRNR were divided into four categories: (A) demonstration of sustainable destination management, (B) maximizing economic benefits to the host community and minimizing negative impacts, (C) maximizing benefits to communities, visitors and cultural heritage and minimizing negative impacts and (D) maximizing benefits to the environment. The overall score for the NRNR according to the GSTC criteria is 72 %. An overview of the distribution of scores along the four categories is given in Table 4.1 below.

GSTC global sustainable tourism criteria category	Total	NRNR
A. Demonstrate sustainable destination management	66	54
B. Maximize economic benefits to the host community and minimize negative impacts	22	14
C. Maximize benefits to communities, visitors and cultural heritage and minimize negative impacts	21	18
D. Maximize benefits to the environment and minimize negative impacts	32	15
Total score	141	101
TOTAL PERCENTAGE	100%	72%

Table 4.1: Evaluation overview of the NRNR according to the GSTC criteria

The self-assessment for tourism operators on freehold land was sub-divided into nine different categories as given by the EANA: (1) management, (2) conservation, (3) energy, (4) water, (5) waste, pollution and sewerage, (6) building, landscaping and roads, (7) staff development, (8) guiding and (9) social responsibility. An additional tenth bonus category provided for extra points. All five concessionaires completed or assisted to complete the questionnaire. All concessionaires were visited on-site. Three concessionaires filled out the questionnaire and sent it back via email. One concessionaire provided an already filled out EANA self-assessment of the year 2011 and another concessionaire provided valuable insight during a status-quo assessment according to EANA standards on-site in preparation for the actual certification process. At least one staff on management level of each concessionaire was formally or informally interviewed. No concessionaire provided written financial data or other management documents. The overall results for the concessionaires according to the EANA self-assessment for tourism operators on freehold land were as follows: C1 75 %, C2 60 %, C3 62 %, C4 81 % and C5 78 %. A breakdown of the scores into the sub-categories is given in Table 4.2.

EANA criteria categories	Total	C1	C2	C3	C4	C5
1. Management	12	9	8	10	12	7
2. Conservation ^a	12	11	11	11	11	11
3. Energy	15	9	3	10	15	15
4. Water	20	7	5,5	7	11	9
5. Waste, pollution and sewerage	18	15	8	14	14,5	9,5
6. Building, landscaping and roads	16	13	11	9	15,5	15
7. Staff development	12	8	11	5	5	11
8. Guiding	5	5	3,5	0	3	N/A ^b
9. Social responsibility	5	3,5	4,5	1	2	4,5
Subtotal	115,0	80,5	65,5	67,0	89,0	82,0
Percentage	100%	70%	57%	58%	77%	75%
10. Bonus points	6	3	2	2	2	2
Percentage bonus points	10%	5%	3%	3%	3%	3%
TOTAL PERCENTAGE	110%	75%	60%	62%	81%	78%

^a Although concessionaires state different opinions about the conservation management situation, a total score of 11 out of possible 12 points is given to all concessionaires under section 2 (Conservation). This score was already awarded during an Eco Awards Namibia assessment to one of the concessionaires in 2011. Since the division of tourism and conservation between the concessionaires and the NRNR management is very characteristic for the management of the NRNR, this specific score can be assumed for all concessionaires. A score of 12 points is not applicable because the alien species blesbok is still present in the reserve. During the last game count in June 2013, three blesbok have still been counted. Efforts to permanently remove the alien species from the reserve will continue.

^b not applicable

Table 4.2: Evaluation of the five concessionaires of the NRNR according to the EANA self-assessment

4.1 Ecologic aspects

4.1.1 Conservation management

The NRNR management policy arranges for a strict division between tourism and conservation management. The conservation management is solely coordinated by the reserve and is designed to allow only for minimal interference with the environment and constant monitoring. Conservation work in the past focused a lot on the removal of fences inside the NRNR and to some adjacent neighbors in order to allow animals to roam freely, especially on East-West migration routes, and to minimize threats to animals as they can get stuck and die in the fences. Over 1,500 km of internal and farm boundary fences were removed until August 2012.

Field guides working for the tourism concessionaires on the NRNR helped monitoring wildlife by reporting sightings to the NRNR management and also assisted with the annual game counts which were the most important part of the wildlife monitoring system of the reserve. Game counts were executed utilizing a method that has been

especially accustomed for use on the NRNR from a census technique as developed jointly by the MET, the WWF, and the Namibia Nature Foundation.

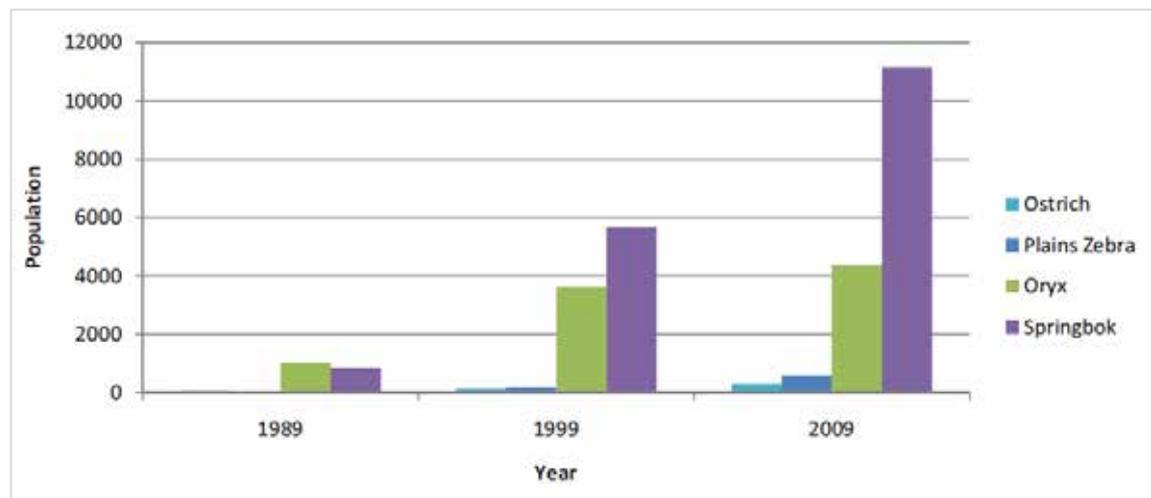


Figure 4.1: Historic wildlife data on the NRNR (ODENDAAL & SHAW, 2010)

Species	2005	2006	2007	2008	2009	2010	2011	2012	2013
Oryx	4 320	1 447	4 295	3 258	5 415	4 683	5 162	7 296	10 087
Springbok	7 733	17 900	9 013	12 451	13 400	8 060	9 405	6 069	5 919
Kudu	290	583	486	75	79	24	38	41	11
Plains Zebra	174	439	677	668	318	350	370	470	352
Ostrich	409	213	669	262	935	644	348	765	285
Red Hartebeest	50	70	80	80	80	110	125	177	204
Steenbok	53	44	125	174	32	0	0	0	0
Blesbok	10	15	20	20	23	19	18	7	3

Table 4.3: Summary of game count figures, 2005 – 2013 (see game count reports of 2012 and 2013 (Appendices D2.9.10 and D2.9.11); figures from 2009 onwards include Pro-Namib Conservancy)

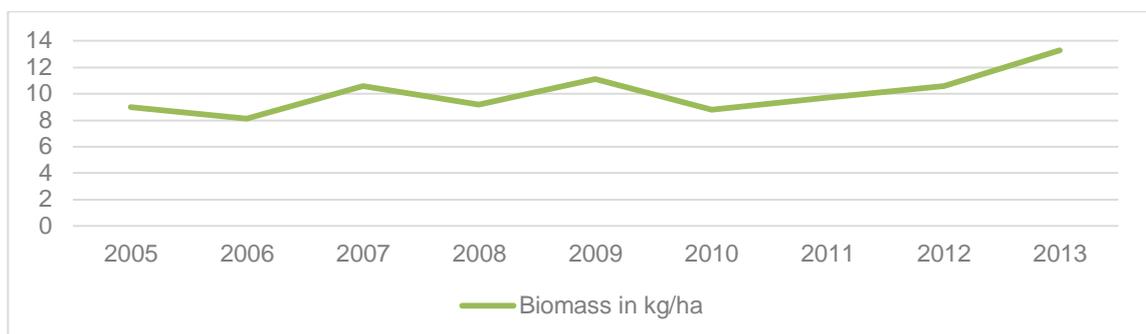


Figure 4.2: Development of biomass in kg / ha (see game count reports of 2012 and 2013 (Appendices D2.9.10 and D2.9.11); figures from 2009 onwards include Pro-Namib Conservancy)

Early monitoring indicated population figures in 1989 of 1,016 oryx and 840 springbok in the area of the NRNR (see Figure 4.1; ODENDAAL & SHAW, 2010). Twenty-four years later, the 2013 game census implied that there were 10,087 oryx and 5,919 springbok on

the NRNR. Table 4.3 lists game count figures since the introduction of the census method and Figure 4.2 summarizes development of biomass in kg / ha.

The NRNR also re-introduced animal species which existed in the area before but had been hunted to local extinction by previous land owners, e.g. cheetahs and leopards. Additionally, re-establishments of key species to restore the ecological balance of the area included in 2009, for instance, seven cheetah, nine giraffe and 350 plains zebra. Other activities aimed at principle species conservation, such as the monitoring of the critically endangered lappet-faced vulture but as well on the removal of alien species like the blesbok.

The NRNR also assisted with the Southern African Avifaunal Atlas¹⁵ and the Large Carnivore Atlas of Namibia¹⁶. Outreach efforts concerning wildlife management focused on predator-livestock conflicts on adjacent farms.

4.1.2 Energy, water and waste management

The remote area of the NRNR is not connected to the national grid network (see Appendix A18). As a matter of course, solar power was widely used across the NRNR in presence of the desert and an average of nine hours of sunshine per day with 5.6 to 6 kWh / m² (see Appendix A7 and Appendix A8). All water pumps were equipped with photovoltaic technology. Where NRNR staff was accommodated hybrid systems helped to bridge bottlenecks of energy supply for water pumps and households. Four of the five concessionaires employed solar energy to different degrees with efforts to further reduce usage of fossil fuels. The concessionaires' summarized scores for the category energy are displayed in Figure 4.3 (left). To fully score, concessionaires had to use renewable energy for more than 80 % of all energy requirements (excluding transport, but including water pumping) or to use less than 140 MJ per capita per year. Two concessionaires were given full scores. Shortcomings were due to lack of monitoring of energy usage and due to the usage of more than 20 % of non-renewable energies especially for kitchen appliances as all stoves and part of the fridges and freezers ran on gas. Although with NaDEET in the proximity, where solar cookers and ovens were

¹⁵ The Atlas of Southern African Birds.

¹⁶ The Namibia Large Carnivore Atlas was launched to involve the tourism industry and the Namibian public in collecting baseline data on the six large carnivore species (Lions, leopards, cheetahs, spotted hyenas, brown hyenas and wild dogs). The Atlas data improves the understanding of large carnivore distribution and density and contributes to the monitoring of biodiversity in Namibia (see www.catsg.org/catsglib/recorddetail.php?recordid=8646).

demonstratively used on a daily basis, no concessionaire had integrated solar cooking into business procedures so far. However, it is important to mention that none of the concessionaires used air-condition to meet customers' demand but one.

Annual management reports showed that the maintenance and improvement of the water supply system were another focal point of the NRNR management work next to conservation. Vast parts of the old network of pipelines and reservoirs were removed and rebuilt to accommodate the needs of wildlife and at the same time minimize potential adverse effects as water can be used as a management tool to influence animal movements. Therefore, water points need to be well spaced. Water points on the NRNR were designed to not be too far apart (within 10 km of each other) in case one fails and in order to accommodate all species on the reserve, even those that are not as desert adapted as oryx, springbok and ostrich. Where possible, water points were not closer than 2 km to a boundary fence or 1 km to the public road C27 in order to not encourage movements through fences and across or along the street.

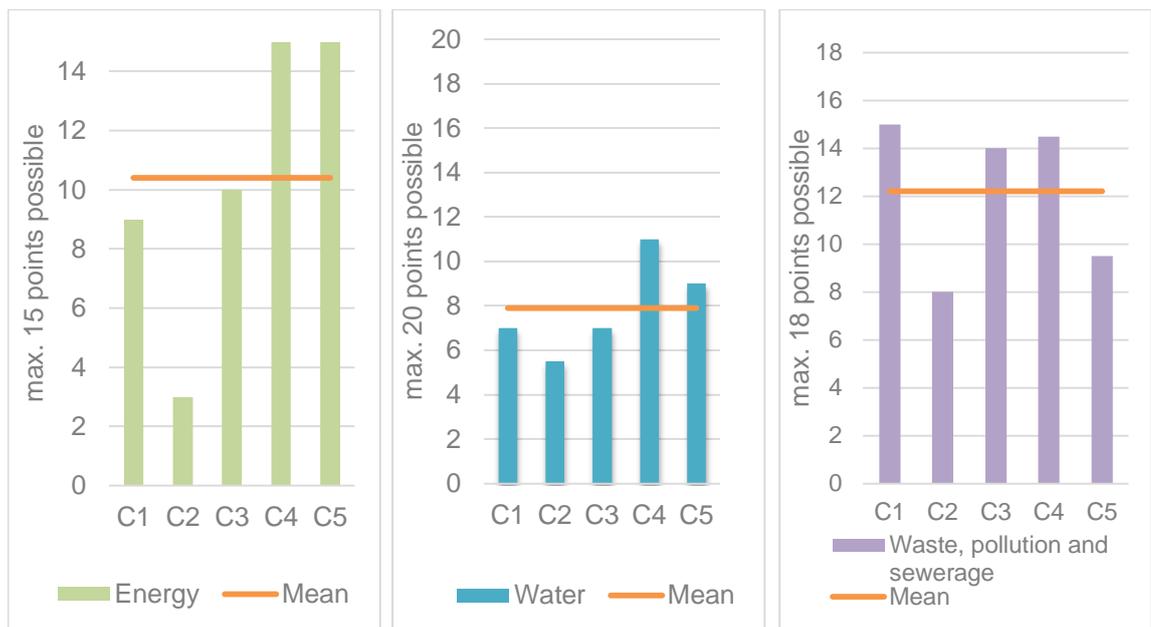


Figure 4.3: Overview of the concessionaires' resource management scores for energy, water and wastes

However, although the water supply system was extensively restructured monitoring of water usage was not practiced comprehensively. Water levels in boreholes were measured biannually but outflow of waterholes was not metered and water usage at water points was not monitored either. Accommodation facilities were only partly metered and monitored. Water management showed deficits among the concessionaires as well. Their scores are presented in Figure 4.3 above (center). Deficits were

insufficient or no monitoring of water usage, too little promotion of water-saving activities among customers and staff or missing water-saving appliances and devices, such as dual-flush mechanisms for toilets, low-flow aerators on showers and tabs and water-efficient laundry appliances.

The NRNR management and all concessionaires separated waste into recyclable and non-recyclable, but disparate conceptions of these categories were observed and thus waste was handled differently on the NRNR. Recyclable waste was transported to Windhoek and fed into the recycling system. The recycling system¹⁷ in Namibia is not very advanced but generally provides for tin, glass, plastic and paper (= recyclables) on the consumer's end. Other waste, if not hazardous wastes, should only be either organic waste or compost.

However, plastic and paper waste was to some extent handled as *burnables* on the NRNR. Hence, where waste should have been treated as recyclable and transported to Windhoek in order to be routed into the recycling system, these burnables were burnt using incinerators on the reserve instead.¹⁸ Further, the outside dumping of food left overs, in order to be eaten by wildlife, was recommended to guests of the NRAC.

Due to its remote location, the NRNR is not connected to a public sewer system. Hence, sewerage disposal in the NRNR was organized using two- or three-chamber septic tanks and adjacent soakaways on-site (also called French drains or draining field). A simple diagram of a septic tank is displayed in Figure 4.4. If the sludge and scum layers accumulated the tanks were pumped out and the septage was dumped in a designated excavated hole.

Only one waste water recycling plant existed on the NRNR, owned by one of the concessionaires. In the rest of the cases grey-water was directly discharged to the flora around housings in order to water plants and to filter by percolating into the ground. Therefore, biodegradable soaps and detergents were used by the concessionaires and

¹⁷ Namibia's recycling system rather is a system to organize recyclable waste as waste is only sorted in Windhoek and then exported to South Africa for the actual recycling process. Some wastes may even be further exported to Europe, namely Norway (see Appendix D1.4.3) or not recycled at all as southern Africa provides no suitable facilities (see Appendix D1.2.18). Recycling in Namibia is organized by a private enterprise called Rent-A-Drum.

¹⁸ The confusion seems to be caused in the change of waste management as the TEDP of 2008 refers to this procedure (see Appendix D2.4).

offered to guests but their usage was not comprehensively promoted to and exercised by staff.

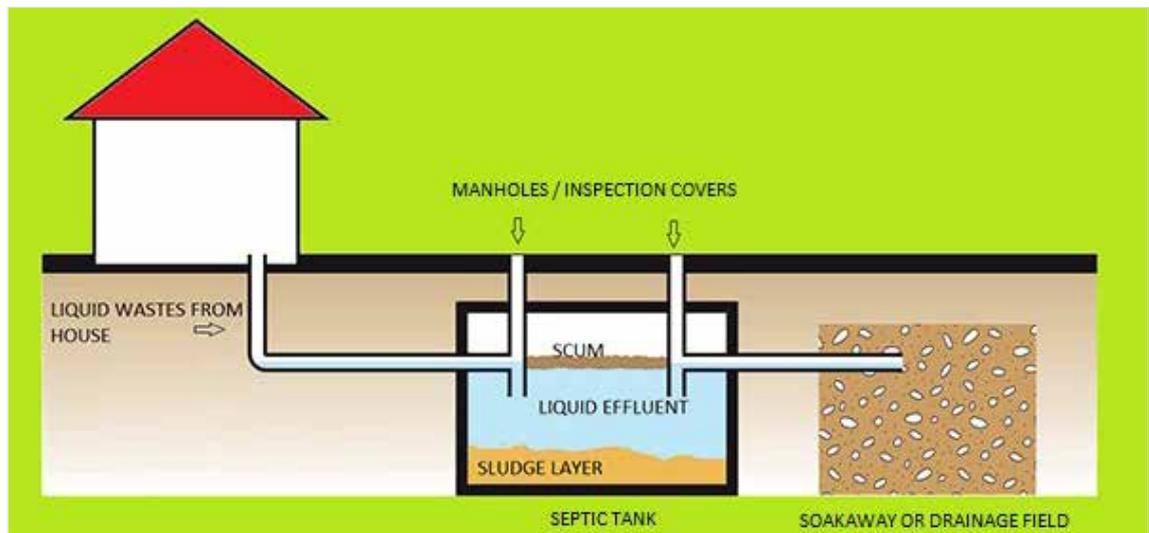


Figure 4.4: Simple diagram of a septic tank and soakaway (CLEANSING SERVICE GROUP LTD., n.y.)

Other pollution was extensively prevented, especially when it came to light pollution as the NRNR is a dark sky reserve. However, occasional oil or fuel leakages (e.g. from vehicles) may cause local environmental contamination as parking lots, fuel and generator storages were insufficiently prepared in some places.

4.2 Economic aspects

4.2.1 Management

The management of the NRNR was regulated through a variety of documents and formal meetings. A summary of management instruments is given in Table 4.4 below.

Management instrument / organ	Purpose
Documents	
Articles of Association	<ul style="list-style-type: none"> Regulates operational affairs of the NRNR Association Signed by all landowners
Memorandum of Association	<ul style="list-style-type: none"> Notarized legal document to establish the reserve setting out its purpose Signed by all landowners
Tourism Concession Agreements	<ul style="list-style-type: none"> Concluded between the NRNR, the respective landowner and the concessionaire
Environmental Management Plan	<ul style="list-style-type: none"> To manage all issues of environmental relevance

Tourism and Economic Development Plan	<ul style="list-style-type: none"> To assist in the diversification and expansion of the NRNR's revenue sources and to ensure that any future tourism development is in line with existing conservation objectives Tied to the TEDP and included in the reserve's Environmental Management Plan is a Land Use Zonation Plan
Vade Mecum	<ul style="list-style-type: none"> Sort of a handbook or house rules Records the procedures to be followed by all stakeholders in the NRNR in order to ensure orderly operations and interactions, to avoid possible misunderstandings, raise awareness and respect for the fragility of the environment and of responsible utilization
Organ	
Board of Directors	<ul style="list-style-type: none"> Consists of a chairman and two to four directors; the Control Warden is appointed as an ex-officio member to the board but has no voting rights Manages the affairs of the association Appointed for a period of two years
CEO	<ul style="list-style-type: none"> Chief Executive Officer based in Windhoek Head of day-to-day management
Control Warden	<ul style="list-style-type: none"> Head of management on-site
Meetings	
Annual General Meeting	<ul style="list-style-type: none"> Annual meeting for all stakeholder To discuss issues of a broader range
Board meeting	<ul style="list-style-type: none"> Biannual meeting between NRNR management, board of directors and chairman
Kgotla ¹⁹ meeting	<ul style="list-style-type: none"> Quarterly meetings for all stakeholders involved with the NRNR To discuss day-to-day issues
Reports	
Management reports	<ul style="list-style-type: none"> Annual summaries of management highlights of the previous year For internal communication purposes
Game count reports	<ul style="list-style-type: none"> Annual game census for wildlife monitoring Available online
Barking Gecko	<ul style="list-style-type: none"> Biannual newsletter of the reserve Available online for external audience

Table 4.4: Summary of documents, organs and meetings utilized to manage the NRNR

¹⁹ A conference or business meeting; from Sotho and Tswana lekgotla courtyard or court (see www.thefreedictionary.com/Kgotla).

As already mentioned, the NRNR is a non-profit association which finances its conservation work and management through tourism concessions. Originally, a concession fee of 10 % of turnover was imposed on the concessionaires but this policy was changed in 2004 and a park fee per visitor per day was implemented in 2005 which is collected by the concessionaires and forwarded to the NRNR management. During research, park fees were charged per bed per night at Wolwedans, Sossusvlei Desert Lodge and Tok Tokkies, per group per night at the Family Hideout and per person per balloon ride at Namib Sky. Historical park fee development since 2005 is presented in Figure 4.5. Current park fees for the year 2014 are N\$ 207 per bed for adults (children under the age of 16 are charged at 50 %) and N\$ 277 and N\$ 155 per group at the Family Hideout farmstead and campsite, respectively²⁰. Data for annual occupancy rates were only available for the years 2005 to 2010. Annual occupation rates (AO) were calculated using total bed nights available on the NRNR²¹ for each year (BA) and actual bed nights sold on the NRNR for the respective year (AB) in the following equation:

$$AO = (AB/BA) \times 100$$

Results are shown on the right side of Figure 4.5 below. The mean AO for the years 2005 until 2010 was 40.89 %. Numbers of total beds available changed in 2007 from 27,740 to 30,660, in 2008 to 34,404 (including one extra day as this was a leap year), in 2009 to 34,310 and in 2010 to 37,230. The concessionaires' capacity of guest beds in the NRNR did not change since 2010 and added up to 102 beds.

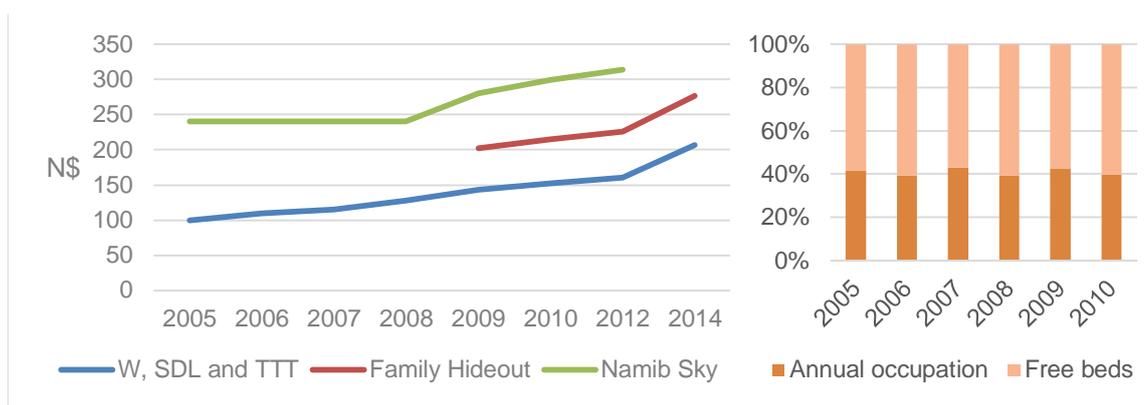


Figure 4.5: Park fees and occupation rates at the NRNR; left: park fee development since introduction in 2005 (no data for 2011 and 2013 available; no data available for the Family Hideout before 2009); right: estimated annual occupation rates 2005 – 2010 (no further data available)

²⁰ Current fees were taken from websites; no rates were published for Namib Sky.

²¹ As opposed to calculations by the NRNR where total bed numbers allocated to concessionaires were used but had not been fully utilized by the concessionaires.

However, standard capacity could be expanded with extra beds in rooms (e.g. for travelling children) or in general as some concessionaires did not fully utilize the bed numbers they had been allocated. In total, the NRNR allowed for one bed per 1,000 ha. At the current size of the NRNR this would correlate to 202 beds for the concessionaires. Additionally, there were allocated capacities for NaDEET (40 persons), two staff for each guest bed plus families, NRNR staff plus families, NRNR guests and researchers and the landowners' homesteads for their family (six members) plus staff (two).

4.2.2 Financial performance

None of the concessionaires provided documents with financial or economic data but documents of the NRNR, such as annual financial statements, offered sufficient insight into distribution of revenues and expenditures to manage the PPA.

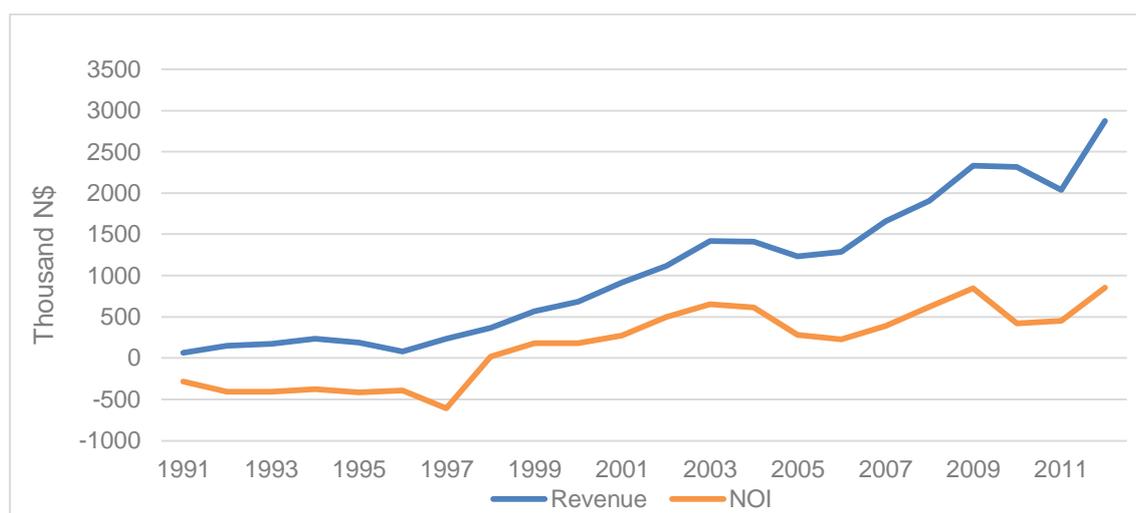


Figure 4.6: Revenue and NOI of the NRNR, 1991 – 2012

Historical revenue and net operating income (NOI) development are demonstrated in Figure 4.6. According to the data the NRNR was financially self-supporting since 1998 when NOI became positive. In 2012, the reserve earned N\$ 2,868,900 (€268,529) in revenues. After the deduction of cost of sales of N\$ 318,461 (€29,808) and operating expenditures of N\$ 1,698,937 (€159,021) an NOI of N\$ 851,502 (€79,700) remained. The NRNR recorded a surplus for the year 2012 of N\$ 541,974 (€50,783) after the further allowance of non-operational items of N\$ 309,528 (€29,003)²². Surplus was usually allocated to dedicated reserve funds in order to finance game re-introduction,

²² All figures were calculated using an average exchange rate of 0.0936 for the year 2012 (see www.oanda.com).

land acquisition, satellite monitoring collars or else. As a non-profit association the NRNR does not have to pay income taxes but agricultural land taxes.

A breakdown of cumulated revenues, accordingly to revenue sources, from 1991 until 2012 as well as a breakdown of revenues of the year 2012 are illustrated in Figure 4.7. Cumulated figures are consistent with the revenue breakdown of 2012 and one can observe that concessionaire C1 was the most important source of revenue for the NRNR. *Other income from tourism* was derived for instance from scenic flights and through a collaboration with the N/a'an ku sê Foundation which assisted the NRNR to re-introduce cheetahs and leopards in the area utilizing volunteer tourism. The item *Other resource utilization* refers to revenues from the rental of NRNR accommodation, e.g. at the NRAC or Keerweder, the sale of wildlife, meat and hides or film shootings and royals.

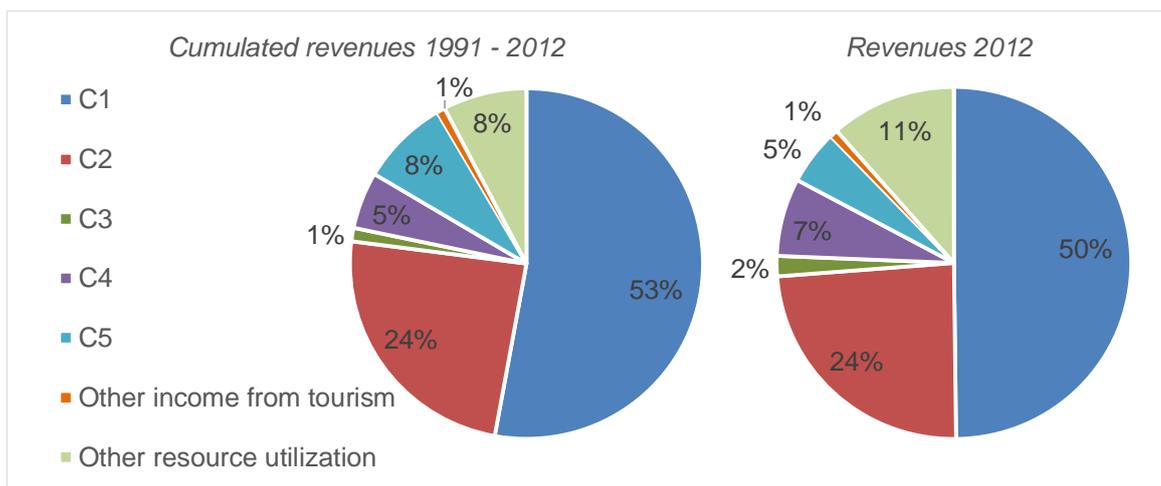


Figure 4.7: Breakdown of revenues of the NRNR

4.3 Socio-economic aspects

4.3.1 Staff development

Reported and estimated²³ numbers of NRNR and concessionaires staff indicated that 186 staff were employed due to current activities on the NRNR. These were more employees than would have been employed under farming as one interviewee S1 (see Appendix D.4.3) stated that on average three staff had worked on one farm in the area before purchase. Currently, the NRNR consists of 16 former farms. Hence, under farming 48 staff would be employed on the area of the NRNR.

²³ One concessionaire did not report number of staff. In this case, max. number of staff permitted under NRNR regulations was assumed.

No concessionaire provided staff statistics but concluding from what was observed during research almost all employees are of Namibian origin. Only three concessionaire employees were knowingly of foreign origin. There is no knowledge about numbers of possible dual citizenships. Informal interviews revealed that some Namibian ethnic groups were preferred over others for employment, e.g. Ovambo over Nama. NRNR employees were primarily local Nama (eight), two Rehoboth Baster and two White (one nationalized).

In general, it was observed that ownership and higher management level positions were held by Whites and lower management employees were of other ethnoses but White. Nevertheless, tendencies of structural change were recognized at middle management levels.

Results for the category *Staff development* of the questionnaire for the concessionaires are summarized in Figure 4.8. Deficits were missing internship or apprenticeship positions, staff development policies and appraisal systems to define training needs. Furthermore, the integration of the sustainability principles could have been more integrated into the employees' private lives (e.g. more signage, use of biodegradable detergents, practices of waste treatment) as they live on the reserve with their families.

4.3.2 Communal support

To integrate local communities in the tourism development at the NRNR is difficult in general due to the specific conditions of Namibia's land distribution, its sparsely populated South and the NRNR's remote situation. There are only a few municipalities scattered throughout the South of Namibia; the rest is vast private land with no public life. Farm names and administrative road numerations are usually used for coordination where city and street names are commonly applied in denser populated areas. The closest community to the NRNR is Maltahöhe which is about 150 km away. Sesriem, 80 km to the North of NRNR, grows with increasing tourism and might represent a

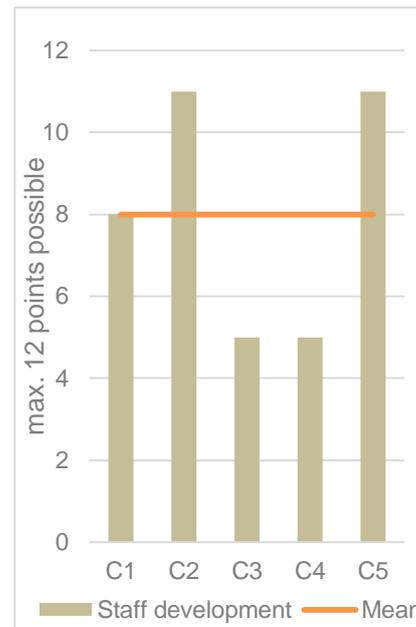


Figure 4.8: Summary of results for staff development among the concessionaires

municipality in the future as tourism is expected to further increase since the Namib Sand Sea became a UNESCO World Heritage Site in 2013.

However, the NRNR and associated stakeholders started different projects to support regional communities in the broader area in order to foster local development. Especially projects on all levels of education have been focused by the NRNR concessionaires. As described in chapter 3.2.5, Namib Sky targets pre-school level with their Little Bugs pre-school for children at the age of two to five years. NaDEET aims at all educational levels and Wolwedans serves the vocational training sector with the NICE and the Desert Academy.

The NRNR further supported the regional development by being a member of the GSNL. The GSNL project primarily focused on the Sossusvlei and Namib landscape co-management but as well included the infrastructure development of the region in order to accommodate increasing tourism needs. For example, the establishment of a police station at Sesriem was organized through the GSNL for which the NRNR donated the patrol car. Several reservist police officers were recruited in the area, including the current NRNR Control Warden, to increase safety measures and prevent poaching. A summary of communal support projects through the NRNR, concessionaires and affiliates is given in Table 4.5 below.

Stakeholder²⁴	Community support
NRNR	<ul style="list-style-type: none"> · Support NaDEET as a non-paying concessionaire on the reserve · Support students via the NRAC · Offer internships to Namibian students
NRCF	<ul style="list-style-type: none"> · 30 % of funds raised go to NaDEET · 30 % go to the NRAC to support visiting researchers · 40 % go to other environmental and conservation-related projects
Wolwedans / Wolwedans Foundation Trust	<ul style="list-style-type: none"> · Support education of Namibians by offering vocational trainings in the hospitality industry through NICE and the Desert Academy · Support the NRCF by selling Fairy Circles via the Adopt-a-Fairy-Circle program · Support NaDEET additionally on occasion with monetary

²⁴ As mentioned in chapter 2, concessionaires were not coded where information was publicly available (i.e. online). The use of coding, where information about the concessionaires was publicly available, would make the coding invalid as information, which was not publicly available, could subsequently be decoded using the publicly available information.

	and material donations
SDL	<ul style="list-style-type: none"> · Maltahöhe Children Feeding Program · Support NaDEET on occasion
Tok Tokkies	<ul style="list-style-type: none"> · Percentage of merchandise sales goes to NaDEET · Increased attention to local sourcing along value chain
Family Hideout	<ul style="list-style-type: none"> · Serve local tourism market · Promote NaDEET
Namib Sky / Namib Sky Community Trust	<ul style="list-style-type: none"> · Little Bugs pre-school project · In the planning: extension of pre-school; maybe in the long run addition of primary school
NaDEET	<ul style="list-style-type: none"> · Offer environmental education for Namibians (primarily children) · Support the Namibian school curricula practically · Approach schools and communities all over Namibia but primarily in the Hardap region · Allocate funding to those schools which cannot afford the program fee
GSNL	<ul style="list-style-type: none"> · Regional development, e.g. police station at Sesriem, co-management of landscape and conservation · In the planning: organization of waste management and school bus to Little Bugs pre-school

Table 4.5: Summary of community projects of the NRNR and affiliates

Additionally, it should be mentioned that the NRNR joined the farmers union in order to engage in an active dialogue with direct and indirect neighbors of the reserve and discuss actual and potential land use conflicts or other issues.



Fences are threats to wildlife. Left: dead springbok caught in fence (Photo courtesy of Stephanie Haberl); right: a potential threat for driver and springbok – springbok between fence and road just behind a curve (Photo by Judith Schulze)



Off-road driving is strictly forbidden in the NRNR (Photo by Judith Schulze)



Road signs in the NRNR; left: a warning sign refers to the removed fences; right: basic rules at entry (Photos by Judith Schulze)



Car accidents due to inappropriate driving are a common cause of death in Namibia.
(Photos by Judith Schulze)



Field trip with the wardens; left: official NRNR company car; right: Vanessa and Quintin Hartung
(Photos courtesy of Stephanie Haberl)



Wildlife management at NRNR; left: Campout at Tok Tokkie Trails' Horseshoe Camp to monitor a leopard's behavior who had been visiting the camp recently (Photo courtesy of Stephanie Haberl); right: camera trap by a waterhole (Photo by Judith Schulze)



Waterholes for wildlife (Photos by Judith Schulze)



Faces of the NRNR; left: Quintin Hartung, Control Warden, and Vanessa Hartung, Environment & Research Warden; right: Nils Odendaal, CEO (Photos courtesy of Stephanie Haberl)



Faces of the NRNR; left: Peter Woolfe (Oom Piet), Resource Management Ranger; right: Elton's brother Daniel (Photos courtesy of Stephanie Haberl)



Solar energy is widely used at NRNR. Left: solar park at Wolwedans; right: battery storage at Wolwedans (Photos by Judith Schulze)



Separation of recyclable waste into the four categories paper, glass, tin and plastic; left: staff village at Wolwedans; right: Family Hideout campsite (Photos by Judith Schulze)



Water tanks and pumps at Wolwedans (Photos by Judith Schulze)



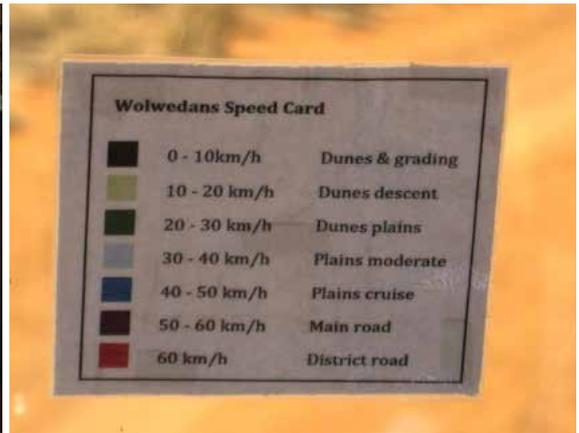
Vegetable gardens at Wolwedans (Photos by Judith Schulze)



Left: herb garden at Wolwedans; right: laundry at Wolwedans. All detergents used are biodegradable. (Photos by Judith Schulze)



Biodegradable toiletries; left: at Wolwedans; right: at Sossusvlei Desert Lodge (Photos by Judith Schulze)



Left: The *Consol Solar Jar* is sold to tourists in the curio shop at Sossusvlei Desert Lodge. The sales revenues from Solar Jars go to a school food project in Maltahöhe. Right: *Wolwedans Speed Card* inside windshields of all safari vehicles at Wolwedans (Photos by Judith Schulze)



Safari vehicles at Wolwedans (Photos by Judith Schulze)



Right: airstrip at Keerweder; left: Some kitchen appliances around the NRNR, mostly stoves but also fridges, still ran on gas. (Photos by Judith Schulze)



Paved fueling stations to prevent ground contamination; left: NRNR Senior Field Ranger Abraham Tsaobeb and Field Ranger Elton Vries fuel a car at Keerweder (Photo courtesy of Stephanie Haberl). Right: fueling station at Wolwedans (Photo by Judith Schulze)



Domestic animals at NRNR; left: horses of NRNR staff; right: pigs to eat leftovers at Wolwedans (Photos courtesy of Stephanie Haberl)



Photo from &Beyond website advertising quad biking at the Sossusvlei Desert Lodge in the NRNR (AND BEYOND HOLDINGS (PTY) LTD., n.y.b)



French drain at Family Hideout; left: fenced-in French drain; right: warning sign
(Photos by Judith Schulze)



Left: partly detached wind wheel at the Family Hideout waterhole pumping station which is now powered by solar energy; right: geyser at the Family Hideout campsite
(Photos by Judith Schulze)



Left: shielded lamp to avoid light pollution at the Family Hideout campsite; right: Little Bugs pre-school at Namib Sky Balloon Safaris (Photos by Judith Schulze)



Little Bugs pre-school at Namib Sky Balloon Safaris (Photos by Judith Schulze)



Little Bugs pre-school at Namib Sky Balloon Safaris (Photos by Judith Schulze)



Environmental information center at NaDEET (Photos courtesy of Stephanie Haberl)



Solar cooking at NaDEET; left: solar cooker; right: solar ovens
(Photos courtesy of Stephanie Haberl)



Energy-saving handy crafts at NaDEET; left: lamp made of coke bottle; right: old papers transformed into firebricks for campfires (Photos courtesy of Stephanie Haberl)



Hands-on environmental education at NaDEET; left: self-made solar water heater; right: Children at NaDEET learn about their water usage with painted tanks in the bathrooms. (Photos courtesy of Stephanie Haberl)



Increasing mass tourism at Sossusvlei; left: rental cars; right: tractor trailer load of tourists (Photos by Judith Schulze)



Opposing land uses on adjacent farms; left: livestock farming on Wereldsend; right: private nature conservation on Neuhof (Photos courtesy of Stephanie Haberl)



Farming on close-by farms; left: calves at Vergenoeg (Photo by Judith Schulze); right: Karakul sheep at Vergenoeg (Photo courtesy of Stephanie Haberl)



Farming on close-by farms; left: Damara sheep and goat at Namtib; right: shepherd and Anatolian shepherd dog guarding sheep and goats at Namtib (Photos courtesy of Stephanie Haberl)



Mode of travel for the research (Photo courtesy of Stephanie Haberl)

5 Conclusions and discussion

5.1 Positive contribution of PPAs to private conservation

Concluding from the results of the investigation of the NRNR, the research question if private conservation, which is financed through tourism, can actually foster valid results can be answered positively. Although some deficits were observed, the NRNR performs well in its conservation work and definitely contributes to Namibia's conservation landscape. Some details of the findings are discussed in the following.

5.1.1 Successful conservation work

The area of the NRNR recovered well after vast degradation due to overgrazing by livestock, several droughts and the heavy poaching during the 1970s and 80s. Early game censuses of 1989 (see Figure 4.1) compared to the latest of 2013 (see Table 4.3) show a tenfold increase of oryx and a fivefold increase of springbok, the two most common mammal species in the NRNR.

With the removal of over 1,500 km of fences, the NRNR reduced one of the major threats to wildlife since animals do not only get stuck in fences but they also prevent the natural East-West migration routes of the animals. These migrations are essential for the survival of wildlife as they evolved due to local rainy seasons and the wildlife moves with the water. When the area was split into farms these traditional migration routes were interrupted. With the removal of fences on the NRNR, but also to some neighboring farms (e.g. Geluk and Excelsior), these migrations could be partly restored which can be observed in the game census figures from 2005 to 2013 in Table 4.3. Here, fluctuations in the numbers of game and even decreases over the last years for some species, e.g. springbok, kudu or steenbok, can be observed. These should not be interpreted as indicators of failed conservation. Several species have been re-introduced to the area. Some of them stay on the NRNR and settle well while others migrate to adjacent areas due to grazing and rainfall. Figure 5.1, for instance, displays the population development of oryx and springbok from 2005 to 2013. A jump of springbok population can be observed in 2006, 2008 and 2009. Those were years of above average rainfall which may have caused more springbok to move to the NRNR and to reproduce.

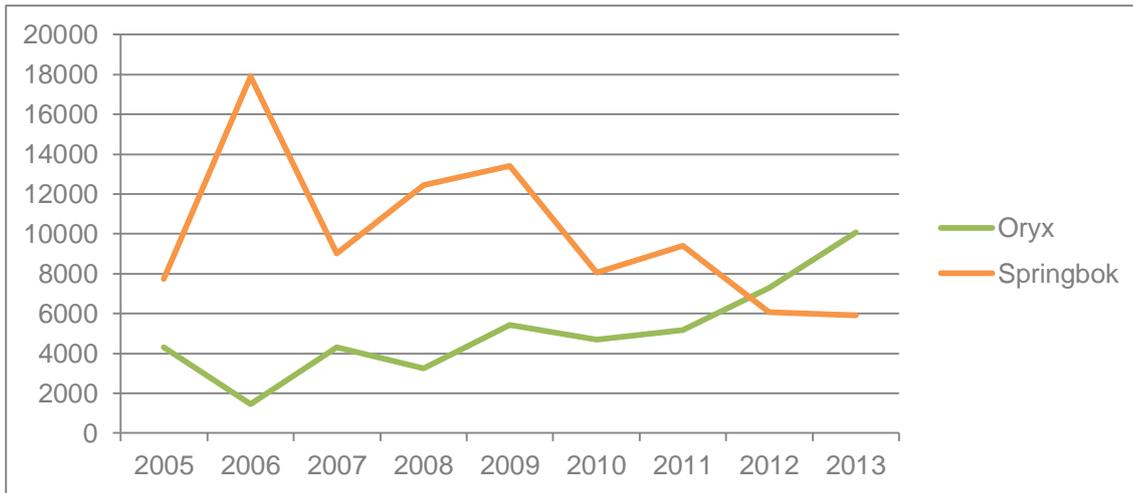


Figure 5.1: Population monitoring of oryx and springbok on the NRNR, 2005 – 2013 (see game count reports of 2012 and 2013; figures from 2009 onwards include Pro-Namib Conservancy)

In general, fluctuations in wildlife populations in the NRNR are primarily rainfall driven but the re-establishment of natural food chains can play a role in the population development, too. Hence, some population fluctuations in the game censuses should also be interpreted as indicators of a balancing ecosystem that is being re-established. The re-introduction of additional cheetahs and leopards to the region may further influence the reduction in especially steenbok (see Table 4.3) and springbok as they are easier prey for the predators than oryx for instance. In Figure 5.1, an increase of oryx is observable in spite of years of low rainfall while numbers of springbok decreased.

Apart from fluctuations in single species, the overall biomass on the reserve is also of importance to observe. Figure 4.2 reflects the biomass (measured in kilogram per hectare, kg / ha) development according to game censuses from 2005 to 2013. Biomass on NRNR during these years averaged at 10.04 kg / ha and a general increase can be observed with 13.3 kg / ha at last in 2013. Biomass fluctuations, like population fluctuations, are also due to food and water availability but should not exceed limits of carrying capacity of the land in general. Appendix A15 shows the carrying capacity for livestock in Namibia and indicates average figures of 4 to 9 kg / ha on the premises of the NRNR. As livestock is not as adapted to local conditions as wildlife, higher numbers of carrying capacity for indigenous wildlife can be assumed. Biomass figures of wildlife for the NRNR are another indicator that the area has recovered well from former degradation but should be monitored carefully in order to prevent overgrazing and excess of carrying capacity.

Biomass monitoring should be especially exercised with regard to water resources as there are mainly artificial water points for wildlife. Although the NRNR spreads over a vast area of 202,291 ha and migration routes could partly be re-established the reserve is not big enough to fully support the entire original ecosystem. Hence, artificial water points had to be established in order to supply wildlife on the reserve.

5.1.2 Deficits in resource monitoring and management

The case study of the NRNR also revealed deficits in resource monitoring. Especially water monitoring is insufficient on the reserve. Water levels at boreholes are only measured every six months but outtake and usage is not area-wide metered and monitored. Furthermore, concessionaires have obtained low scores in the water management category of the questionnaire, basically due to missing recorded monitoring. It seems plausible that more points could have been scored as some requirements should very likely have been fulfilled but could simply not be proofed due to insufficient or no monitoring systems in place. This is a true weakness to the reserve as it is located in a semi-arid area and the question about the origin of the groundwater was not satisfyingly answered. Answers were contradicting as they ranged from assurance of adequate groundwater resources and their sustainable utilization, over statements that origins of groundwater resources would be uncertain, to implications that groundwater resources are only limited.

In this study, it is concluded that the origins of the groundwater are not sufficiently known based on the findings of the Hydrological Mapping Project HYMNAM. CHRISTELIS & STRUCKMEIER (2011) state that in the broader area of the NRNR very little is known about the groundwater of the Naukluft. Exploitable groundwater resources in the Namib Desert occur due to alluvial aquifers which were created by perennial, ephemeral and fossil rivers but sufficient rain to refill aquifers only falls in some years. CHRISTELIS & STRUCKMEIER (ibid.) as well emphasize the relevance of water resource monitoring in a semi-arid country like Namibia by saying that "it is of crucial importance that groundwater abstraction volumes are known and measured, to avoid over-abstraction and environmental damage" (CHRISTELIS & STRUCKMEIER, 2011, p. 36).

Furthermore, deficits in waste management, as described under 4.1.2, are not consistent with conservation policies. The burning of wastes, especially plastics, pollutes the air

and minimizes the environmental quality although if incinerators are applied. It can further present a risk to infrastructure and humans, as the cause of the fire on Wolwedans in 2003 is assumed to have been burning waste that was scattered by the wind.

Moreover, the dumping of septage from septic tanks into the ground can cause hazards to the environment and thus is prohibited by law in other countries of the world (e.g. Germany and the USA). The aridity in the NRNR may decrease the hazardous risk considerably as water usually transports and distributes toxics and wastes via water ways into the environment. However, since the groundwater system impacting the NRNR is only insufficiently known, it should be refrained from dumping untreated septage into the ground, especially close to boreholes.

At last, the involvement of staff and families into a more holistic sustainability approach – not only on an occupational but also on a private level – is a rather underutilized aspect. The situation in the NRNR is one that other employers can only wish for as the staff resides on-site. This offers the opportunity to reach and involve employees on many more occasions and implement work ethics and resource management also in staff housing, such as the use of organic and energy saving products or the promotion of environmentally friendly behavior. One concessionaire already heavily limits the use of electrical appliances in staff housing in order to avoid noise and save energy but more could be done throughout the NRNR.

5.1.3 Financial self-sufficiency and management obstacles

The NRNR represents a vivid example for the economic efficiency of PPAs. As demonstrated in Figure 4.6, the NRNR is financially self-sustaining since the year 1998. In addition, the Namibian government benefits from income tax and value added tax (VAT). Although the NRNR, as a non-profit association, is exempted from income tax, the concessionaires pay income taxes as well as the employees who earn their incomes through the NRNR and the concessionaires. All concession activities together accumulate to almost N\$ 3 million VAT per year (see Appendix D1.4.3).

A weakness, though, could be determined by the way the NRNR is constituted and managed. The NRNR association was founded by multiple landowners who appoint the directors of the board and the chairman to manage the overall operations of the reserve.

Tourism concessions were given to diverse tourism operators, some of them hold the title to the land they operate on and some do not have land possessions. Furthermore, the conservation management of the reserve is executed by a third party, the NRNR. The NRNR employees are specialized in conservation, which can be an advantage but as well a disadvantage. On the one hand, the conservation experts are specialized which enhances the conservation quality and credibility. But on the other hand, the conservation experts have no full autonomy of decision over the land they manage. Although the constitution provides for a decision and management process in favor of the conservation management, as this is the purpose of the association, the final power over the land, however, lies with the landowner which can undermine the conservation management. This especially becomes apparent when the landowner is also the operator of the tourism business. In that situation economic interests may outweigh those of conservation. For instance, the Sossusvlei Desert Lodge is the only concessionaire who offers quad biking to guests among their activities. In general, this is not allowed on the NRNR but an individual agreement permits the use of quad bikes to that specific concessionaire who also holds the title to that part of the land where the quad biking is exercised. The NRNR does not truly have any leverage to hold against this practice. This situation is as well difficult to justify when negotiating about exemptions with the other concessionaires, especially with those who own the land they operate on. From the point of view of the landowner and operator this situation is difficult. He cannot freely decide over his own land as he could in another constellation.

A different approach for the management of a private game reserve can be observed at the example of the Sabi Sand Game Reserve in South Africa. The Sabi Sand has some parallels to the NRNR: The game reserve is adjacent to a bigger national park, the Kruger National Park, livestock farming has also failed in the region and it is constituted of several landowners. The Sabi Sand occupies approximately 65,000 ha of land and is managed as one conservation body under a constitution. But in the case of the Sabi Sand all land owners are the conservation initiators. Under this constellation, landowners jointly manage where there are efficiencies of scale but remain to individual management where events lack returns to scale (SCHMIDTZ & WILLOTT, 2012). This avoids some of the potential conflicts that may inherit with the constitution of the NRNR.

5.1.4 Positive socio-economic impact with focus on education

The reserve's conservation efforts are an example of alternate land use to farming in the area and the NRNR has created positive social impacts. As demonstrated under 4.3 the NRNR positively impacts the greater socio-economic environment of the area directly through their engagement via the GSNL project and indirectly via their paying and non-paying (NaDEET) concessionaires. The contributions to the GSNL project, like the donation of the patrol car for the police station, help to develop the region and offer better conditions for the local population and increasing tourism which in turn brings more capital to the area. The indirect contributions via the concessionaires' individual community projects impact an even broader area. Especially the additions across all educational levels are of significant value.

Only primary education is free in Namibia and extra costs for books and uniforms are imposed on the parents. Due to Namibia's remoteness children in many regions go to boarding schools, which causes additional charges for accommodation and board. Furthermore, public schools' educational objectives do often not meet optimums and children are not well prepared for further education. Hence, underprivileged children growing up under poor conditions are especially disadvantaged and are at higher risk to not complete school. Schools in some areas of Namibia as well suffer from insufficient food provisions for the children. Bad nutrition in children has been correlated to underperformance in school (see THE WORLD BANK, 2006 and IFPRI, 2002). At last, Namibia lacks in its vocational training system to guide occupational education. Vocational training courses levy fees and offer too little on-the-job experiences (see Appendix D1.2.12).

Here, the educational provisions of the NRNR concessionaires offer essential support. The Little Bugs pre-school is free of charge; completely financed privately and through donations. It offers a chance for local employees to place their children into day care close by including board for the time they are at pre-school. The schedule and education programs at Little Bugs exceed those of public pre-schools and prepare children well for further education (see Appendix D1.2.9). NaDEET offers environmental education at several levels and supplements the objectives of Namibian school schedules. With grants for schools in need and donation programs, NaDEET reaches out to all schools in the Hardap region and beyond. As of fall 2013, NaDEET accomplished to have hosted all schools of the Hardap region at least once but one. The Maltahöhe School Feeding

Program of the Sossusvlei Desert Lodge targets the importance of sound nutrition to school children for improved learning conditions. Finally, Wolwedans successfully implemented a private vocational training school with NICE and the Desert Academy with a similar approach as the German apprenticeship system takes. Courses are accredited by the NTA and include on-the-job training at the NICE restaurant and at Wolwedans. Tuition fees for the courses are supported by a salary to the trainees in return for the work they deliver at the establishments. A summary of contributions by the concessionaires is given in Table 5.1 below.

Concessionaire	Educational level					
	Pre-school	Primary education	Secondary education	Tertiary education	Vocational training	Adult education
Little Bugs	X	<i>(planned)</i>				
NaDEET	X	X	X	X		X
Wolwedans					X	
SDL		X				

Table 5.1: Summary of contributions to education by the concessionaires

Conservation and tourism in the NRNR are able to provide jobs for a greater number of people than could be employed if the land was strictly used for agriculture. As mentioned under 4.3.1, the NRNR offered employment to approximately 186 staff in the field of conservation and tourism which is substantially more than the estimated 48 under agricultural use. Furthermore, salaries in the tourism industry are higher than those in the agricultural sector. As employment increases and livelihoods improve, more income is generated from this land use than any other economic activity in the surrounding area. It is further important to emphasize the third-party industries which are supported as a result of conservation and tourism land uses, such as contracts with local businesses to offer services such as vehicle maintenance, provision of supplies and construction (ODENDAAL & SHAW, 2010).

5.1.5 Issues of social and economic inequality

However, in spite of the increased employment numbers, staff patterns in the NRNR, of Whites representing higher management bodies and business owners and black ethnic groups representing lower employment levels, still reflect social and economic inequality in Namibia. Structures of racism that were established during Namibia’s colonial history and Apartheid regime still extent into the democratic present as advantages and disadvantages are inherited over generations. To date, the 6 % of white

population still owns 42 % of Namibia's land (TAPIA GARCIA, 2004). Furthermore, those holding economic power have better conditions to educate their children, care for their families and extend economic activities whereas the poorest in society have little chances to access quality education and escape the vicious cycle of poverty. Although Namibia today is a democracy other ethnic conflicts apart from the colonial one are apparent in the population on closer examination. For instance, since Ovambo had led Namibia's revolution for independency they constituted the ruling party which holds the vast majority of political offices. Ovambo as well have higher economic power compared to other ethnic groups than Whites and are preferred over other ethnos for employment (see Appendix D1.2.13).

Another observation made, was that landownership in the NRNR lies with the white population. Landowners are either private or legal entities such as c.c. or Pty Ltd. corporations. Some of the landowners utilize their land for holidays or weekend vacations but all landlords are so-called absentee landlords and do not rely on the property to generate income except for those who operate tourism businesses on their property. Fact is, however, that shortly after its independence Namibia held a land conference in 1991 and launched a land reform in order to remedy for colonial injustice and to redistribute land from the wealthy white population to the underprivileged population as part of the constitutional principle of affirmative action. A very important point of the land reform is the expropriation of foreign and absentee landlords. Furthermore, a law gives the state the preemptive right on agricultural farm land for sale according to the *willing buyer – willing seller* principle. WOELLER (2005) depicts that during the first eleven years of its independence, from 1990 to 2000, a total of 3,146 land transactions took place in Namibia but only 12 % of land transactions involved Blacks. White buyers were involved in one third of transactions and another third of transferred land was not made available to the market at all as the land reform does not include donations or the land transfer due to the sale of businesses. A considerable number of white farmers converted their businesses into c.c., of which they mostly were the principle owners, and transferred the land title to the business. As mentioned, c.c. offer operational benefits, such as the sale of business shares without touching the preemptive right of the state, but as well tax benefits.

Looking at the ownership constellation of the NRNR in consideration of these facts, the assumption suggests that these kinds of land transactions have been practiced partly by

former or current landowners as well. Although these practices are perfectly conforming to the law, they undermine Namibia's attempts to correct for social and economic justice.

5.2 Ecotourism: an adequate tool to support private conservation

Judged by its impact the example of the NRNR supports the employment of tourism to maintain private conservation projects. Most appealing is its sound financial management which accounts for the observations that ecotourism is the most popular revenue option used by known private protected areas worldwide (LANGHOLZ, 2010; see chapter 1.2.1.) According to LANGHOLZ (2010), the NRNR also fulfills one important key to success by offering a wide variety of activities for tourists. It further has been proven that ecotourism is more lucrative compared to alternative land uses of grazing and agriculture. In the case of the NRNR, the tourism concessionaires do not only financially support the PPA but as well assist in the conservation and resource management. Examples include assistance with wildlife monitoring by reporting sightings to a common database, with the annual game census and with the maintenance of the water supply infrastructure. The tourism concessionaires furthermore promote the use of environmental friendly technology and practices to both tourists and employees. Especially the utilization of solar energy is widely practiced in the NRNR which reduces the carbon footprint immensely and has the additional advantage of noise avoidance as the region is not connected to the national grid network and thus energy would conventionally be produced using generators.

However, on the attempt to classify the tourism practiced in the NRNR as ecotourism or sustainable tourism, some shortcomings become apparent which can potentially pose risks to the conservation objective. In general, tourism in the NRNR complies with what distinguishes ecotourism from sustainable tourism: it is nature-based, it targets small groups, aims to educate the visitor and supports local biodiversity conservation. But due to the depicted deficiencies in resource utilization and monitoring tourism in the NRNR partly lacks to prove its sustainability in the first place. Especially with regard to prospected increasing tourism numbers for the region due to the UNESCO World Heritage listing of the Namib Sand Sea, this shortfall poses a major risk as more stress will be put on resources in the future (see Appendix D1.4.2). With regard to increasing tourism numbers the debate about hard and soft ecotourism arises. The high quality but low impact tourism in the NRNR is clearly targeted at an elite that can afford the upper

market price categories. For years, the region around the Sossusvlei has seen little numbers of tourists as it is remote and cost intense to visit, especially for visitors from outside southern Africa. Hence, tourism – particularly early tourism, when only the Wolwedans Dune Camp existed – in the NRNR at least once classified for hard ecotourism. But as arrival numbers increased and more tourism operators established in the region, tourism started to convert into soft ecotourism. As highlighted in chapter 1.2.4, this can entail disadvantages for the NRNR. In the first place, the risk of shallow sustainability practices increases with higher quantities as the protection of natural resources could be neglected in view of potential profits. The limitations of beds already had been lowered from one bed per 2000 ha to one bed per 1000 ha in the past. And with regard to its current resource monitoring the NRNR should only cautiously deal with increasing arrivals.

5.3 Underutilized potential of ecotourism certification

The investigation of the NRNR mirrored general perceptions of quality assurance and certification in ecotourism. Eco-labels have the potential to serve as proof of quality ecotourism, and moreover to improve ecotourism, but are connected with several constraints. Hence, the quality ecotourism certification uptake rates are also slow in the NRNR as, for instances, has been observed in the case of Western Australia (BLACK & CRABTREE, 2007b). Overall reasons are administrative and financial burdens as costs, time and paperwork are loaded on tourism operators but in return financial benefits are not necessarily existent. Interviewees during research further expressed that ecotourism labels are not prominent criteria for consumers when choosing their holiday destination. Although tourists show an interest in the environment and care for sustainability they do not involve labels into their decision process.

With regard to the EANA certification, criticism was voiced in particular that the criteria would not distinguish between the size of the respective tourism operator since it asks for usage per capita but does not take into account the total use of resources. Although the usage per capita is important in the consideration, the total amount cannot be neglected especially in vulnerable ecosystems. As the NRNR is situated in a semi-arid area and water resources are uncertain the size of a tourism accommodation indeed matters. A lodge or hotel with high numbers of beds is per se not sustainable in arid and semi-arid areas as these landscapes inherently have very limited capacities to sustain

life. This is not adequately reflected in the EANA criteria although they stress the environmental side very much.

Further criticism was raised with regard to the economic criteria of the EANA certification as they do not emphasize enough net benefits for the destination. Instead, tourism management in Namibia in general focuses too much on arrivals. One interviewee remarked that a majority of Namibian supplies are sourced from abroad and that tourism should rather engage itself in sourcing more locally from sustainable sources which could foster a greater positive impact on the Namibian economy and also on the environment.

Advantages in the EANA certification were seen in its potential to support marketing especially in the lower budget sector of tourism as the luxury sector often has to include certain standards to satisfy customer demand which do not support sustainable practices, such as air-condition and pools in arid destinations. Further, the EANA certification is seen by the NRNR management as a convenient instrument to govern tourism concessionaires' impact on the PPA as well as by the GSNL members to guide regional development as the certification would ensure a certain standard with its respective rating²⁵ and the certification program could be utilized to improve operator standards in the long run. Interviewees of tourism operations that already were certified or were in the certification process expressed that the most valuable asset of the certification program would be the learning effect about how to operate a tourism business sustainably as the application process presumes reliable self-monitoring.

Table 5.2 summarizes the advantages and disadvantages an eco-certification adheres to tourism enterprises.

Advantages	Disadvantages
<ul style="list-style-type: none"> · The application process for eco-labels supports self-monitoring · The participation in eco-labels holds the potential to foster improvements · The label supports marketing purposes if it appeals to target audience 	<ul style="list-style-type: none"> · The administrative and thus the financial burden are too high, especially for smaller enterprises as costs, time and paperwork are loaded on tourism operators · Eco-certification does not support marketing purposes if they do not correspond with target audience

²⁵ The EANA awards flowers according to performance in the evaluation process.

0% > 40%	≥ 40%	≥ 55%	≥ 70%	≥ 80%	≥ 90%
= no flower	= one flower	= two flowers	= three flowers	= four flowers	= five flowers

<ul style="list-style-type: none"> · Eco-labels can be useful for B2B in tourism as they help businesses to identify suppliers and operators who meet sustainability standards · Eco-labels can serve protected area management to identify responsible tourism operators · Eco-labels can be utilized by protected area management as preconditions for tourism concessionaires to operate in conservation areas 	<ul style="list-style-type: none"> · Consumer awareness of labels in tourism is low · Tourists require deeper knowledge of eco-labels in order to make adequate decisions · Labels have no influence on consumer attitudes · Eco-labels do not reflect the entire spectrum of sustainability (e.g. supply chain sourcing) · Labels only reflect a point in time but do not guarantee that the holder of the label consequently sticks to criteria · The label itself might not be reliable enough
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Table 5.2: Advantages and disadvantages of eco-certification

One serious disadvantage of ecotourism quality assurance and certification is the missing transparency of eco-labels. As a plethora of eco-certification programs has developed, even the most interested tourism consumer is challenged to keep an overview of the eco-label landscape. Furthermore, greenwashing is an issue, too.

5.4 Limitations

This paper aims to give a thorough overview of resource management and tourism standards in the NRNR. However, there are some limitations to the findings of this study. The results of the research are primarily based on information provided voluntarily by the organizations subject to the analysis. Concessionaire questionnaires were individually filled out or replied to by the concerned parties but one. No concessionaire provided supporting documents to the questionnaire. Hence, the information given could only be validated insofar as the degree of research measures described under chapter 2 allowed. Inconsistent data, if feasible, has been evaluated to the best possible knowledge gained throughout the research.

As the only organization, the NRNR provided numerous documents relevant for the research. However, some inconsistencies were recognized in a few documents such as insufficient data recording, revised game census numbers or visitation numbers that were derived from revenues instead of being reported by the concessionaires. Especially data of the early years of the reserve lack some information or are not in place at all. There were no documents available of the time period when the NRNR still was registered as the NamibRand Game Ranch Nature Reserve. Documents made available

for this research were all related to the time period when the NRNR already was registered as a non-profit association²⁶. The oldest document made available for this research was the *Articles of Association* of 2001. Financial data before the year 2006 were made available using rounded figures in a single Excel data sheet. In contrast, financial figures for the NRNR from 2006 onwards were taken from the annual financial statements of the reserve. All other organizations subject to this research were either closed corporations (c.c.) or proprietary limited (Pty Ltd.) companies. No relevant business data were publicly available for these businesses.

Since historical data about the reserve and the area were difficult to obtain only a status quo analysis was conducted within the framework of this study.

5.5 Summary

In order to assess if private and tourism-financed conservation can foster valid results current issues of PPAs, sustainable and ecotourism as well as their quality assurance through certification were reflected at the example of the NRNR, a private game reserve in the South of Namibia. The case study gave evidence that private conservation can effectively generate positive results of environmental protection while at the same time creating more jobs as compared to other land uses and contributing important community support to the destination area.

Conservation work of the last 20 years improved the local environment after heavy degradation and allowed major game populations as well as total biomass to recover from poaching in the 1970s and 80s. Concessions which were given to five tourism operations successfully help to finance conservation work and allow the private game reserve to be self-sufficient since 1998. Tourism in the NRNR further satisfies socio-economic aspects of sustainability through a variety of community projects which predominantly target all levels of education in Namibia from pre-school to adult education and vocational training.

On the contrary, the case study revealed deficits in the resource monitoring and management of the reserve. Water usage is insufficiently monitored especially in spite of uncertain resources in the area. However, the NRNR management was aware of the deficit in water monitoring and said they would target the development and

²⁶ A non-profit association or *incorporated association not for gain* under Section 21 of the Companies Act of 1973 must present their audited annual financial statements at the AGM.

implementation of a water monitoring system in the long run with involvement of the concessionaires in the reporting scheme. Further, elements of waste management as well as septage treatment were not appropriate to a conservation optimum in all cases and require attendance. A possible threat to the reserve might be inherited in the multiple landowners as it requires a joint commitment to the NRNR association to succeed in future conservation work which would be put at risk if one or more landowners decide to break with the reserve. Lastly, potentials of NRNR and concessionaires' staff development seemed not fully tapped although extraordinary opportunities exist since staff also lives on-site of the reserve.

The case study indicated as well that external quality assurance is of essence in private conservation to not only ensure visitors of its proper management but as well to assess the own performance and encourage and steer internal improvements and development. An issue with quality assurance and certification in ecotourism is the heterogeneity and thus the lack of transparency as well as accountability of certification systems. An effort to provide remedy to this shortfall is the establishment of a global accreditation system which is currently developed by the GSTC.

Unexpected findings of the research were that governmental incentives to foster the establishment of PPAs can possibly contradict with measures of social justice as the participation in conservation projects can benefit landowners to bypass land redistribution schemes. For instance did BRINKATE (1996 as in LANGHOLZ, 2001) report that wealthy landowners in South Africa protected their lands from governmental land redistribution schemes by declaring them as conservation areas. A study by WOELLER (2005) revealed that since the introduction of the Namibian land reform white landowners increasingly established c.c. and transferred landownership to the business enterprises. This occurrence was not linked to conservation areas but indicate that land redistribution was also tried to be avoided by white landowners in Namibia. Hence, the Namibian legislative body should consider these possible side effects for future legislation.

Conclusively it can be said that the tourism in the NRNR so far managed to adequately finance conservation and offers socio-economic net benefits to the greater community. The findings of the case study represent a thorough status quo analysis of the NRNR and reveal strengths and weaknesses of the private reserve but as well opportunities and threats to it. At present and in the future, the NRNR should focus on advancements in

resource monitoring and management. Recommendations are given in the following which shall offer ideas for improvements to the NRNR management in order to continue to contribute net benefits to Namibia and the conservation community. As well, some general recommendations for the management of PPAs are given.

6 Recommendations

6.1 Recommendations for the NRNR

In consideration of the research outcomes, an introduction of area-wide resource monitoring, including binding agreements with the concessionaires to monitor resource consumption, is recommended. Most importantly water meters should be implemented at boreholes as well as on each point of usage. Additionally, a water monitoring system should be established and implemented. Monitoring water usage does not only help to understand resource consumption but may also lead to management improvements. Furthermore, resource monitoring facilitates reporting and thus helps concessionaires and the NRNR with certification processes and to promote their conservation outcomes.

The same goes for energy usage. As the procurement of combustibles should already be monitored for accounting purposes it should not be difficult to calculate monthly or per capita usages. If utilization of solar energy was additionally monitored and recorded, a more precise picture of energy usage could be drawn and lead to improvements in management, costs saving and higher certification.

A common regional system for the disposal of wastes is already approached and planned via the GSNL project. Plans include the collection of recyclable wastes with a truck that transports it to Windhoek where it will be fed into the recycling system. But more could already be done. First of all, no plastics and paper should be burned any longer on the reserve. As there are already trucks that leave the NRNR to bring all four categories of recyclable wastes (tin, glass, paper and plastics) to Windhoek they should be utilized by all parties to dispose of these wastes. Probably the number of trucks would have to be increased and costs would incur but burning wastes in a conservation area is unreliable. In another step, composting should be implemented on a broader range. It is already partly applied but could be extended, for instance, to the NRAC too. Further, the dumping of food left overs over fences to be eaten by wildlife should be terminated as it does not align with conservation ideas.

Lastly, alternatives for septage treatment, than dumping it close by, should be considered. One option would be the implementation of biogas plants although it could be that existing volumes of septage and organic wastes are not sufficient enough to break even the investment. But suitable ideas might be found in permaculture which could be explored as treated septage might be applied as organic fertilizers to existing vegetable and herb gardens.

Ideas and advice for the implementation of resource monitoring could be sought at NaDEET as this is what they practice very thoroughly on a day-to-day basis and demonstrate during their programs. The NRNR and concessionaires could work together with NaDEET on this matter. Furthermore, the practice of solar cooking could be more integrated throughout the NRNR. Constraints of the application of solar cooking in hospitality are coherent but solar cookers and ovens could be provided to the Family Hideout in order to promote it to self-caterers and raise awareness. Solar cooking should further be promoted among staff. As staff live with families on the NRNR there is a high potential for the suitable utilization of solar cookers and ovens. Additionally, solar cooking classes for NICE and Desert Academy students could be an opportunity to raise awareness among catering staff who may develop ideas and find ways to implement solar cooking in the day-to-day business of hospitality operations. A three-day or one-week workshop during classes would be conceivable.

Speaking of staff and staff family integration in more sustainable living behaviors the establishment of designated *biosphere reserve* zones inside the reserve may help with implementation. As the NRNR already works with zonation (see Appendix B2) and the GSNL suggests the application of IUCN zonation, this might integrate well. Biosphere reserve zones, according to the IUCN biosphere reserve category, would allow for model demonstration of sustainable integrated living. Staff and families could be motivated to adapt environmentally friendly methods in day-to-day business in their homes and to support their livelihoods. Examples could include solar cooking, gardening, septage treatment for garden fertilization, composting or the very limited farming of chicken for the recycling of food left overs. Here, as well, support could be sought via NaDEET as they could teach staff and families in sustainable and environmental friendly living methods. In this manner, greater acceptance could be fostered among staff and their families which in turn could pay-off in greater engagement and participation at work. Further, better educated staff and families might

take some of the ideas back home to their greater families, friends and communities. The demonstration of integrated living models might as well help to communicate nature conservation and sustainability to neighbors and the greater community.

In support of staff development the establishment of a BEE (black economic empowerment) project is highly recommended. This already has been suggested in the past and in the TEDP in 2008, 20 beds were allocated to a BEE campsite that should be run by the staff families but has not been realized so far. To give a concession for a campsite to staff families would allow them to support their livelihoods, educate them in business conduction and most importantly empower them economically which would also be a political signal of the NRNR.

Lastly, the utilization of the EANA certification scheme is recommended to the NRNR wherever possible as it supports the conservation idea of the NRNR, complements the marketing, but most importantly helps to sustainably manage resources. Even if not officially applied, the EANA certification criteria provide suitable guidelines for internal management.

6.2 General recommendations

On a global scale of PPA management, the application of the existing IUCN protected area categories is highly recommended as has already been proposed in the report of the 2007 Categories Summit in Spain. The application of the IUCN categories supports the evaluation and ranking of PPA in comparison to public protected areas. Furthermore, this would support the comparison of protected areas in general, no matter if private or public, and help governments to raise PPA inventories.

Of course, in order to apply the IUCN categories an overview of PPAs is needed. Therefore, the outcome of the global PPA census, recently carried out by the WCPA Private Protected Areas and Nature Stewardship Specialist Group of the IUCN, is of major importance to the subject of PPA management. The outcome will be presented at the Sixth World Parks Congress 2014 in Sydney, Australia.

Also very helpful in this regard will be the accreditation program by the GSTC which is supposed to launch in December 2014. Accreditation by a global authority has the potential to encourage trust in certifications for tourism entities as well sustainable destinations such as PPAs. It offers the clear advantage to lower barriers for tourists to

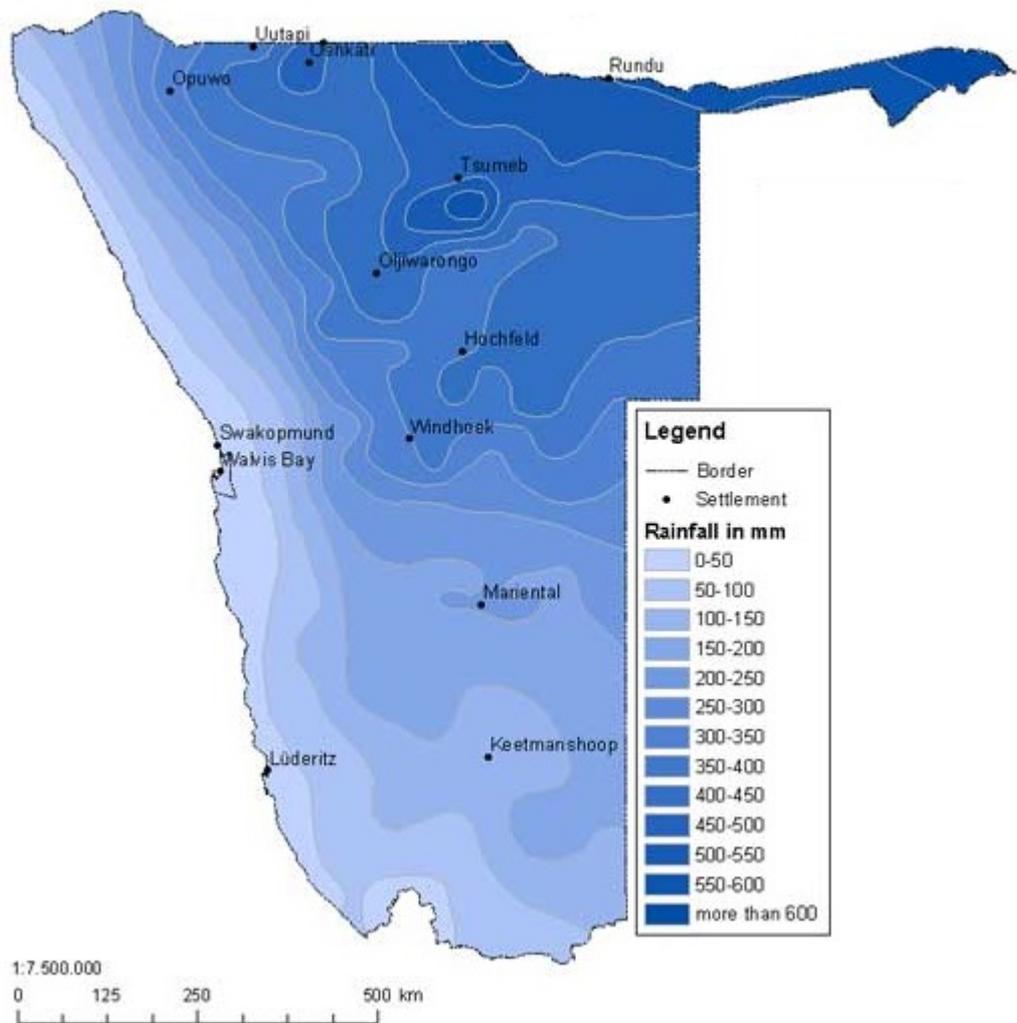
identify sustainable alternatives when planning their vacations and thus may help to establish sustainable tourism on a mainstream level in order to respond to challenges of the growing tourism industry.

APPENDICES

A. Atlas of Namibia

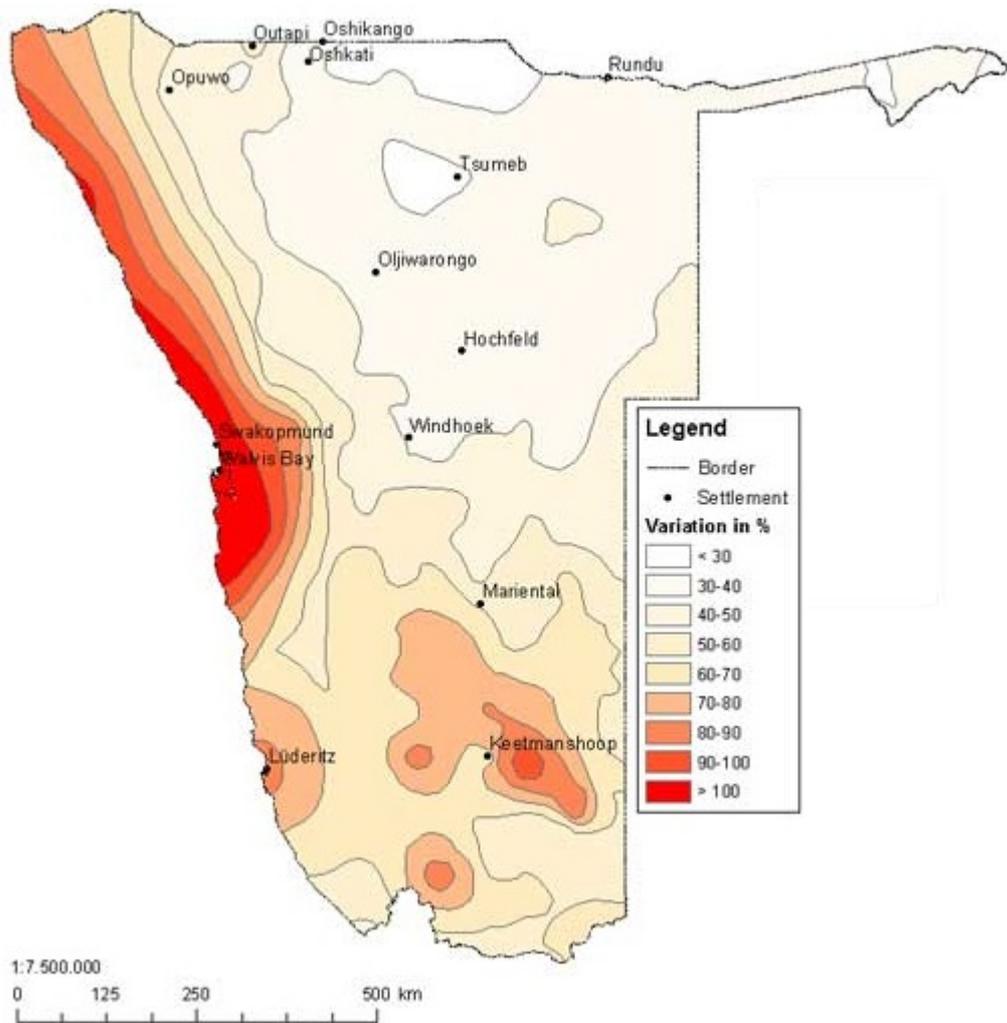
Climatic conditions

Appendix A1: Average annual rainfall in mm



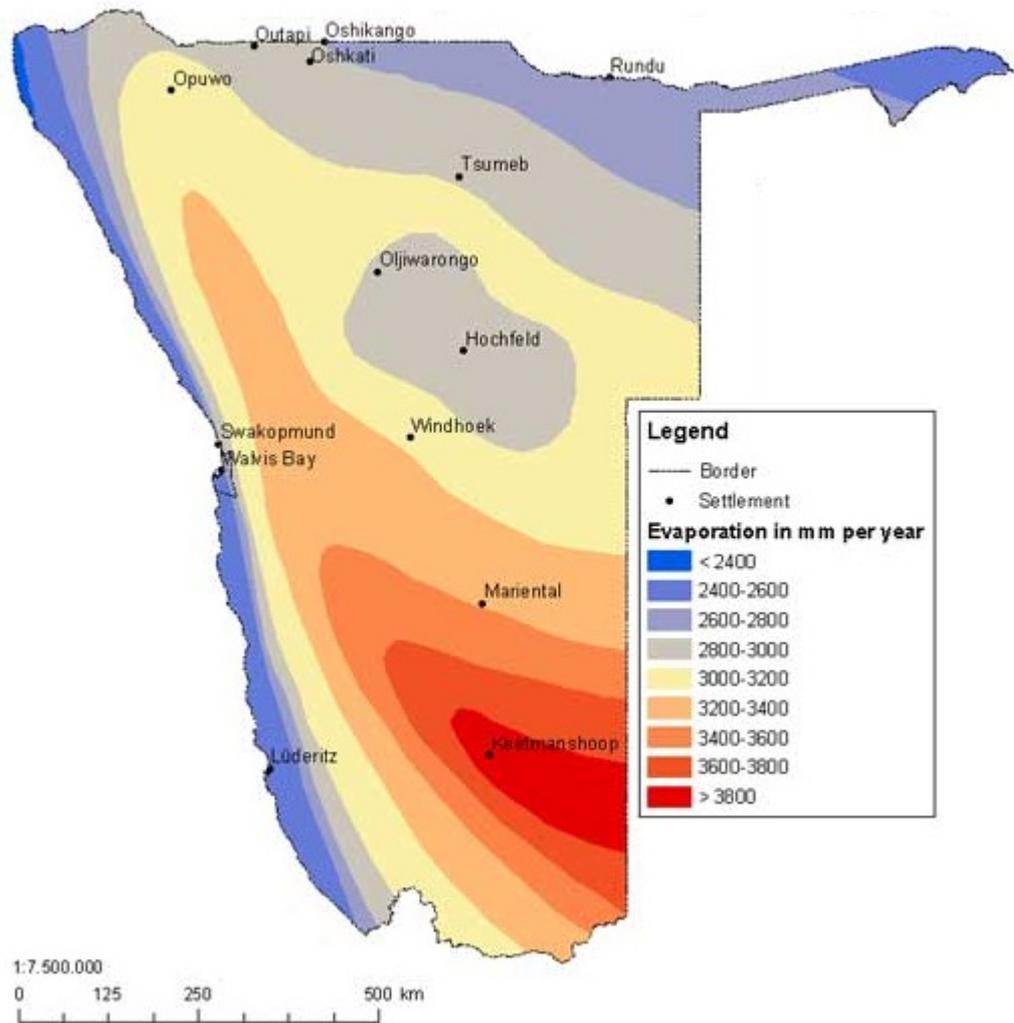
(UNIVERSITY OF COLOGNE, 2002a)

Appendix A2: Variation in annual rainfall in percent



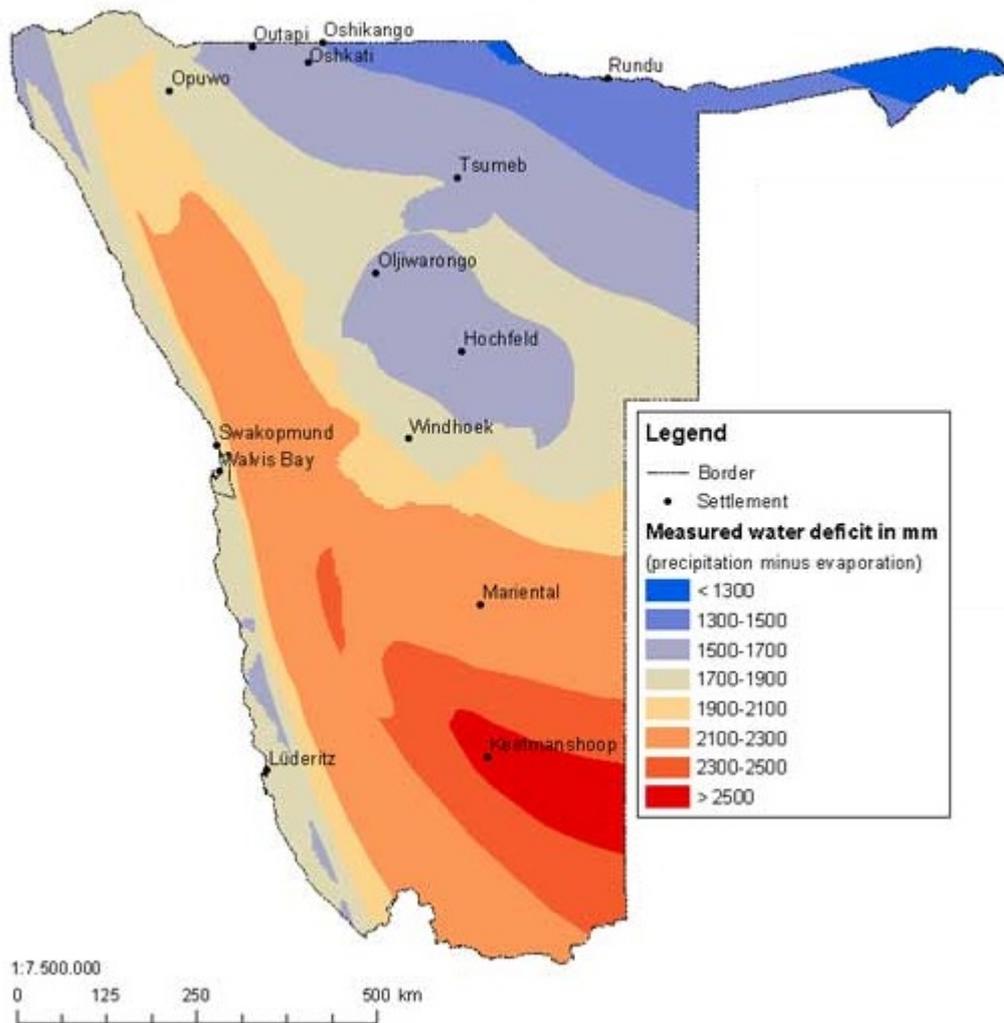
(UNIVERSITY OF COLOGNE, 2002a)

Appendix A3: Average rates of evaporation per year in mm



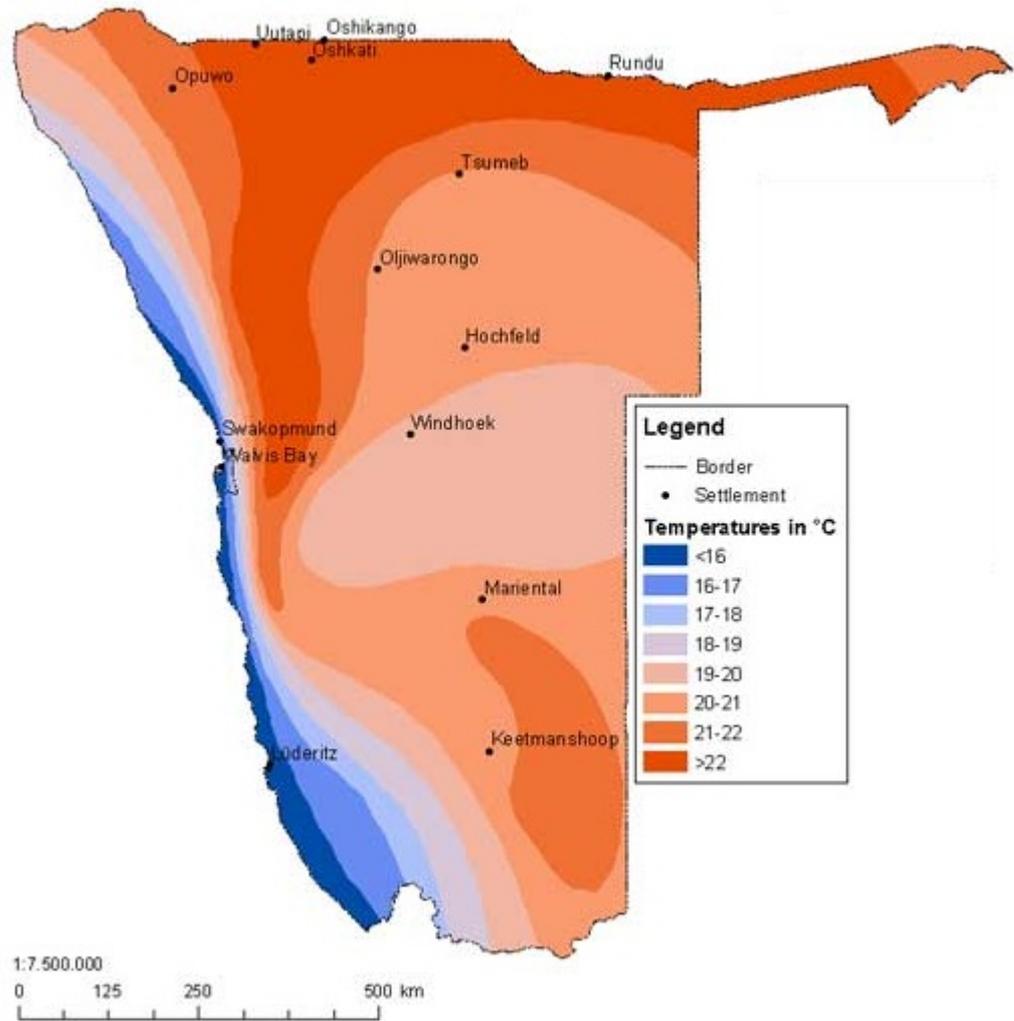
(UNIVERSITY OF COLOGNE, 2002a)

Appendix A4: Measured water deficit in mm (precipitation minus evaporation)



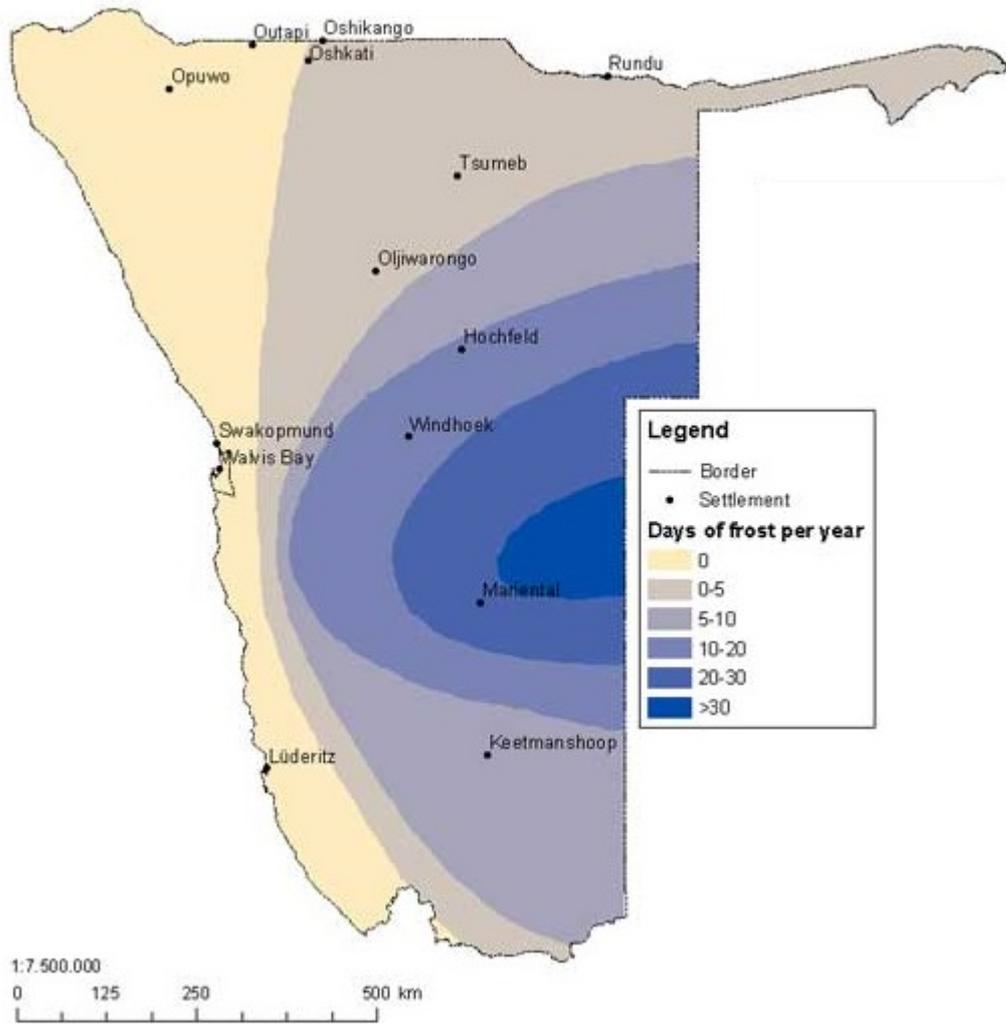
(UNIVERSITY OF COLOGNE, 2002a)

Appendix A5: Average annual temperatures in °C



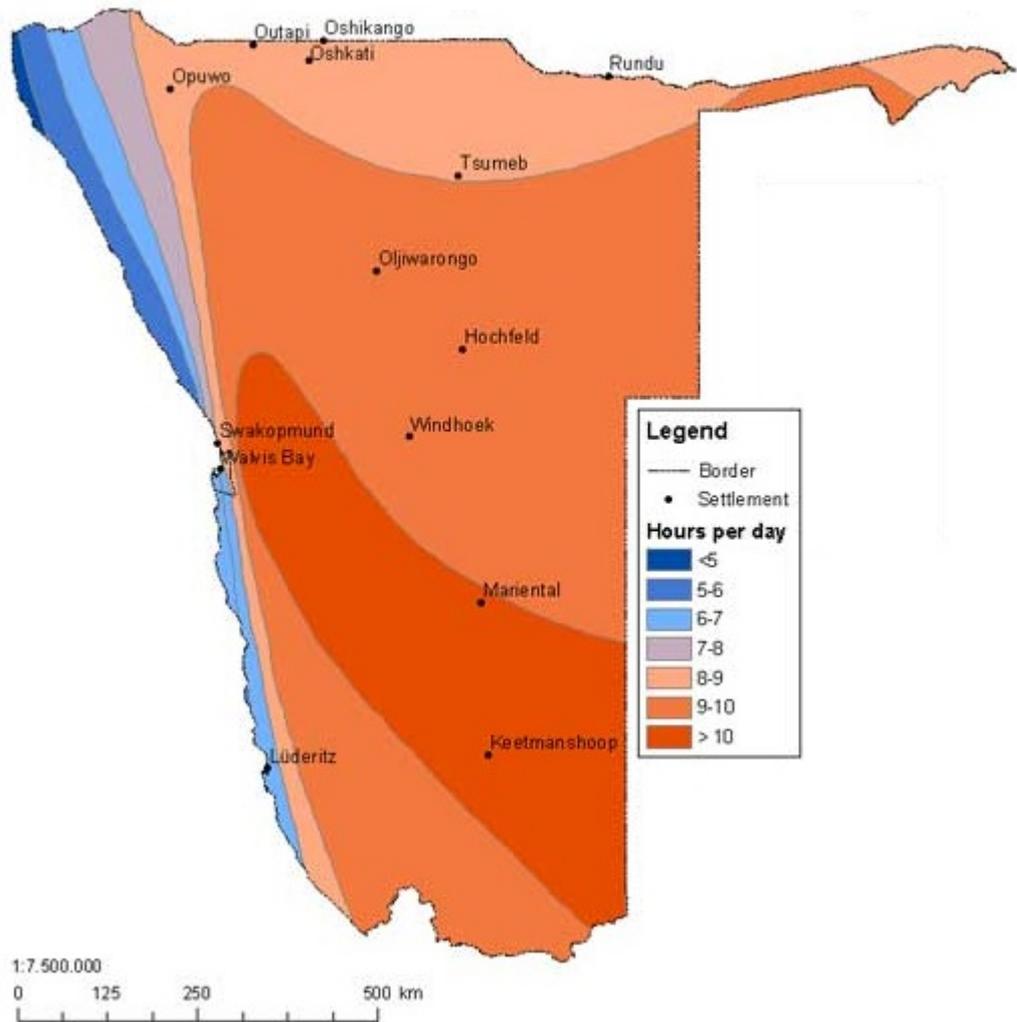
(UNIVERSITY OF COLOGNE, 2002a)

Appendix A6: Average number of days of frost per year



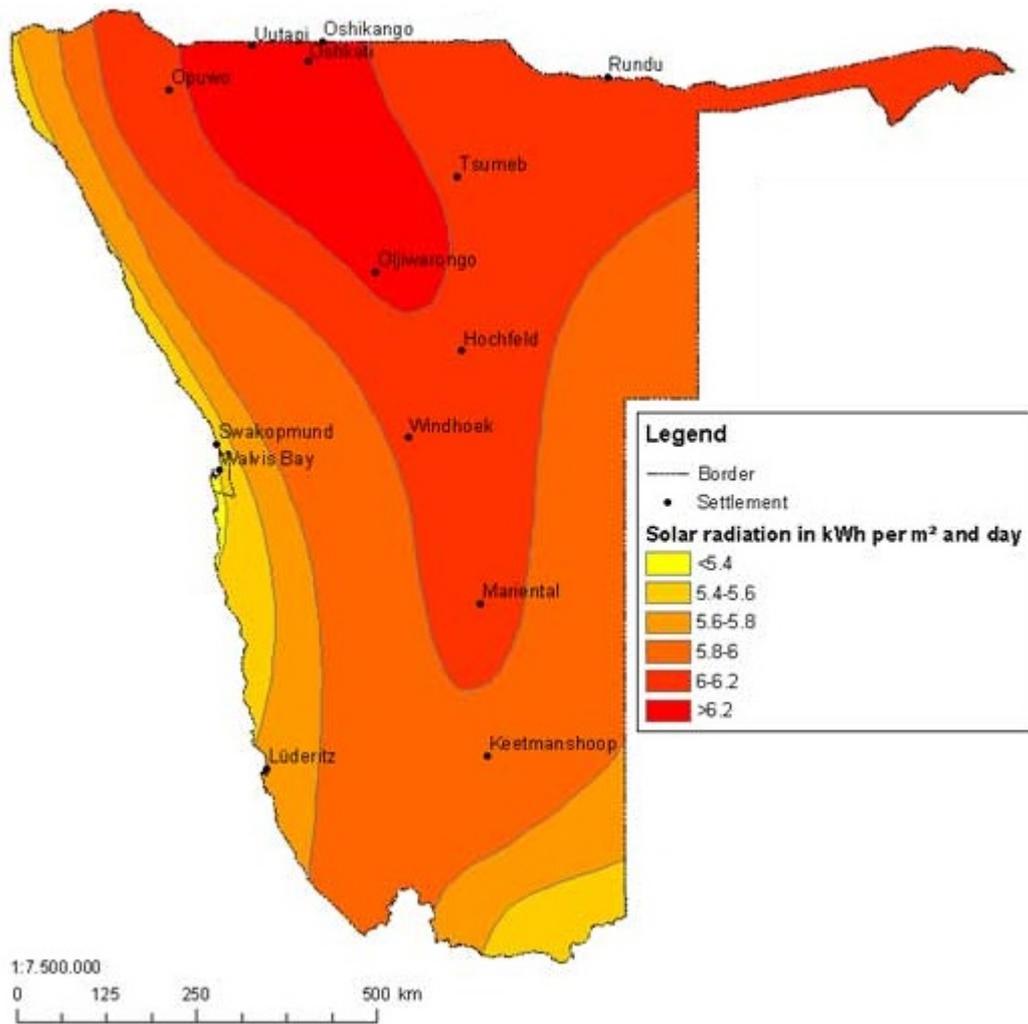
(UNIVERSITY OF COLOGNE, 2002a)

Appendix A7: Average hours of sunshine per day



(UNIVERSITY OF COLOGNE, 2002a)

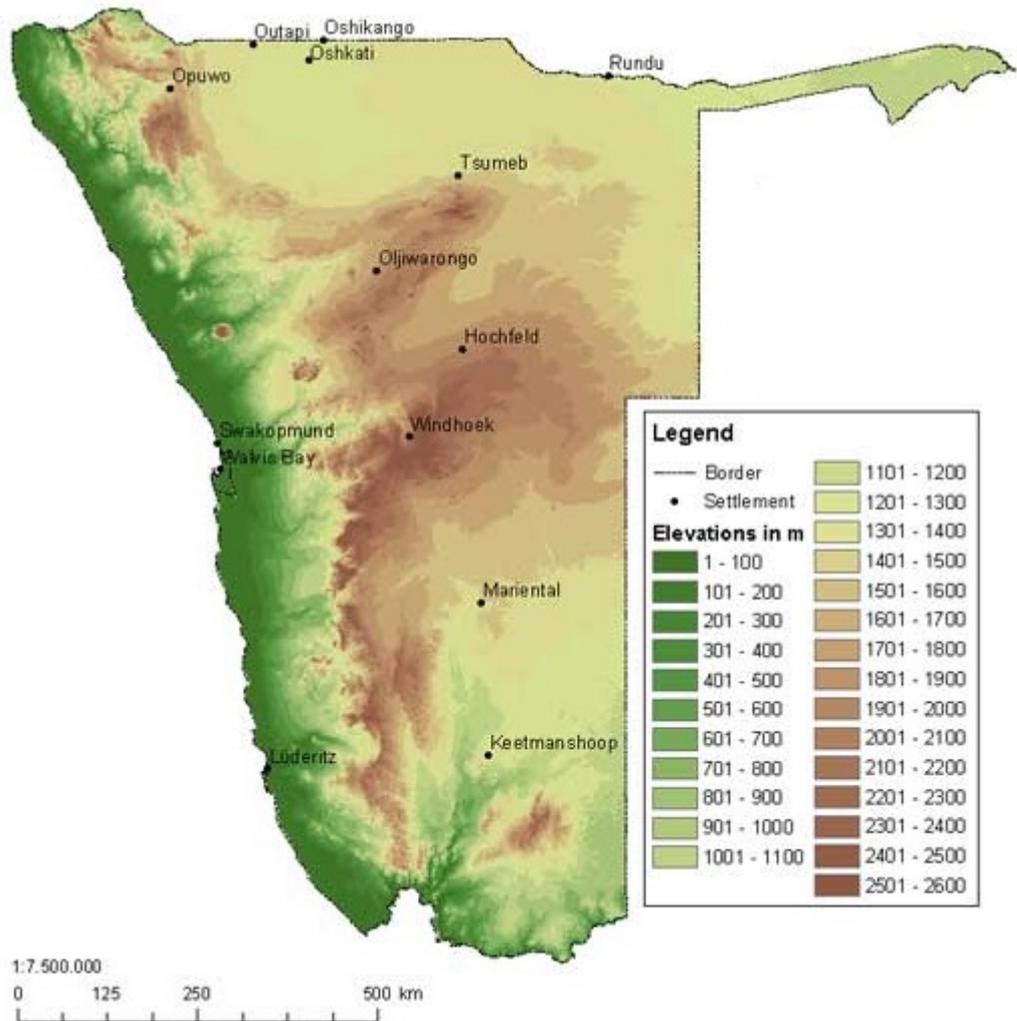
Appendix A8: Average values of solar radiation in kWh per m² and day



(UNIVERSITY OF COLOGNE, 2002a)

Geo-physical conditions

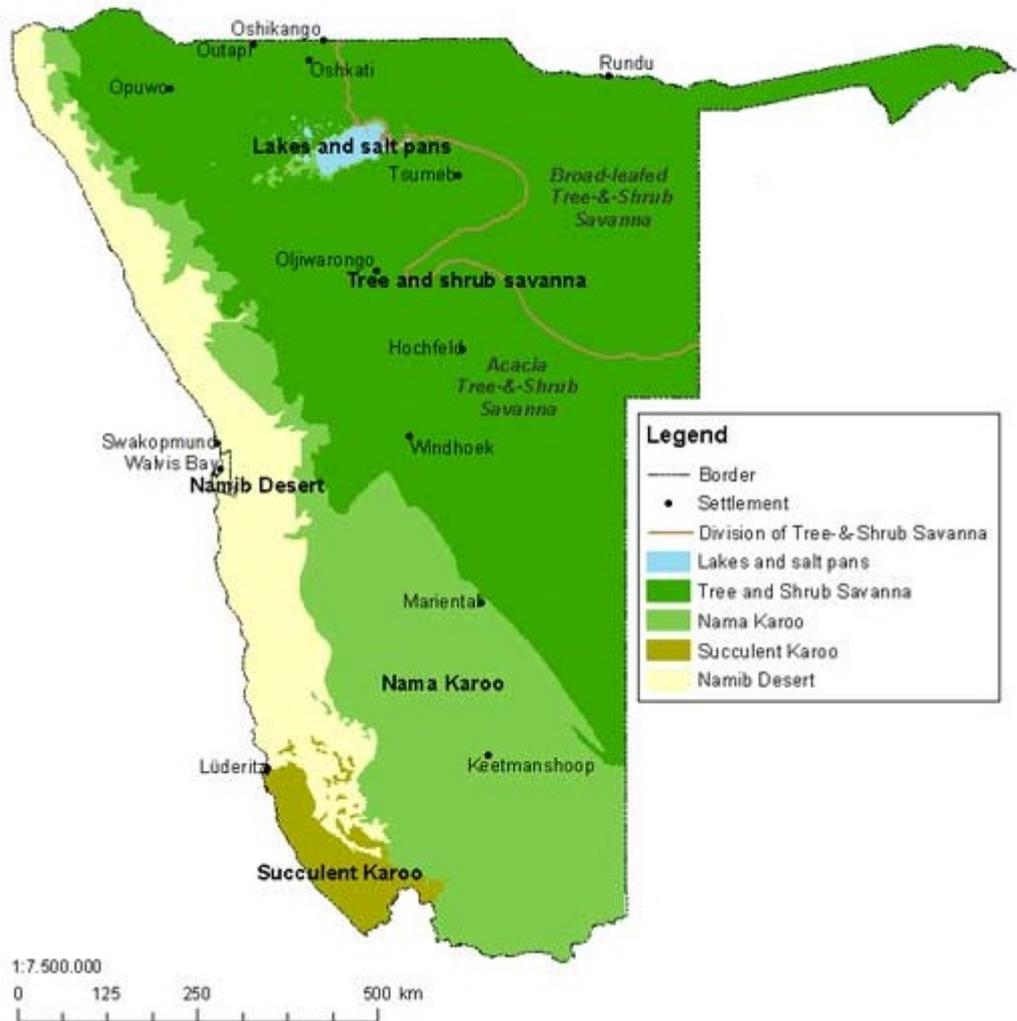
Appendix A9: Elevations and relief



(UNIVERSITY OF COLOGNE, 2002b)

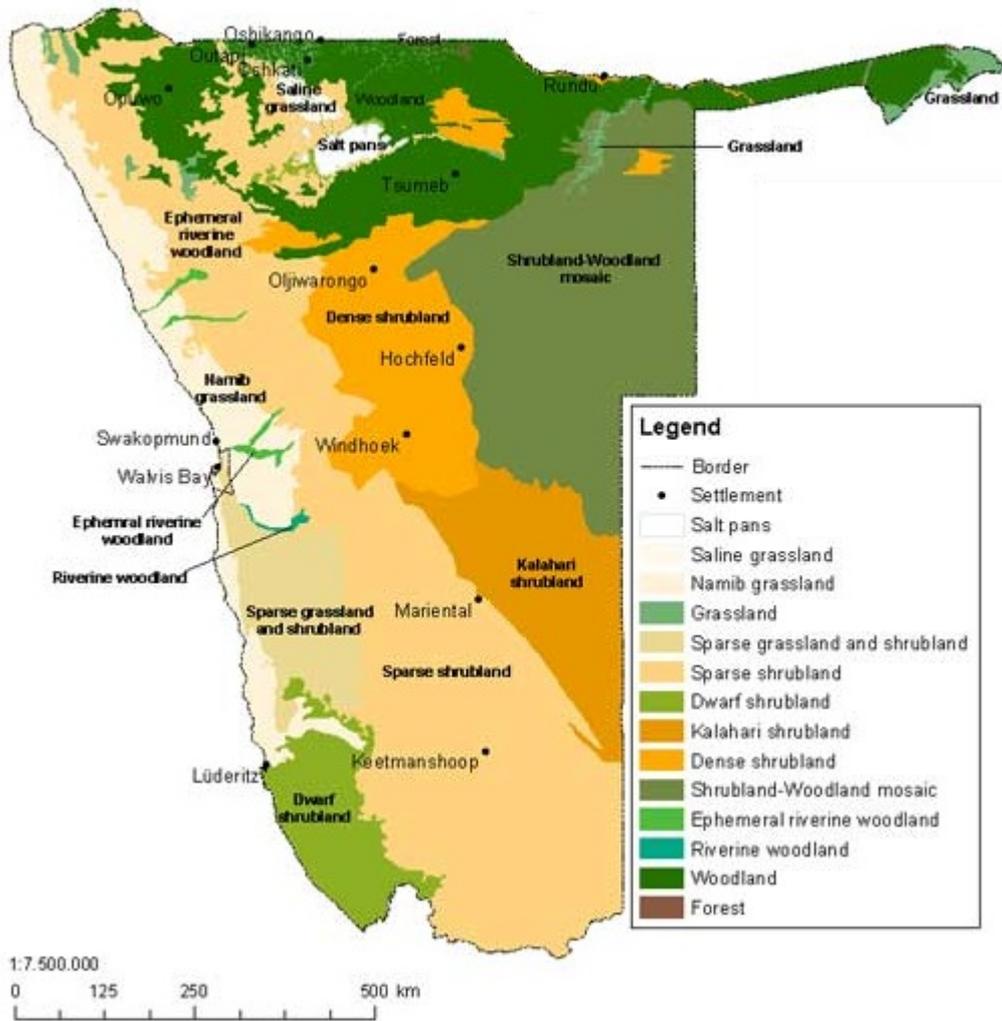
Vegetation and carrying capacity

Appendix A11: Biomes



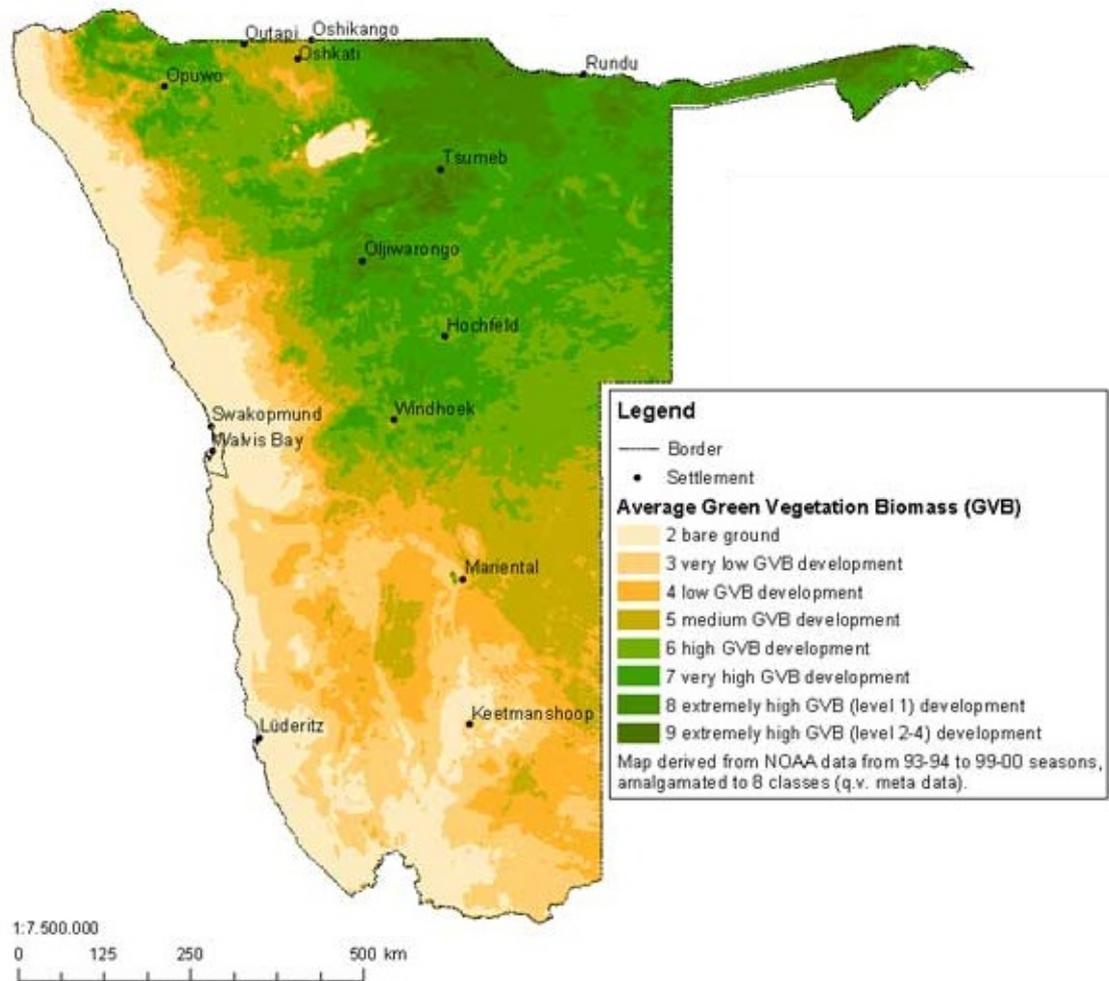
(UNIVERSITY OF COLOGNE, 2002c)

Appendix A12: Vegetation structure



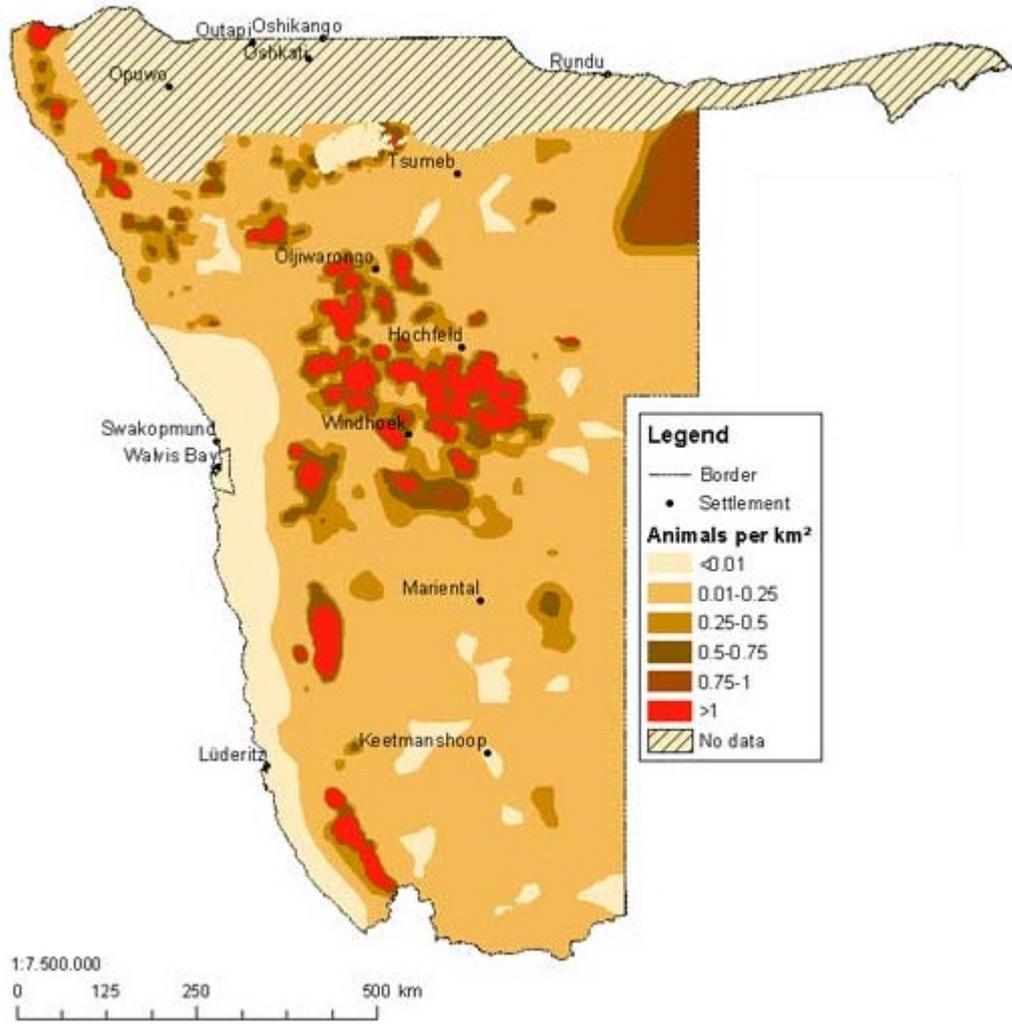
(UNIVERSITY OF COLOGNE, 2002c)

Appendix A13: Average green vegetation biomass production



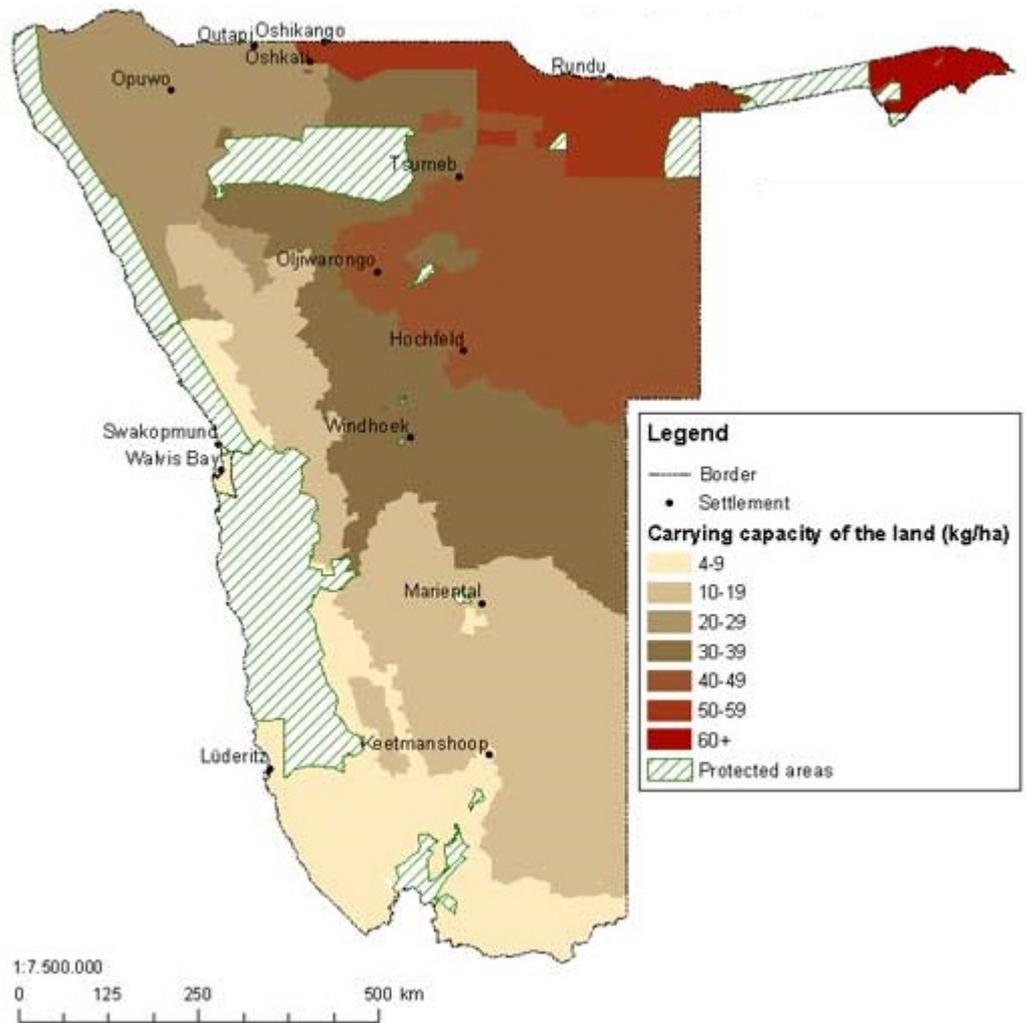
(UNIVERSITY OF COLOGNE, 2002c)

Appendix A14: Density of oryx per km²



(UNIVERSITY OF COLOGNE, 2002c)

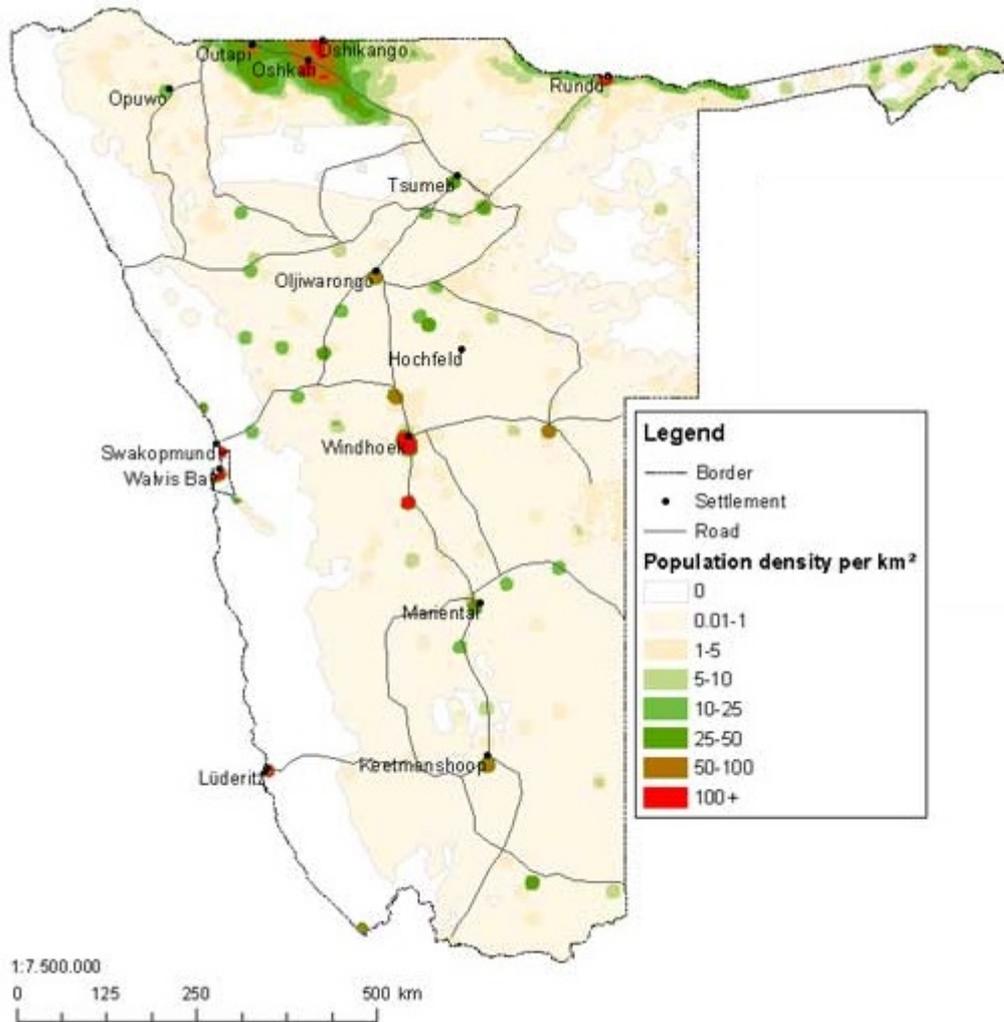
Appendix A15: Carrying capacity of the land in kg / ha



(UNIVERSITY OF COLOGNE, 2002d)

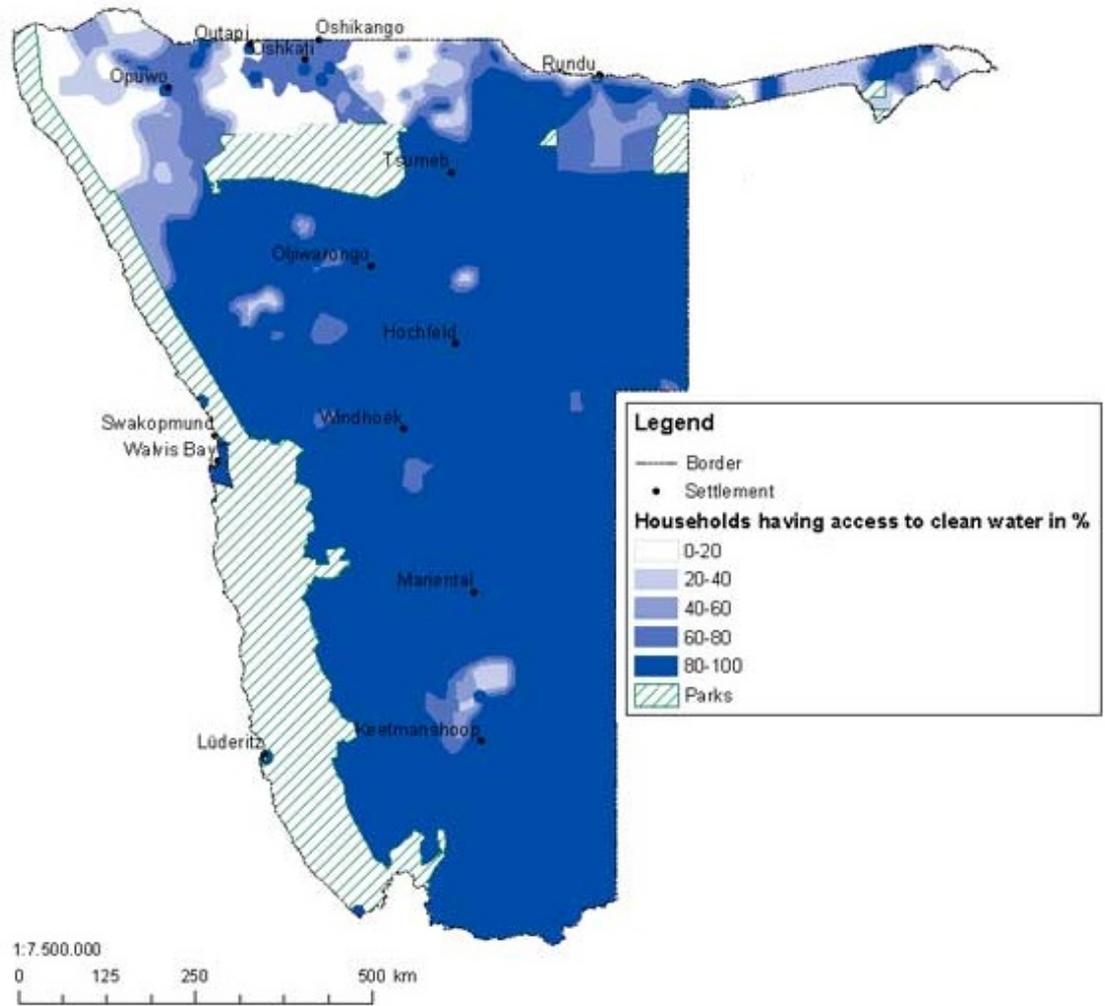
Socio-economic data and land use

Appendix A16: Density of people per km²



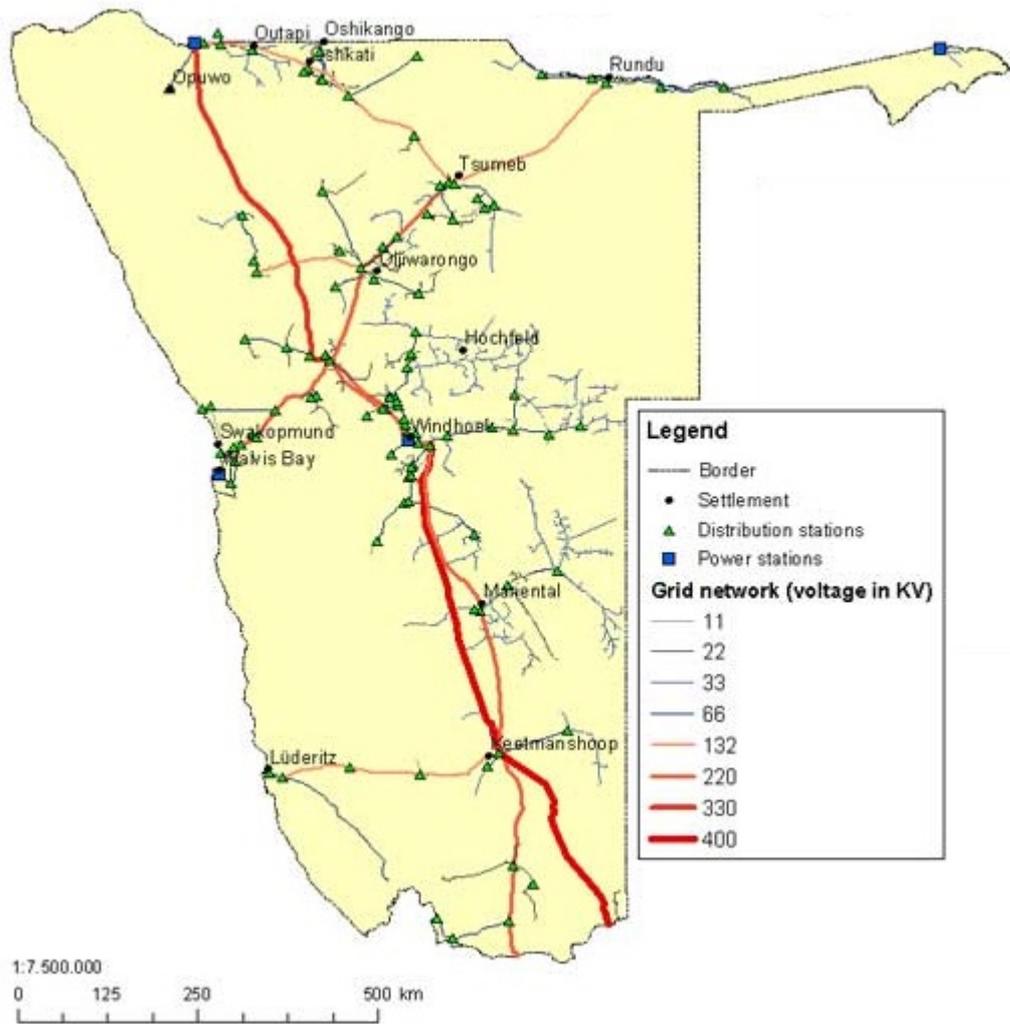
(UNIVERSITY OF COLOGNE, 2002e)

Appendix A17: Households with access to clean water in percent



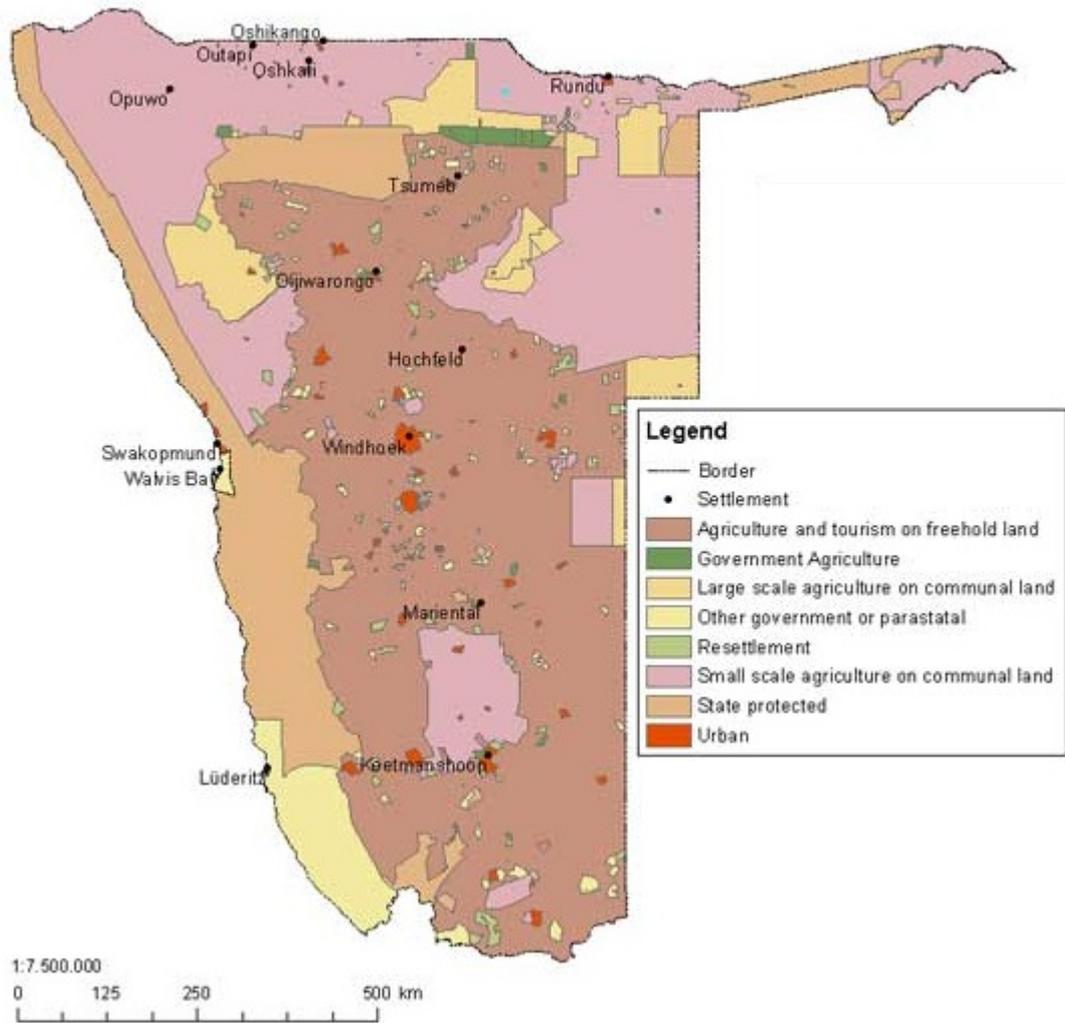
(UNIVERSITY OF COLOGNE, 2002e)

Appendix A18: Supply of electricity / access to national grid network



(UNIVERSITY OF COLOGNE, 2002e)

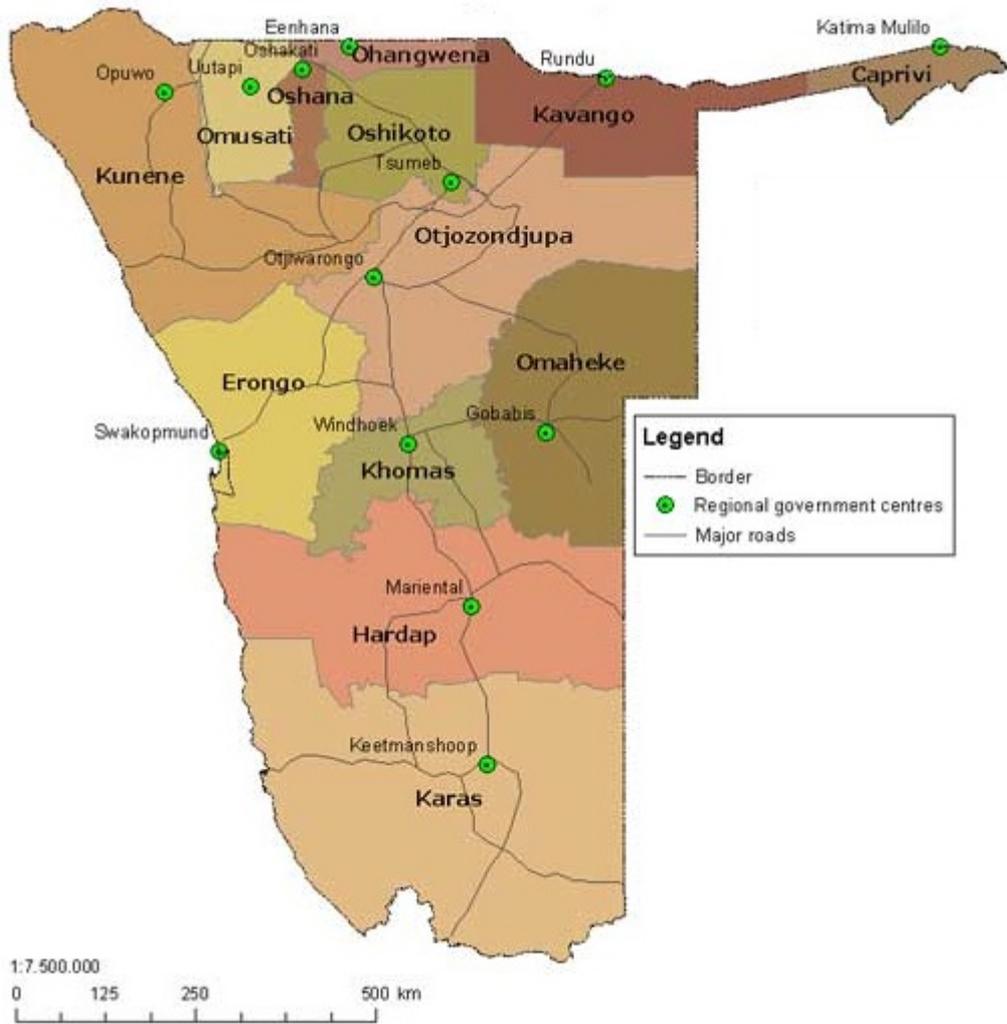
Appendix A19: Land uses



(UNIVERSITY OF COLOGNE, 2002d)

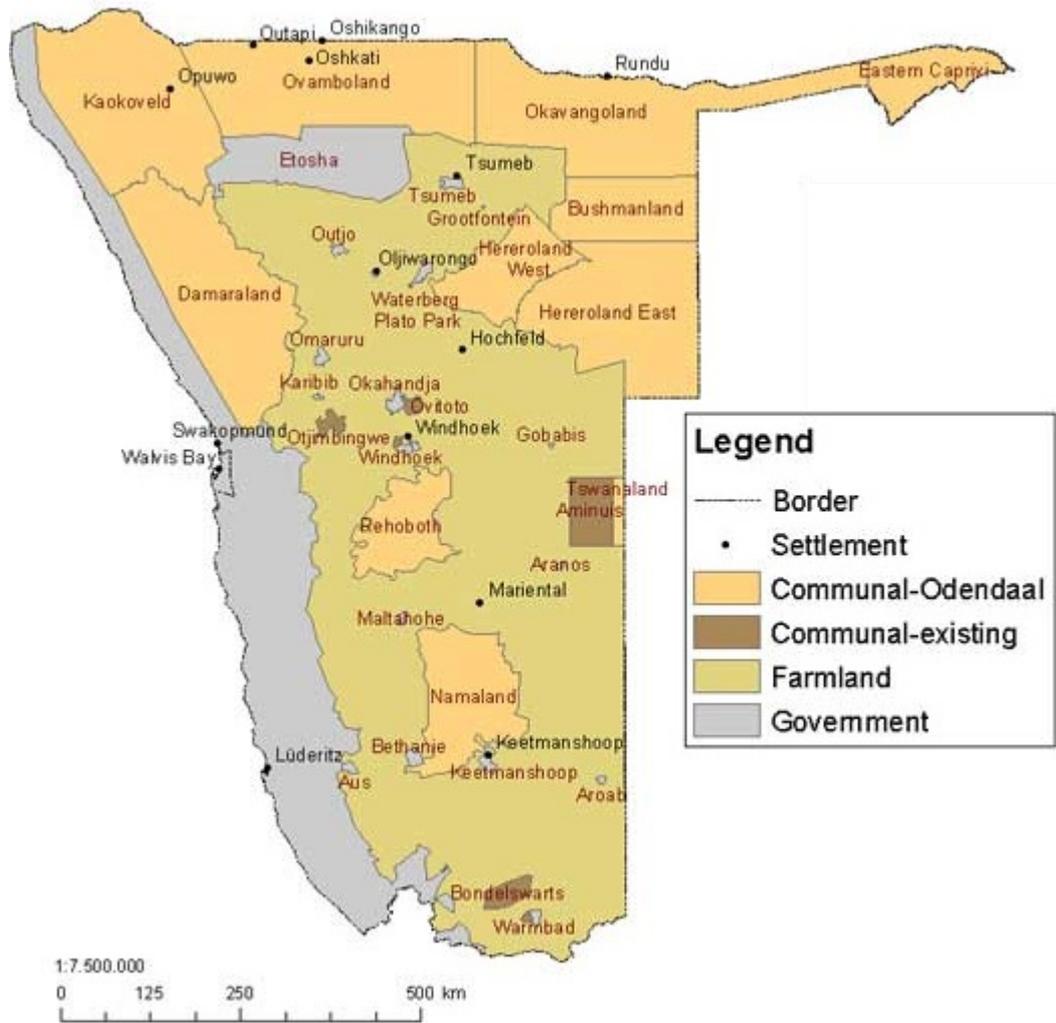
Political maps

Appendix A20: Districts and regional governments



(UNIVERSITY OF COLOGNE, 2002d)

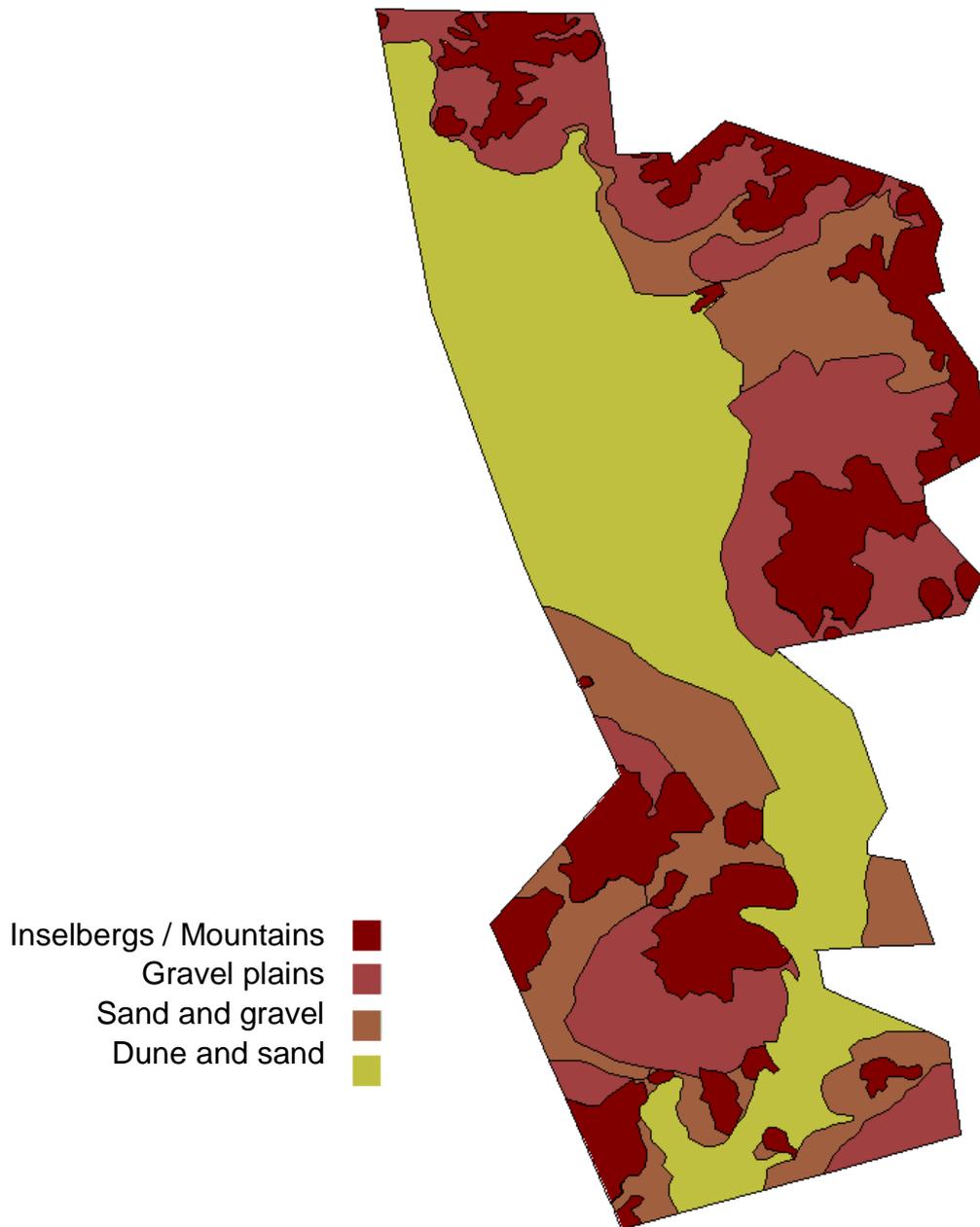
Appendix A21: Land allocation – the Odendaal Commission’s proposal of 1964



(UNIVERSITY OF COLOGNE, 2002d)

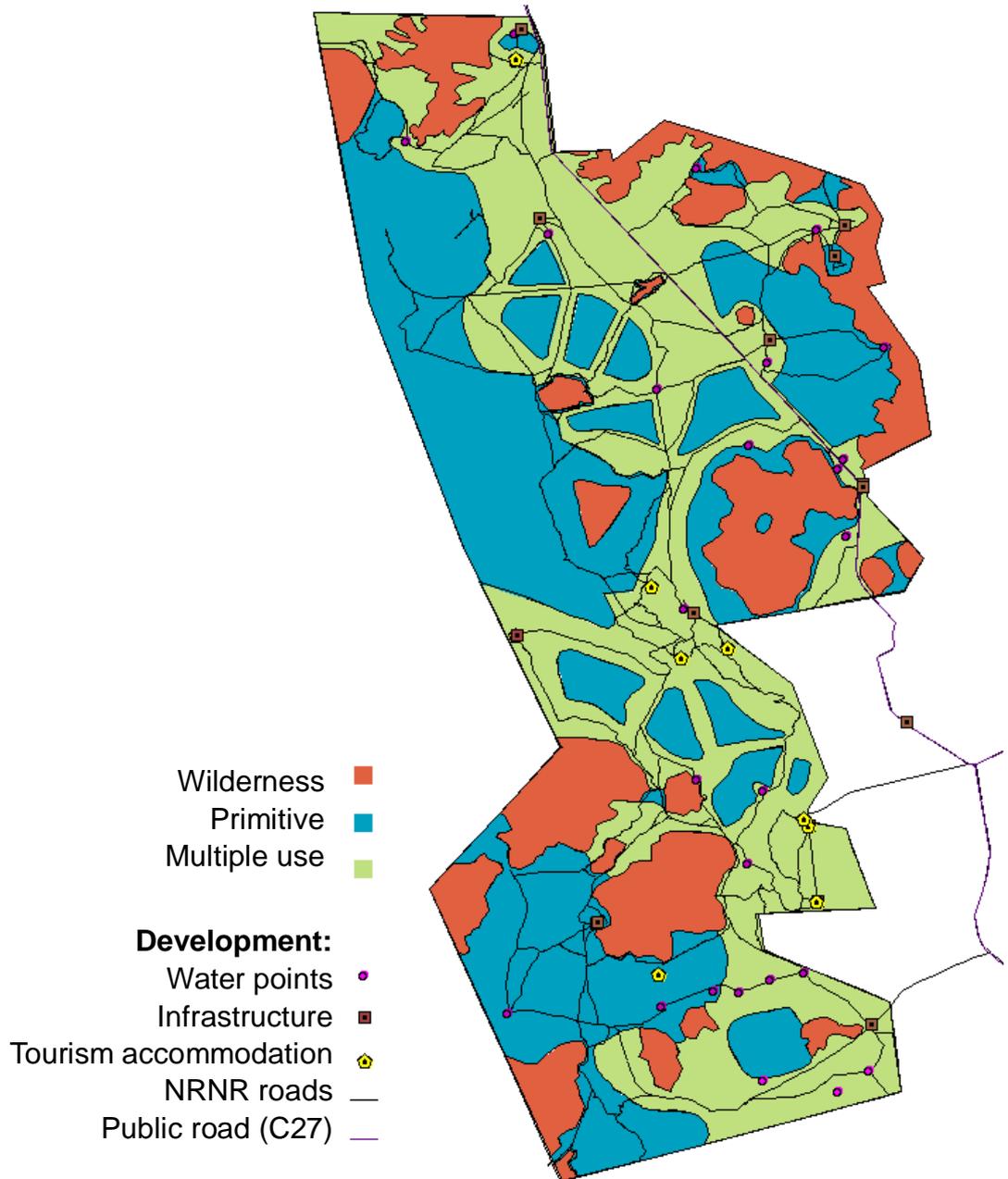
B. NRNR maps

Appendix B1: NRNR terrain (ecosystems / habitat) zonation



(Courtesy of the NRNR)

Appendix B2: NRNR utilization areas zonation



(Courtesy of the NRNR)

C. Questionnaires

Appendix C1: Questionnaire for the NRNR with questions derived from the GSTC global sustainable tourism criteria for destinations

General business data
What are the legal titles of the companies/associations the NRNR is involved with?
When were those companies/associations founded?
What was the initial idea behind the foundation of the company?
What gave reason to establish the other companies/associations?
How many employees does the NRNR have?
What is the NRNR's standard capacity? / How many visitors do you allow at one time?
How did you determine this capacity value?

GSTC global sustainable tourism criteria	Corresponding questions
A: Demonstrate sustainable destination management	
<i>A1 Tourism Strategy</i>	
The destination has established and is implementing a multi-year tourism strategy that is publicly available, is suited to its scale, that considers environmental, economic, social, cultural heritage, quality, health, and safety issues, and was developed with public participation	Does the NRNR maintain a tourism strategy plan? If yes, does it consider environmental, economic, social, cultural heritage, quality, health, and safety issues? Was it developed with public participation?
<i>A2 Tourism management organization</i>	
The destination has an effective organization, department, group, or committee responsible for a coordinated approach to sustainable tourism. This group has defined responsibilities for the management of environmental, economic, social, and cultural heritage issues.	How do you organize the tourism management in the NRNR?
<i>A3 Monitoring</i>	
The destination has a system to monitor, publicly report, and respond to environmental, economic, social, and cultural heritage issues.	Do you maintain a monitoring system for environmental, economic, social, and cultural heritage aspects? If yes, could you please describe the monitoring system of the NRNR?
<i>A4 Climate change adaptation</i>	
The destination has a system to identify challenges and opportunities associated with climate change. This system encourages climate change adaptation strategies for development, siting, design, and management of tourism facilities. The system contributes to the sustainability and resilience of the destination.	What do you think, is the NRNR vulnerable to climate change? If yes, what do you think how vulnerable is the NRNR to climate change? Do you maintain a system to identify challenges and opportunities associated with climate change?
<i>A5 Inventory of attraction sites</i>	
The destination has an up-to-date, publicly available inventory of its key tourism assets and attractions including natural, historical, archaeological, religious, spiritual, and cultural sites.	In your opinion, what are the key tourism assets and attractions in the NRNR?

<i>A6 Planning regulations</i>	
The destination has planning guidelines, regulations, and policies that integrate sustainable land use, design, construction, and demolition. The regulations protect natural and cultural heritage, are publicly communicated, and are enforced.	Do you have any planning guidelines, regulations and / or policies at NRNR?
<i>A7 Access for all</i>	
All tourist sites and facilities, including those of natural, cultural and historic importance, are accessible to all, including persons with disabilities and others who have specific access requirements. Where such sites and facilities are not immediately accessible, access should be afforded through the design and implementation of solutions that take into account both the integrity of the site and such reasonable accommodations for persons with access requirements as can be achieved.	Are all tourist sites and facilities at NRNR accessible for persons with special needs?
<i>A8 Property acquisitions</i>	
Laws and regulations regarding property acquisitions exist, are enforced, consider communal and indigenous rights, and do not authorize resettlement without informed consent and/or full compensation.	What laws and regulations apply regarding property acquisition in / around the NRNR?
<i>A9 Tourist satisfaction</i>	
The destination has a system to monitor, to publicly report and, if necessary, to take action to improve tourist satisfaction.	Do you maintain any customer / tourist satisfaction measurements? <i>(like questionnaires)</i>
<i>A10 Sustainability standards</i>	
The destination has a system to promote sustainability standards consistent with the GSTC criteria for tourism enterprises.	Do you use, or have you used before, any common sustainability standards to measurements in the reserve?
<i>A11 Safety and security</i>	
The destination has a system to prevent and respond to tourism-related crime, safety, and health hazards.	What are the measurements at NRNR to prevent and respond to tourism-related crime, safety, and health hazards?
<i>A12 Crisis and emergency preparedness and response</i>	
The destination has a crisis and emergency response plan that is appropriate to the destination. Key elements are communicated to residents, tourists, and tourism-related enterprises. The plan establishes procedures and provides resources and training.	Does the NRNR maintain a crisis and emergency response plan? If yes, - What are the procedures? - Does the plan provide resources and training? - How do you communicate key elements to residents, tourists, and tourism-related enterprises?
<i>A13 Promotion</i>	
Promotion is accurate with regard to the destination and its products, services, and sustainability claims. The promotional messages are authentic and respectful.	Do you have other promotion material than the NRNR website and the documents you gave us four weeks ago?

B: Maximize economic benefits to the host community and minimize negative impacts	
<i>B1 Economic monitoring</i>	
The direct and indirect economic contribution of tourism to the destination's economy is regularly monitored. These results are publicly reported.	Besides the direct contributions of tourism to the NRNR, do you monitor the indirect economic contribution of tourism to the region's economy? If yes, are these results publicly reported?
<i>B2 Local career opportunities</i>	
The destination provides equal employment and training opportunities for local residents. The opportunities are open to women, youth, minorities, and other vulnerable populations.	Do you have information about your staff's origin? Could you provide me with statistics about the NRNR staff?
<i>B3 Stakeholder participation</i>	
The destination has a system that enables stakeholders to participate in tourism-related planning and decision making on an ongoing basis.	Are there any provisions for stakeholder participation in tourism-related planning at the NRNR?
<i>B4 Local community opinion</i>	
Residents' aspirations, concerns, and satisfaction with tourism are regularly monitored, recorded and publicly reported. Care is taken to ensure that key stakeholders are included and that responsive action is taken where needed.	Are there any provisions for local community members to express their opinion about the NRNR?
<i>B5 Local access</i>	
The destination protects, monitors, and safeguards local resident access to natural, historical, archaeological, religious, spiritual, and cultural sites.	Does the NRNR offer equal access and recreation opportunities to local residents?
<i>B6 Tourism awareness</i>	
The destination provides regular programs to residents to enhance their understanding of tourism opportunities, tourism challenges, and the importance of sustainability.	Does the NRNR maintain any programs to promote tourism awareness and sustainability among local residents?
<i>B7 Preventing exploitation</i>	
The destination has a defined system and established practices to prevent commercial, sexual, or any other form of exploitation and harassment, particularly of children, adolescents, women, and minorities.	Does the NRNR maintain a system to prevent any form of exploitation of the people involved and / or effected by the work of the reserve?
<i>B8 Support for community</i>	
The destination has a system to enable tourism-related enterprises to support community and development initiatives.	Does the NRNR maintain a system that enables tourism-related enterprises to support community and development initiatives?
<i>B9 Supporting local entrepreneurs and fair trade</i>	
The destination has a system that supports local entrepreneurs and promotes fair trade principles.	Does the NRNR maintain a system that supports local entrepreneurs and that promotes fair trade?

C: Maximize benefits to communities, visitors, and cultural heritage and minimize negative impacts	
<i>C 1 Attraction protection</i>	
The destination has a policy and system to conserve key natural, historical, archaeological, religious, spiritual, and cultural sites, including scenic, cultural, and wild landscapes.	What does the NRNR do to conserve key natural, historical, archeological, religious, spiritual and cultural sites?
<i>C2 Visitor management</i>	
The destination has a visitor management system for attraction sites that includes measures to preserve and protect key natural and cultural assets.	Does the NRNR maintain a visitor management system for attraction sites? If so, does it include measures to preserve and protect key natural and cultural assets?
<i>C3 Visitor behavior</i>	
The destination has publicly available guidelines for visitor behavior that are designed to minimize adverse impacts.	Does the NRNR have publicly available guidelines for visitor behavior that are designed to minimize adverse impacts?
<i>C4 Cultural heritage protection</i>	
Historical and archaeological artifacts are not illegally sold, traded or displayed.	Did you ever have problems with illegal trade of historical and archeological artifacts?
<i>C5 Site interpretation</i>	
Interpretive information is provided at key natural, historical, archaeological, religious, spiritual, and cultural sites. The information is communicated in relevant languages.	Is interpretive information provided at key natural, historical, archaeological, religious, spiritual, and cultural sites in relevant languages?
<i>C6 Intellectual property</i>	
The destination has a system to ensure respect for the tangible and intangible intellectual property of individuals and communities.	Does the NRNR maintain measurements to ensure respect for the tangible and intangible intellectual property of individuals and communities?
<i>C7 Visitor contributions</i>	
The destination has a system that encourages visitors to volunteer or contribute to community development, cultural heritage, and biodiversity conservation.	Are visitors at the NRNR encouraged to volunteer or contribute to the community development, cultural heritage and biodiversity conservation?
D: Maximize benefits to the environment and minimize negative impacts	
<i>D1 Environmental risks</i>	
The destination has identified key environmental risks and has a system in place to address these.	What are key environmental risks at the NRNR? What does the NRNR do to address these risks?
<i>D2 Protection of sensitive environments</i>	
The destination has a system to monitor the impact of tourism on sensitive environments and protect habitats and species.	How does the NRNR monitor the impacts of tourism on sensitive environments and protect habitats and species?
<i>D3 Wildlife protection</i>	
The destination has a system to ensure compliance with local, national, and international standards for the harvest or capture, display, and sale of wildlife (including both plants and animals).	How does the NRNR ensure compliance with local, national, and international standards for the harvest or capture, display, and sale of wildlife (including both plants and animals)?

<i>D4 Greenhouse gas emissions</i>	
The destination has a system to encourage tourism-related enterprises and services to measure, monitor, report, and mitigate their greenhouse gas emissions.	Are GHG emissions monitored at the NRNR? Does the NRNR maintain a system to encourage tourism-related enterprises and services to measure, monitor, report, and mitigate their greenhouse gas emissions?
<i>D5 Energy conservation</i>	
The destination has a system to promote energy conservation, measure energy consumption, and reduce reliance on fossil fuels. The destination encourages tourism-related enterprises to conserve energy and use renewable energy technologies.	Does the NRNR have a system to energy conservation, measure energy consumption, and reduce reliance on fossil fuels? If so, does the reserve as well encourage tourism-related enterprises to conserve energy and use renewable energy technologies?
<i>D6 Water management</i>	
The destination has a system to conserve and manage water usage. The destination encourages tourism-related enterprises to manage and conserve water.	Does the NRNR have a system to conserve and manage water usage? If so, does the reserve as well encourage tourism-related enterprises to manage and conserve water?
<i>D7 Water security</i>	
The destination has a system to monitor its water resources to ensure that use by tourism is compatible with the water requirements of the destination community.	Does the NRNR have a system to monitor its water resources to ensure that use by tourism is compatible with the water requirements of the destination community?
<i>D8 Water quality</i>	
The destination has a system to monitor drinking and recreational water quality. The monitoring results are publicly available.	Does the NRNR have a system to monitor drinking and recreational water quality? Are the monitoring results publicly available?
<i>D9 Wastewater</i>	
The destination has clear and enforced guidelines in place for the siting, maintenance and testing of discharge from septic tanks and wastewater treatment systems.	How is the waste water management organized at the NRNR? Does the NRNR have clear and enforced guidelines in place for the siting, maintenance and testing of discharge from septic tanks and wastewater treatment systems?
<i>D10 Solid waste reduction</i>	
The destination has a system to ensure solid waste is reduced, reused, and recycled. The destination encourages tourism-related enterprises to adopt waste reduction strategies.	Does the NRNR have a system to ensure solid waste is reduced, reused, and recycled? If so, does the NRNR encourage tourism-related enterprises to adopt waste reduction strategies?

<i>D11 Light and noise pollution</i>	
The destination has guidelines and regulations to minimize noise, light, and visual pollution. The destination encourages tourism-related enterprises to follow these guidelines and regulations.	Does the NRNR maintain guidelines and regulations to minimize noise, light, and visual pollution? If so, does the NRNR encourage tourism-related enterprises to follow these guidelines and regulations?
<i>D12 Low impact transport</i>	
The destination has a system to increase the use of low-impact transport, including public transport, in the destination.	Does the NRNR have a system to increase the use of low-impact transport, including public transport, in the destination?

Discussion of EANA certification
What do you think about the Eco Awards Namibia Alliance and its certification program?
In your opinion, are the certification criteria of the Eco Awards Namibia Alliance well chosen for a tourism business operating in Namibia? Please explain.
Why did you decide to get or get not certified by the Eco Awards Namibia Alliance?

Demographic data
What is your full name?
What is your official position/title in the company?
How long have you been working for your company?
What did you study/is your education?
Where are you from? If you are Namibian, where in Namibia are you from?

Appendix C2: Questionnaire for the tourism concessionaires of the NRNR including the EANA self-assessment for tourism operators on freehold land

General business data
What is the legal title of your business?
When was your business founded?
What was the initial idea behind your business?
How many employees does your business have?
How long have you been operating within the borders of the NRNR?
What is your business' standard capacity? <i>If you offer accommodation, how many standard beds can you offer at a time? If you are a tour operator, how many people can you carry at a time?</i>
Did your standard capacity change over time? If yes, when and how did it change?
What are your annual capacity utilization rates? Would you provide me with the development of your capacity utilization rates since the beginning of your business' operation in the reserve?

EANA criteria	Total score possible
1. Management	12
<i>Goal: To promote management processes to enable long-term improvements in sustainability performance.</i>	
1.1	
Do you have a documented environmental & sustainability management policy or philosophy specific to your operation, that addresses the pertinent management and development issues that require implementation, in a format containing the following: <ul style="list-style-type: none"> Your vision/mission (aim) for the overall operation, including the land, its natural resources and enterprises? Your goals (objectives) and strategies to achieve your mission / vision? Records of the information you need to implement these strategies? How do you monitor the information to assess the progress you are making in achieving your goals? <i>In other words, do you have an adaptive management approach? Provide examples to show that information collected is being used in decision-making.</i>	4
1.2	
Does your policy/philosophy include sections on dealing with: <ul style="list-style-type: none"> Environmental conservation? Energy conservation? Water conservation? Waste, sewerage & pollution control? Infrastructure impact? A guiding code of conduct that at a minimum includes respect for wildlife, the environment and local communities? Human resources development? Social responsibility and community support? 	8
1.3	
If your establishment was built since the Environmental Management Act legislation came into effect (<i>in 2013</i>), have you undertaken an environmental impact assessment and did you obtain environmental clearance for the development?	-

2. Conservation	12
<i>Goal: To promote sustainable management and development of the area and the wise and ethical use of its natural resources, including landscapes, ecosystems and indigenous biodiversity, so that these may be passed on to future generations in productive, diverse, aesthetically attractive and healthy condition.</i>	
2.1	
Do you participate in and contribute to active monitoring and management activities with the neighboring communities and/or conservancies for key environmental issues such as: <ul style="list-style-type: none"> • Biodiversity - to enhance species and habitat conservation and to remove invasive alien plants and animals? • Wildlife monitoring and management? • Sustainable land management for areas such as rangelands, forests, etc. to prevent overgrazing and/or other over-exploitation of natural resources, bush encroachment, soil erosion and degradation and combating desertification, etc.? • Water - for its appropriate extraction, use and conservation, access for all species to drinking water, prevention of fauna drowning in tanks, etc.? <i>The onus is on you to demonstrate meaningful and active participation in a locally relevant monitoring and/or management issue. The following are examples and you can add your own to achieve the points.</i> <i>You can attach some more examples of your own monitoring and management participation activities and score them here:</i>	4
2.2	
Do you have enough clearly visible and interesting information and signs on display for both tourists and staff that aim to effectively increase awareness about conservation and the wise use of natural resources in Namibia generally, and also focus on the environmental issues specific to your area and activities?	1
2.3	
Do you make a significant contribution, in cash and/or kind, to a conservation project (e.g. on rare and endangered or little-known species)? <i>If in your operational area, the contributions must go beyond normal management requirements or initiatives for direct financial returns (e.g. they should be truly conservation driven).</i>	1
2.4	
Do you have NO wild animals at all (e.g. birds, reptiles, scorpions, fish, etc.) in cages, tanks or other enclosures?	1
2.5	
Do you have an agreement with a registered conservancy or are you in an effective and formal partnership with neighboring landowners such that larger landscape management is being effectively implemented? <ul style="list-style-type: none"> • Do you actively contribute to joint activities under this agreement? • Do you actively and regularly participate in these activities? 	2
2.6	
Have you contributed towards co-management of large open systems with fences removed? <i>(Not applicable to working farms.)</i>	1
2.7	
Do you only keep indigenous game species on the land (that occurred naturally in that area in historic times), and is there a healthy diversity of game? <i>(Not applicable to the domestic animals of working farms.)</i>	1

2.8	
Do you get specifically involved in resolving Human-Wildlife Conflict, such as: <ul style="list-style-type: none"> • tolerance of predators/ elephant, • in particular not using poison (for at least the last 12 months), • not killing birds, snakes, scorpions, etc., • educating staff, guests and neighbors about such conflict? 	1
3. Energy 15	
<i>Goal: To reduce the local & global environmental impact of the tourism industry in Namibia by promoting the reduction of energy use as well as changes to more environmentally friendly & renewable energy sources.</i>	
Option A: <i>If you get full marks for option A, there is no need to fill in option B. (The points for option A replace the points obtained in option B).</i> <i>Examples of renewable energy are: wind pumps, solar pumps, solar water heaters, solar power (PV) panels, wind generators, etc. It excludes wood and gas.</i> <i>Calculate your per capita consumption by dividing average total daily consumption (including staff villages) through average number of guest nights. This should include consumption by all (guests, staff, etc.)</i>	
Do you use renewable energy for more than 80% of all your energy requirements (excluding transport, but including water pumping); Or do you use less than 140 MJ per capita per day if you are a full catering establishment hotel, or less than 100 MJ if you are a B&B or self-catering only?	15
Option B: <i>If you cannot score full marks in Option A, you must complete option B.</i>	
3.1	
Do you actively implement your policy on energy conservation as in item 1.2?	1
3.2	
Do you consistently measure and record, on at least a monthly basis, your non-renewable energy consumption in kW/h per capita?	1
3.3	
Do you have enough, clearly visible and interesting information & signs on display for both tourists & staff that effectively increase awareness about energy conservation, the reasons for it, & how they can contribute?	1
3.4	
Can you show a significant decrease in your non-renewable electricity consumption per capita over at least the previous year or more? This includes grid electricity. <i>“Significant” indicates at least a 10% reduction over the past one to five years. Should you be ultra-efficient in conserving energy, you would probably get full marks for Option A.</i> <i>Examples of how this can be achieved are by: installing electric geysers on time switches, switching to renewable energy supplies, and other as in points below.</i>	1
3.5	
Can you show a significant decrease in your fossil fuel (diesel, petrol, coal) consumption per capita over at least the previous year or more? This includes transport and diesel generators. <i>“Significant” indicates at least a 10% reduction over the past one to five years.</i>	1
3.6	
Is more than 90% of your cooking for guests and staff with renewable energy (such as solar cookers) or gas stoves? <i>(Although wood fires in Namibia contribute to deforestation, the occasional braai can be allowed for under the remaining 10%)</i>	1
3.7	
Does more than 90% of your hot water for laundry, kitchens and bathrooms come from renewable energy? <i>For example: solar water heaters (SWH) with the backup elements switched off, biogas or LPG gas. The remaining 10% allows for boiling water for beverages.</i>	1

3.8	
For food and beverages, do you mainly use passive cooling (like a farm cooler), solar or gas powered, or energy efficient electrical fridges; and is everything well insulated with the door seals intact and do staff keep doors closed as much as possible?	1
3.9	
Do more than 90% of your lights (in all areas, staff quarters as well) have energy efficient bulbs and have you taken all possible steps to install daylight switches, movement sensors or information stickers to reduce the time that lights are on?	1
3.10	
Can you show that more than 80% of you appliances, including air-conditioning and laundry, are energy efficient? If you outsource your laundry, does that apply to your subcontractors as well?	1
3.11	
Do you use mainly natural ventilation (first prize!), evaporative cooling or electric fans to cool spaces (including staff accommodation) rather than conventional air-conditioning?	1
3.12	
Do you supply environmentally friendly alternatives to electrical heaters to guests and staff in winter, such as added bedding, hot water bottles, etc.?	1
3.13	
Are you sure that the wood for your fires are from de-bushing or invasive wood eradication projects, or do you use bush blocks or charcoal made from invasive wood?	1
3.14	
If you score at least 10 marks for Section 4 (Water), you can score an extra mark here (saving water also saves energy).	1
4. Water	20
Option A:	
<i>If you get full marks for option A, there is no need to fill in option B. (The points for option A replace the points obtained in option B).</i>	
Have you used less than 100 liters of water per person per day over the last year? <i>This should include consumption by all (guests, staff, etc.)</i>	20
Option B:	
<i>(If you cannot get full marks in Option A, you must complete option B.)</i>	
4.1	
Do you actively implement your policy on water conservation as in item 1.2?	1
4.2	
Do you consistently measure and record, on at least a monthly basis, your water consumption in liter per capita? <i>This should include consumption by all (guests, staff, etc.)</i>	1
4.3	
Do you have enough interesting and clear information and signs or stickers on display for both tourists and staff that aim to effectively increase awareness about water conservation, the reasons for it, and how they can contribute? <i>This include: not doing daily laundry for longer staying guests, signs on taps, showers and toilets.</i>	1
4.4	
Do you understand where your water comes from, whether it gets replenished or not, what the yield is and what the limitations are on long term usage?	1

4.5	
Can you show a significant decrease in your water consumption per capita over at least the previous year or more? <i>This should include all (guests, staff, etc.)</i> <i>“Significant” indicates at least a 10% reduction over the past one to five years. Should you be ultra-efficient in conserving water, you would probably get full marks for Option A.</i> <i>Examples of how this can be achieved are by applying some of the measures in this section.</i>	1
4.6	
Have you used less than 200 liters of water per person per day over the last year?	1
4.7	
Have you used less than 300 liters of water per person per day over the last year?	1
4.8	
Do you have no swimming pool on the premises?	1
4.9	
Do you have no pool, or do you recycle the backwash water from your pool? (Note: irrigation is not recycling).	1
4.10	
Have you installed water saving devices in most of the toilets, such as a dual-flush mechanism, or even a brick in the cisterns? <i>(This applies to staff facilities as well).</i>	1
4.11	
Do you use low-flow or other devices to reduce the use of waters in showers?	1
4.12	
Have you installed low flow, aerators, demand taps or infrared sensors on hand taps to reduce the amount of water used?	1
4.13	
Are your laundry appliances water-efficient and/or do you recycle your laundry water?	1
4.14	
Do you have a dry or entirely natural garden that does not need watering?	1
4.15	
Do you have a dry garden as in 4.14 or do you only water the garden at night?	1
4.16	
Do you have a dry garden as in 4.14 or do you use grey water (from laundry, showers, hand basins) for irrigation?	1
4.17	
Are your toilets dry, composting, or water recycling types?	1
4.18	
Are your toilets dry, composting, or water recycling types, or do you re-use grey water to flush most of the toilets?	1
4.19	
If your water is potable, do you promote the local tap water instead of bottled water?	1
5. Waste, pollution and sewerage 18	
<i>Goal: To reduce pollution, energy wastage & waste of resources by encouraging better waste control.</i>	
General waste issues:	
5.1	
Do you actively implement your policy on waste, pollution & sewerage as in item 1.2?	1

5.2	
Do you consistently measure and record, at least monthly, the amounts of different types of waste you generate? This should include waste generation by all (guests, staff, etc.)	1
5.3	
Do you have enough, clearly visible, interesting information & signage for both tourists and staff that aim to effectively increase awareness about waste problems and how they can assist to reduce it?	1
<u>Solid waste handling:</u>	
5.4	
Do you actively reduce the amount of waste generated by, for example, buying supplies in bulk, avoiding added packaging, avoiding non- recyclable packaging, etc.?	1
5.5	
Is your temporary storage for waste (non- recyclable or recyclable) only in a properly secured waste site to prevent scavenger access, wind dispersion, etc.?	1
5.6	
Is all your waste separated into recyclable & non-recyclable?	1
5.7	
Is all your organic waste composted or properly recycled (such as by feeding it to hens or pigs)?	1
5.8	
Do you send all your recyclable waste to a recycle center?	1
5.9	
Is the remainder of your waste (non-recyclable) removed to an official dump-site, and a clear distinction made between toxic and non-toxic waste, so that toxic waste cannot be released into the environment (soil, water or air)?	1
5.10	
Do you compost or recycle your garden refuse as well, or do you not generate any garden refuse?	1
<u>Sewerage disposal:</u>	
<i>Please note that all sewer systems must have adequate capacity, as otherwise they cannot be regarded as functioning systems and thus cannot be scored.</i>	
5.11	
Do you have dry, composting or recycling toilets or re-use your trickling filter water to flush toilets or to irrigate the garden?	1
5.12	
Do your septic tanks or trickling filter discharge into a properly built soakaway or a fenced oxidation pond, (or answered YES to 5.11)?	1
5.13	
Are none of the soakaways, septic tanks, oxidation ponds, etc. upstream from and closer than 100 m distance of boreholes, wells, springs and/or riverbeds?	1
<u>Pollution control:</u>	
5.14	
Are most of your parking and loading areas paved to prevent oil or fuel leaks entering the soil, or is adequate other provision made to provision to manage contaminants?	1
5.15	
Do you NOT use any poisons or pesticides on or around your premises and surrounding land?	1

5.16	
Do you use only environmentally friendly soaps and cleaning chemicals?	1
5.17	
Do you ensure that your premises do not create light pollution at night by switching off non-essential lights and ensuring that all lights shine down (not up)?	1
5.18	
Are your solar battery room, fuel storage and/ or diesel generator housing on site (if any) built in so that there is no risk of environmental contamination?	1
6. Building, landscaping and roads 16	
<i>Goal: To safeguard the natural and cultural environment in tourism areas from negative impacts of construction and landscaping developments and to protect the valuable asset of the "sense of place".</i>	
6.1	
Do you actively implement your policy on infrastructure as in item 1.2?	1
6.2	
Did you ensure that the historical, cultural and/or natural environment was not damaged by your development, alterations or activities? <i>(This is applicable to new and old buildings. Describe how you avoided any damage.)</i>	1
6.3	
Do your buildings blend in well with the surrounding environment in terms of shapes, scale and colors - in other words, are they appropriate?	1
6.4	
Were recycled materials, renewable materials and materials available in the vicinity largely used in the building construction? <i>(Recycled and local materials save energy and pollute less.)</i>	1
6.5	
Was the use of environmentally unsustainable materials extensively reduced (such as tropical hardwoods, aluminum, cement, etc.)? <i>(Refer to the Good Practice Handbook for more information.)</i>	1
6.6	
Was the use of toxic or unhealthy materials largely avoided (such as synthetic fibers and paints, polyurethane, plastics, chipboard and other composites, etc.)? <i>(Refer to the Good Practice Handbook for more information.)</i>	1
6.7	
Have you applied passive design principles in the designs or alterations of your buildings to ensure that they remain cool in summer and warm in winter, to avoid artificial heating, cooling or lighting, such as the following: <ul style="list-style-type: none"> • Orientation of the buildings with the longer sides to face north, or with existing buildings adding modifications to let in winter sun and keep summer sun off walls and openings? • Windows that can open on opposite sides of spaces to allow cross-ventilation? • Thick walls made from solid materials like brick, stone, earth (clay), or adding thick screens or insulation to existing walls? • Insulating roof spaces or ceilings to reduce heat from the top in summer and keep warmth inside in winter? • Shading windows and glass doors with roof overhangs, canopies, sunscreens or pergolas? • Shading large paved areas? 	6
6.8	
Does your garden contain only indigenous plants and create a habitat for indigenous birds and other animals, including insects and reptiles?	1
6.9	
Does your garden contain no invasive exotic plants? <i>For example prosopis trees, cacti, agave, datura, Mexican poppy, nicotiana.</i>	1

6.10	
Were your roads built mainly along contours rather than across them and do you control erosion caused by the construction and use of the roads?	1
6.11	
Do you actively rehabilitate previous damage in the area such as old borrow pits, road working sites, etc. to reduce the impact of construction on the environment?	1
7. Staff development 12	
<i>Goal: To encourage establishments to commit their own resources to formally train, improve, and recognize the skills of employees, rural partners and new entrants to the industry.</i>	
7.1	
Do you actively implement your human resources development policy as under item 1.2?	1
7.2	
Do you regularly and clearly share information on this policy with your staff?	1
7.3	
Do you have a regular, documented appraisal system that identifies employee ambitions and training needs?	1
7.4	
Do your employees receive formal training & assessment that is: • Documented • Assessed & certified by trainers • By recognized training providers	3
7.5	
Do you encourage existing employees to apply for in-house vacancies before externally advertising the post?	1
7.6	
Do you offer a regular internship/apprenticeship to students? <i>(Over the last two years at least one if you have less than 20 beds and two if you have more.)</i>	1
7.7	
Do you ensure that staff are exposed to environmental issues in their daily routine?	1
7.8	
Do you have a positive staff health program that includes education & awareness raising?	1
7.9	
Do you supply decent on-site staff housing that is large enough, clean, secure and allows for some privacy?	1
7.10	
Is your staff supplied with decent services such as power, water and sanitation?	1
8. Guiding 5	
<i>Goal: To ascertain whether the establishment has made an effort to adequately train its field guides in order to ensure a quality guided experience for its guests that would include information on natural resources, environmental issues and the local environmental setting.</i>	
8.1	
Do your guided activities fulfil your Guiding Code of Conduct as under item 1.2?	1
8.2	
Do you offer or promote a variety of low environmental impact activities to your guests (such as walking trails, horse-riding, non- motorized boat trip, mountain biking, a reference library, slide shows or talks, etc.)?	1

8.3	
Do you provide active in-house training to your guides?	1
8.4	
Do you provide documented formal external field guide training to your guides? (It must be NATH or other SADC recognized)	1
8.5	
Does the training include a comprehensive environmental awareness component and make reference to programmes such as eco award Namibia?	1
9. Social responsibility	5
<i>Goal: To encourage efforts by establishments to adequately address their social responsibility towards local communities.</i>	
9.1	
Do you actively implement your social responsibility and community support policy as in item 1.2?	1
9.2	
Do you consistently monitor and record the progress made by the implementation of your policy?	1
9.3	
Do you display interesting information for guests that aim to effectively increase awareness about the local community context?	1
9.4	
Do you actively promote cultural exchanges or activities such as township tours, visits to craft markets, African restaurants?	1
9.5	
Do you stock mostly Namibian made crafts and souvenirs in your curio shop (if any)?	1
9.6	
Do you actively promote and help provide training for the local community in environmental awareness and conservation? <i>(Not applicable in freehold areas)</i>	-
Subtotal	115
Percentage	100%
10. Bonus points	6
10.1	
If there is no recycling at your local dump site where you take your solid waste, are you actively pursuing the establishment of a recycling system there, or are you in a recycling network with adjacent establishments?	2
10.2	
Have you voluntarily commissioned an EIA by an adequately qualified and recognized expert before developing your establishment, although the Environmental Management Act is not yet effective?	2
10.3	
Is almost all (over 90%) of your cooking done with solar cookers?	2
Percentage	10%
TOTAL FINAL SCORE	110%

Discussion of EANA certification

Why did you decide to get or get not certified by the Eco Awards Namibia Alliance?

In your opinion, are the certification criteria of the Eco Awards Namibia Alliance well chosen for a tourism business operating in Namibia? Please explain.

Economic data

I would be interested to see how you allocate your financial resources. Is it possible that you could provide me with some financial statistics? E.g.

- annual income statements/balance sheets/budgets
- an annual composition of your income drivers/sources
- an annual composition of your expenses
- how much of your income do you especially allocate to the acquisition of sustainable technology and/or local community projects?

Is it possible that you could provide me with a historical development of your statistics since the business started to operate within the NRNR? Especially on

- annual income (including a composition of income drivers/sources)
- annual expenses (including a composition of expenses)
- again, I would be especially interested in your income allocation towards the acquisition of sustainable technology and/or local community projects over the years?

Demographic data

What is your full name?

What is your official position/title in the company?

How long have you been working for your company?

What did you study/is your education?

Where are you from? If you are Namibian, where in Namibia are you from?

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GLOSSARY

Although definitions and explanations were given in the previous chapters, a glossary, which may repeat or summarize some of the definitions and explanations, is provided at this point. Additional definitions are given as a matter of completeness and to support full understanding of the topic discussed. Definitions are mainly taken from BLACK & CRABTREE (2007d).

Accreditation. A procedure by which an authoritative body formally recognizes that a certifier or certification program is competent to carry out specific tasks (i.e. it certifies the certifier or demonstrates they are doing the job properly). This procedure can be qualifying, endorsing and licensing entities that perform certification of businesses, products, processes or services. In Australia, New Zealand, Canada, Fiji and some other countries, accreditation has been used synonymously with certification (HONEY, 2002 as in BLACK & CRABTREE, 2007d).

Accreditation body. Accreditation bodies certify the certifiers and their capacity to certify companies or products. At present, the GSTC is the only global accreditation body for ecotourism certification programs and awards.

Adventure tourism. Tourism that incorporates an element of risk, higher levels of physical exertion and a need for specialized skills to enable successful participation. The concept is subjective in that perceptions of risk and thresholds of physical exertion vary from person to person (WEAVER, 2001 as in BLACK & CRABTREE, 2007d).

Assessment. The process of examining, measuring, testing or otherwise determining conformity with requirements specified in an applicable standard (TOTH, 2000 as in BLACK & CRABTREE, 2007d).

Assessor. A person who officially considers and examines an organization's performance or a process (BLACK & CRABTREE, 2007d).

Audit. A systematic and objective evaluation that compares performance against a set of standards or criteria (BLACK & CRABTREE, 2007d).

Auditor. A person who officially considers and examines an organization's performance or a process (BLACK & CRABTREE, 2007d).

Best practice. An industry standard of the most advanced practice in respect of particular criteria, such as the energy-efficient operation of an ecolodge or effective interpretation techniques. Best practice is often used as the standard against which benchmarking is undertaken (WEAVER, 2001 as in BLACK & CRABTREE, 2007d).

Biodiversity. The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems (CBD, n.y.).

Certification. A voluntary procedure that sets, assesses, monitors and gives written assurance that a product, process, service or management system conforms to specified requirements and norms. A certification / awarding body gives written assurance to the consumer and the industry in general. The outcome of certification is a certificate and usually the use of an eco-label (BLACK & CRABTREE, 2007d).

Certification program. A complete system containing all the requirements needed to obtain a certification award or eco-label. A certification program will be managed by a certification body, but the program is larger than the certification body or an individual certifier (BLACK & CRABTREE, 2007d).

Code of conduct. Itemized list of recommended behavior towards achieving sustainability that can apply to operators or tourists. These rudimentary quality control mechanisms are often criticized for their vagueness and self-regulation, but are also supported for providing moral advice for adherents and for providing broad directives for operators in an unthreatening manner (WEAVER, 2001 as in BLACK & CRABTREE, 2007d).

Community. People living in one place, district, state or country (NEAP, 2000 as in BLACK & CRABTREE, 2007d).

Corporate social responsibility. A company's obligation to be accountable to all its stakeholders in all its operations and activities with the aim of achieving sustainable development, not only in the economic dimension but also in the social and environmental dimensions (BLACK & CRABTREE, 2007d).

Criteria. Set of principles used as a means of judging. See standards (BLACK & CRABTREE, 2007d).

Cultural tourism. Travel for the purpose of learning about cultures or aspects of cultures (HONEY & ROME, 2001 as in BLACK & CRABTREE, 2007d).

Durban Action Plan. Outcome document of the Fifth IUCN World Parks Congress in 2003 in Durban, South Africa. The Durban Action Plan sets out the required targets and action to realize the goals of the *The Durban Accord: Our Global Commitment for People and Earth's Protected Areas*. The *Accord* establishes a new paradigm for protected areas, and issues a call for commitment and action from everyone involved in and affected by protected areas (IUCN, 2004).

Eco Awards Namibia Alliance. Certifies accommodation establishments in Namibia that are planned and managed according to eco-friendly principles. The program promotes the selective and careful use of resources, promoting reducing, recycling and reusing. In the process an establishment can improve its profitability, often with very little additional expenditure. The program is based on similar schemes in several other countries, and the criteria that those schemes use were amended to suit the Namibian environment (EANA, n.y.).

Eco-labelling. A scheme in which a product, company, service or destination may be awarded an ecological label on the basis of its acceptable level of environmental impact. The acceptable level of environmental impact may be determined by consideration of a single environmental hurdle or after undertaking an assessment of its overall impacts (SYNERGY, 2000 as in BLACK & CRABTREE, 2007d). Eco-labelling sometimes refers to the natural environment only; sometimes it takes into account social and cultural environments as well. An eco-quality label marks the state of the environmental quality, such as water quality for beaches or quality of wildlife in national parks (HONEY, 2002 as in BLACK & CRABTREE, 2007d).

Ecolodge. A specialized type of ecotourism accommodation that is usually located in or near a protected area or other ecotourism venue, and is managed in an environmentally and socio-culturally sustainable fashion. Although having a high profile within the ecotourism sector, ecolodges globally account for only a very small proportion of all ecotourist visitor nights (WEAVER, 2001 as in BLACK & CRABTREE, 2007d).

Ecotourism. Ecotourism is used to mean forms of tourism which have the following characteristics: (i) All nature-based forms of tourism in which the main motivation of the tourists is the observation and appreciation of nature as well as the traditional cultures prevailing in natural areas. (ii) It contains educational and interpretation features. (iii) It is generally, but not exclusively organized by specialized tour operators for small groups. Service provider partners at the destinations tend to be small, locally owned businesses. (iv) It minimizes negative impacts upon the natural and socio-cultural environment. (v) It supports the maintenance of natural areas which are used as ecotourism attractions by: generating economic benefits for host communities, organizations and authorities managing natural areas with conservation purposes, providing alternative employment and income opportunities for local communities and increasing awareness towards the conservation of natural and cultural assets, both among locals and tourists (UNWTO, 2002).

Ecotourism certification program. A program that covers business, services and products that describe themselves as involved in ecotourism. They focus on individual or site-specific businesses, have standards that are tailored to local conditions and are largely or totally performance-based (HONEY & ROME, 2001 as in BLACK & CRABTREE, 2007d).

Environmental impact assessment (EIA). The process of predicting and evaluating the impacts of specific developments or actions on the environment. The EIA process involves: (i) reviewing the existing state of the environment and the characteristics of the proposed development; (ii) predicting the state of the future environment with and without the development; (iii) considering the methods for reducing or eliminating any negative impacts; (iv) producing the environmental impact statement for public consultation that discusses these points; and (v) making a decision about whether the development should proceed in the proposed site, along with a list of relevant mitigation measures (SYNERGY, 2000 as in BLACK & CRABTREE, 2007d).

Environmental management system. This is the part of the overall management system that includes the organizational structure, responsibilities, practices, procedures, processes and resources for determining and implementing the environmental policy. An environmental management system includes tools such as environmental impact assessment, environmental auditing and strategic environmental assessment (SYNERGY, 2000 as in BLACK & CRABTREE, 2007d).

Fair Trade. A movement that aims to address imbalances in international trade in agricultural commodities like coffee, tea and fruit, through trading partnerships and labelling of goods exported by developing countries, usually for consumption in high-income countries located in the *North*. Fair Trade is based on the premise that socially informed consumers will pay a premium price in exchange for a reliable guarantee that certain social, labor and environmental standards have been met during the production process (KOCKEN, 2003 as in BLACK & CRABTREE, 2007d).

Global Sustainable Tourism Council (GSTC). The GSTC serves as the international body for establishing and managing standards for sustainable tourism. GSTC is mostly a volunteer organization, consisting of experts in sustainable tourism and supported by organizations and individuals with a passion for ensuring that meaningful standards are available globally for sustainability in travel and tourism. Those volunteers are organized in working groups. The GSTC is financially supported through donations, sponsorship, and membership fees. At the heart of the GSTC work are the Global Sustainable Tourism Criteria and the development of the GSTC Criteria for Destinations. These are the guiding principles and minimum requirements that any tourism business or destination should aspire to reach in order to protect and sustain the world's natural and cultural resources, while ensuring tourism meets its potential as a tool for conservation and poverty alleviation.

Greenwashing. A term used to describe businesses, services or products that promote themselves as environmentally friendly when they are not (BLACK & CRABTREE, 2007d).

Indicator. In the context of certification, an indicator is a measurable element of the criteria that the verification process will assess (BLACK & CRABTREE, 2007d).

Indigenous people. Generally referring to the original inhabitants of an area (BLACK & CRABTREE, 2007d).

Indigenous tourism. Tourism that respects and accommodates local traditions where there is substantial community or local control over the social and natural resources involved in tourism (BLACK & CRABTREE, 2007d).

Mass or mainstream tourism. Commonly used term for large-scale tourism, implying participation by the mass or bulk of a society's population. The term is usually used in

reference to the post-Second World War era of exponential tourism growth (WEAVER, 2001 as in BLACK & CRABTREE, 2007d).

Monitoring. The continued measurement and evaluation of environmental impacts to compare an organization's environmental performance with agreed environmental targets. Monitoring in certification programs usually refers to the process of ensuring that the applicant meets the criteria throughout the period of validity of the certificate / eco-label (BLACK & CRABTREE, 2007d).

Namibia Protected Landscape Conservation Areas Initiative (NAM-PLACE). A five year project established by the MET with co-financing from the Global Environment Facility and with the United Nations Development Programme (UNDP) as the Implementing Agency. Since its inception in November 2011, NAM-PLACE has undertaken to lift barriers for the establishment of a large scale network of protected landscapes and in so doing address the threats to habitat and species loss on a landscape level approach. The project aims to establish new Protected Landscape Conservation Areas and also to formalize already existing ones by introducing collaborative governance structures. To date NAM-PLACE has succeeded in bringing in an additional 15,550 ha of land under Protected Area collaborative management arrangements designed to conserve biodiversity (Republic of Namibia, n.y.).

Namibian Association of Community Based Natural Resource Management (CBNRM) Support Organizations NACSO. The NACSO is an association comprising 14 NGOs and the University of Namibia. The purpose of NACSO is to provide quality services to rural communities seeking to manage and utilize their natural resources in a sustainable manner (NACSO, n.y.a).

Nature tourism / nature-based tourism. Any type of tourism that relies mainly on attractions directly related to the natural environment. Ecotourism and 3S tourism are both types of nature-based tourism (WEAVER, 2001 as in BLACK & CRABTREE, 2007d).

Private Protected Area Action Plan. An output document of the Fifth World Parks Congress in 2003 in Durban, South Africa. The Action Plan summarizes key aspects of the private protected area sector and suggested important next steps in the evolution of this promising conservation tool (IUCN, n.y.a).

Programme of Work on Protected Areas (PoWPA). Adopted by the 7th CBD Conference of Parties in 2004. The PoWPA is a global action plan to establish comprehensive, effectively managed and sustainably funded protected area networks in each country. The implementation of the PoWPA has been highly variable across the world and many deadlines have been postponed. In order to support improved implementation, a number of international conservation NGOs, UN agencies including the CBD Secretariat and the Global Environment Facility agreed to develop a program to provide targeted financial assistance for PoWPA implementation (PoWPA, n.y.).

Protected area. An area of land and / or sea especially dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources, managed through legal or other effective means. Protected areas (high-order protected areas such as national parks in particular) are the most popular ecotourism setting (WEAVER, 2001 as in BLACK & CRABTREE, 2007d).

Sustainable development. A term popularized by the Brundtland Report in the late 1980s as development that meets the needs of the present generation without compromising the ability of future generations to meet their needs (UN, 1987).

Sustainable tourism. Takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities. Sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments (UNEP & UNWTO, 2005).

Sustainable tourism certification program. A program that measures a range of environmental, sociocultural and economic equity issues both internally (within the business, service, or product) and externally (with regard to the surrounding community and physical environment) (HONEY & ROME, 2001 as in BLACK & CRABTREE, 2007d).

Tourism. The activities of persons travelling to and staying in places outside their usual environment for more than one day and less than one continuous year for leisure, business and other purposes (BLACK & CRABTREE, 2007d).

UNEP World Conservation Monitoring Centre (UNEP-WCMC). A collaboration between the United Nations Environment Program – the world's foremost intergovernmental environmental organization – and the WCMC, a UK-based charity.

The UNEP-WCMC is UNEP's specialist biodiversity assessment arm, and the center for UNEP's collaboration with WCMC (UNEP-WCMC, n.y.).

UNESCO World Heritage Site. The United Nations Educational, Scientific and Cultural Organization (UNESCO) seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity. This is embodied in an international treaty called the Convention concerning the Protection of the World Cultural and Natural Heritage, adopted by UNESCO in 1972 (UNESCO, n.y.a). To be included on the World Heritage List, sites must be of outstanding universal value and meet at least one out of ten selection criteria (UNESCO, n.y.b).

World Commission on Protected Areas (WCPA). The world's premier network of protected area expertise. It is administered by IUCN's Global Programme on Protected Areas and has over 1,700 members, spanning 140 countries. WCPA works by helping governments and others plan protected areas and integrate them into all sectors; by providing strategic advice to policy makers; by strengthening capacity and investment in protected areas; and by convening the diverse constituency of protected area stakeholders to address challenging issues (IUCN, n.y.b).

World Parks Congress. A landmark global forum on parks and protected areas. The IUCN World Parks Congress takes place only once every 10 years, and is the world's most influential gathering of people involved in protected area management (IUCN, 2012).

World Tourism Organization (UNWTO). An UN institution, based in Madrid, which collects data on tourism and lobbies on behalf of the industry. Founded in 1975, its members include 134 national governments and more than 325 affiliates, representing tourism-related businesses (<http://european-fairtrade-association.org/Efta/Doc/History.pdf> as in BLACK & CRABTREE, 2007d).

World Travel & Tourism Council (WTTC). The forum for business leaders in the travel and tourism industry. With Chief Executives of some one hundred of the world's leading travel and tourism companies as its Members, WTTC has a unique mandate and overview on all matters related to travel and tourism. WTTC works to raise awareness

of travel and tourism as one of the world's largest industries, supporting 260 million jobs and generating 9 % of world GDP (WTTC, n.y.).

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STATUTORY DECLARATION

I herewith formally declare that I have written the submitted master thesis independently. I did not use any outside support except for the quoted literature and other sources mentioned in the paper.

I clearly marked and separately listed all of the literature and all of the other sources which I employed when producing this academic work, either literally or in content.

I am aware that the violation of this regulation will lead to failure of the examination.

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