

BEST PRACTICES IN THE WORLD'S OLDEST DESERT

A preliminary summary

Dr M K Seely and Dr J R Henschel
Desert Research Foundation of Namibia
P O Box 20232, Windhoek, Namibia
Drfn@drfn.org.na

Promoting best practices for conservation and sustainable use of biodiversity of global significance in the arid and semi-arid areas of Namibia is being undertaken by a loose public-private-NGO partnership. In the semi-arid areas of Namibia this is led by the public sector that manages a number of established national parks and more recently, in partnership with the NGO community, is promoting community based natural resource management through conservancies on commercial and communal farming lands. The private sector is primarily involved in tourism that provides the foreign exchange income motivating the public sector, with its many alternative social responsibilities, to retain their interest in biodiversity. In the arid areas of Namibia, a similar situation prevails with differences of emphasis but not overall pattern.

Scientific lessons learned: For forty years, the Desert Research Foundation of Namibia (DRFN, an NGO) (formerly the Desert Ecological Research Unit), in partnership with the Ministry of Environment and Tourism (MET), has coordinated and undertaken research in the Namib Desert based at Gobabeb. Several years ago, these two institutions entered a Joint Venture and the Gobabeb Training and Research Centre (GTRC) was formed. Originally research focused on finding explanations for the high species richness of tenebrionid beetles in the Namib, compared with any other desert in the world, when the rest of Namibia and Africa was focused on the charismatic mega-fauna. This approach continually evolved covering a wide range of basic and applied research. Scientific lessons learned include the importance of fog as the primary water source for the especially rich and diverse invertebrate fauna and lichen flora. These lessons, based on research ranging from climatological, taxonomic and physiological to ecological in nature, have led to current studies on fog harvesting and its application by people. Lessons learned concerning variability of the environment include the behaviour and role of ephemeral rivers or 'linear oases' that cross the desert while supporting a riparian forest with its associated fauna and farming opportunities and recharging underground aquifers upon which coastal development depends. Other scientific lessons learned have ranged from the formation and dynamics of sand dunes and their role in the biotic system to changes in the micro-environment caused by a variety of rock weathering agents to the impact of off-road vehicles on the topography and biodiversity of the desert surface. Vegetation studies have provided a variety of basic and applied results focusing on ephemeral and perennial grasses near the base of the food chain, the endemic family of Welwitschiaceae and the variety of species upon which the local people depend, for cash and other necessities.

Public policy and management: Lessons learned surrounding biodiversity in arid areas and public policy issues are not unique. Much of the Namib Desert is set aside as 'parks', not to protect the biodiversity, but for political reasons, for mining and because it was viewed as useless, particularly for agriculture. Change in public policy has been driven by changing global perceptions of landscape and the value of biodiversity which fuels international tourism. The tourist value of the Namib Desert in particular has been enhanced by research, and dissemination of the results of research, on the unique biodiversity of this hyper arid, coastal area. Even today, as vast protected areas that served as a buffer for coastal diamond mining are opened

up to alternative use, their status as a biodiversity hotspot influences public policy and plans for future use.

At the national level, Namibia has a very active policy setting arm in the Directorate of Environmental Affairs in the Ministry of Environment and Tourism. Preparing first a Green Plan with a chapter on biodiversity, this directorate has taken the lead in having the government ratify the Convention on Biodiversity, as well as the Convention to Combat Desertification, Ramsar and CITES, and integrating them into National Development Plans. The public sector has an increased awareness of biodiversity although a draft Environmental Management Act languishes.

Management lessons for this arid area are indirectly research driven. The Namib Desert was originally considered by most as an open, rugged space to test vehicles and people against the environment. As information on the biodiversity and relative fragility of the landscape became available, and the number of researchers attracted to the area was noticed, management directives increased. This was partly in support of enhancing a tourism attraction and partly to protect the biodiversity. Currently, as in many parts of the world, tourism activities are attracted by the relatively unspoiled open spaces while increasing tourism is itself impacting on the landscape. Although a variety of management tools have been applied to development of the Namib Desert, for example, requiring environment impact assessments for infrastructure development, economic considerations, not biodiversity, remain paramount.

Use and management by local populations: The definition of local populations in the Namib Desert is not entirely clear. The only people in Namibia living within a park, the Topnaars, live along the ephemeral Kuiseb River in the Namib Desert. Elsewhere in Namibia in communal farming lands, community based natural resource management is being developed but the modalities for developing this approach within a park have yet to be established. Moreover, the Topnaars have very close ties with the port town of Walvis Bay where most of their population lives. Living close to and amongst researchers working at the GTRC on the lower Kuiseb River, the researchers and the local Topnaar people have learned many lessons from each other, directly and indirectly. Similarly, urban coastal residents have shared many experiences with researchers. Currently, several research projects are being undertaken directly with the Topnaars. These focus on developing their management and markets for indigenous fruit products and community based tourism and harvesting fog. Growing from the efforts of the Topnaars and researchers, several developmental NGOs are now involved, particularly focused on marketing. The DRFN, collaborating with the Department of Water Affairs, is working with all communities living within or using water from the ephemeral Kuiseb River basin to pilot Basin Management Committees, a key component promoted in the draft Water Act. The research base established in this basin and the long-term interactions among the wider community enhance this development.

Sustainable use of resources: Most of the unique biodiversity of the Namib desert lends itself to support tourism in the area. Tourism is also based on the landscape that is inextricably linked to the biodiversity. This begs the question of how this diverse resource can be exploited for tourism without destroying it. Management of tourism is very diffuse and can be guided by public policy, rules and regulations but is implemented mainly by the private sector. With a current focus on low volume tourism the balance could be maintained. As the numbers continue to increase, even though not extending to mass tourism, the landscape and its associated biodiversity are in jeopardy. At the same time as basic research yielding new, interesting information concerning the biodiversity of the Namib is decreasing, dissemination of

existing information to government and the tourism industry is increasing. This shifting balance among research information, policy and tourism is of particular concern for the biodiversity of the Namib when viewed against the back-drop of increasing tourism on a global scale.

Capacity building and partnerships: Interest in and concern for biodiversity in this arid area has been a constantly shifting relationship between the public sector, the private sector and the NGOs. Although the public and NGO sectors shared the Gobabeb research facility with the Namib-Naukluft Park since 1970, a true partnership only arose when the Joint Venture Agreement was signed and the GTRC was formed enhancing partnerships and capacities of all involved. The Topnaar community, the Southern African Development Community – Environment and Land Management Sector (SADC-ELMS) and a Namibian tertiary education institution are represented on the board of trustees. Similarly, the public and NGO sectors were guiding tourism development and the private sector tourism industry, including the Topnaar, was based on their support. Rather than a true partnership to date, each sector has proceeded relatively independently, influenced by and influencing the other. Interest in the biodiversity and landscape has varied among the sectors, but has remained the central point for direct or indirect interaction.

Similarly, capacity building has been addressed differently among the three main sectors concerned with biodiversity in the Namib desert. Since independence in 1990, capacity building in the public sector concerned with biodiversity has, at the local level, focused on management and law enforcement. At the national level, the Ministry of Environment and Tourism is responsible for the UN conventions including the Convention on Biodiversity. The country programme has consolidated available information in the form of publications, has established a multi-disciplinary task force and in general has contributed to establishing partnerships amongst concerned public and NGO institutions. Capacity building within the relevant institutions is beginning to emerge from these efforts. In the private sector, requirements for formal qualifications for tourism operators is a driving force for increased capacity building. In the NGO sector, where specific efforts for capacity building with respect to biodiversity have been a long tradition, this focus continues. A variety of hands-on training opportunities with DRFN and a variety of partners takes place at the GTRC and throughout Namibia, many established on an annual basis. These range from one week courses in arid zone ecology for university and polytechnic students to 10 week courses in environmental problem solving for sustainable development. In a young developing country such as Namibia, this latter approach has resulted in many graduates assuming positions in the public and private sector with enhanced capacity and understanding of the relevance of biodiversity.

This case study summary focuses on the Desert Research Foundation of Namibia in its base at the Gobabeb Training and Research Centre and its research and dissemination of information in support of biodiversity conservation in arid, western Namibia. These institutions participate as members of the biodiversity task force established by government and play a particular role in long-term research on biodiversity in Namibia. Under the aegis of the task force, Namibia's Long Term Ecological Research site (NaLTER) has been established at Gobabeb and become a member of the International Long Term Ecological Research site network (ILTER). This is the result of and has contributed to all of the aspects mentioned in this summary.