



## Desert Research Foundation of Namibia

### Annual Report 2005 - 2006



*'enhancing  
decision-making  
for sustainable  
development'*



## Message from the Chairman of the Board of Trustees, Tangeni Erkana

Yet another year has passed by rapidly and it is again my duty and pleasure to briefly review the progress and activities of the Desert Research Foundation of Namibia for the year 2005-2006.

Capacity building, within and outside the organisation, continues to be the main focus of the DRFN. By capacity building we particularly mean developing **attitudes** to support **skills**, and focussing on **understanding** and **application** of knowledge gained. It is satisfying to see that approaches pioneered by the DRFN are now being more fully integrated into government programmes, such as basin-wide management of water resources (first tested in the Kuiseb Basin), and the concept of Local Level Monitoring as a tool for combating desertification, both in Namibia and in other African countries.



Within our own staff, two PhDs, two Master's and three BTechs continued, and one PhD and one MSc programme were initiated. Six Namibian interns worked with our staff and eight international students volunteered with the DRFN, five working on higher degrees and three in established exchange programmes. In total, more than one third of our own staff advanced their formal education and training during the past year. At the same time, almost all of our staff gained greater experience and exposure to environmental issues at the local, regional and international levels, while many received in-house training in various fields. These ranged from advanced computer skills in Global Information Systems, remote sensing and biodiversity policy analysis to managing Namibia's Water Partnership.

Capacity building also extended to our partners in various programmes. Of note was the highly successful cattle auction *cum* training programme at Onyuulaye, as part of the Oshikoto Livestock Development Programme. The Desert Margins Programme and Ephemeral River Basins in SADC Programme also supported capacity enhancement with local communities. Our inputs to various tertiary education programmes were advanced through the Gobabeb In-Service Training Programme and contributions to training modules at Gobabeb, such as the Biodiversity Management MSc.

As a former teacher, I give my whole-hearted support to the focus on capacity building as the primary mission of our organisation. In this way, DRFN's contribution to Namibia's development will be sustained.

## Message from the Executive Director, Mary Seely

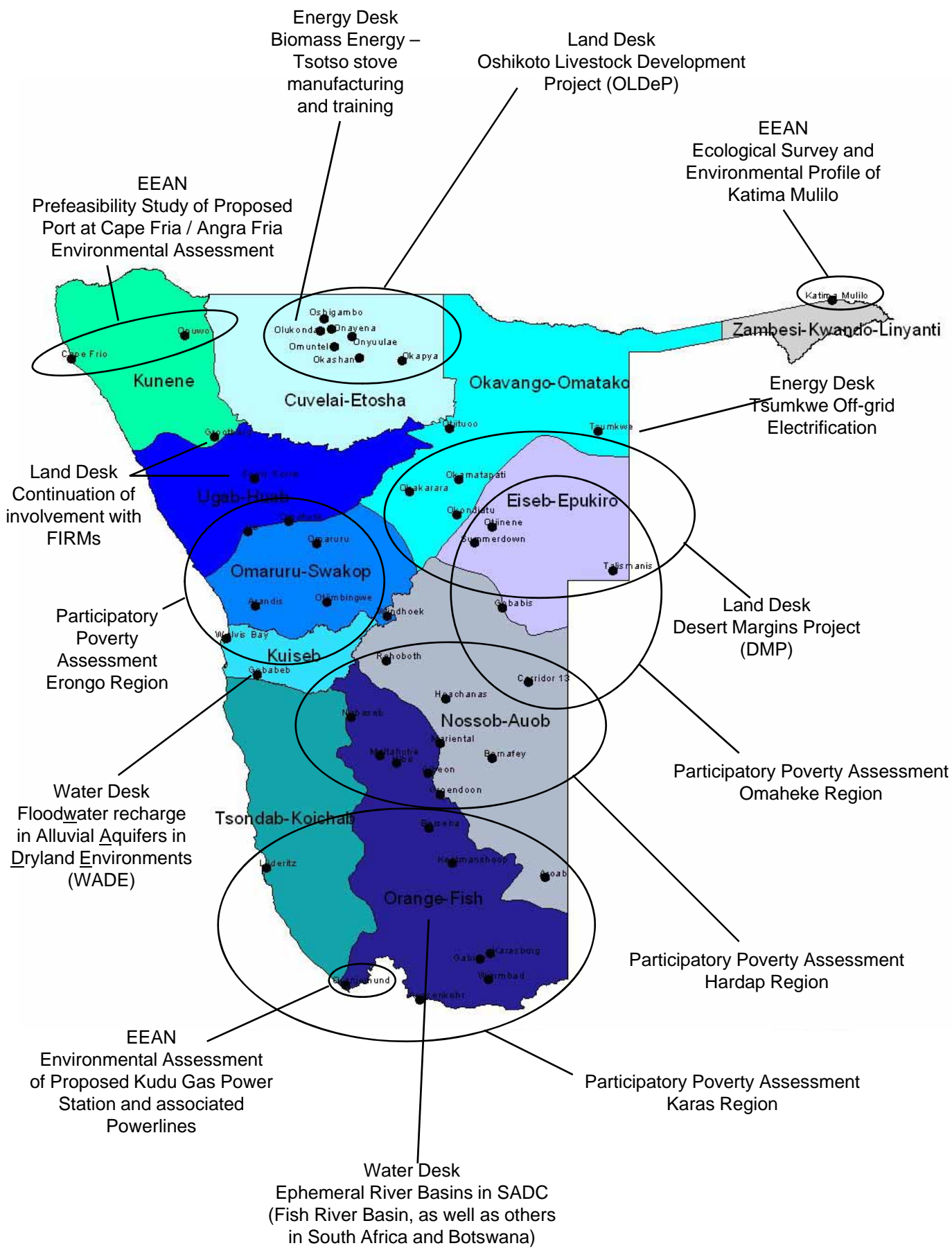


Our emphasis lies in contributing to the capacity of government staff, community members, high-level decision-makers and our own staff through enhanced understanding, so that management of natural resources brings lasting benefits to this country. Although financial resources continue to lag behind our reputation and demand, the DRFN continues to make a contribution to the sustainable development of Namibia.

Land, Water and Energy Desk projects described in this report are shown as separate entities but wherever possible we integrate their concerns, and work closely with partners in government, NGOs and civil society. For instance, sound management of water points is crucial to good rangeland

and livestock practices, and is facilitated through close collaboration with various directorates in the Ministry of Agriculture, Water and Forestry and communities on the ground.

The year has seen us deeply involved in Participatory Poverty Assessments organised by the National Planning Commission. This reflects our strong desire to marry the practices of ordinary Namibian people as they strive to make a living, with the need for wise use and management of our natural resources.



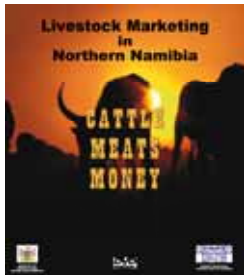
**Sites of DRFN activities in 2005-06,  
set on a map of river basins of Namibia**

# Land Desk

Building on the achievements of Namibia's Programme to Combat Desertification, attention in the Land Desk now focuses on empowering local communities for improved management of communal rangelands. The benefits of putting communities 'in the driver's seat' were demonstrated in the **Oshikoto Livestock Development Project**, most specifically where farmers north of the Red Line, with collaboration and support of Meatco, could market their cattle at the Onyuulae auction that was set up by the DRFN and attended by the Minister of Agriculture, Water and Forestry and the Director-General of the National Planning Commission.



Opening up access to markets was identified as a key concern of local farmers. Their participation in FIRMS (Forums for Integrated Resource Management) in the Oshikoto Region helped to facilitate this auction, and to identify other means of income generation that relieve pressure on rangeland resources.



Establishment of FIRMs and training in the methods of Local Level Monitoring were key activities in the **Desert Margins Programme**, being conducted in Kalahari sites in eastern Namibia.

Local Level Monitoring is a simple technique that helps farmers and agriculture extension personnel monitor rainfall, land and livestock conditions, to facilitate more flexible management of rangelands. For instance, the good rains of summer 2005-06 improved pastures greatly, but closer analysis by LLM showed certain areas around Okanjatu were still 300% overstocked. Armed with this realisation, farmers and extension staff are now discussing various options such as rotational grazing, greater off-take through auctions and other means to make their farming more sustainable.



Improved preparedness for droughts through approaches such as flexible rangeland management, greater participation of local communities in monitoring rangeland conditions, use of arid-adapted breeds of livestock, and strong coordination with agricultural extension services, are all key elements of a Centre for Drought Risk Management that is being promoted for southern Africa. Growing UN and African recognition for the work being done in Namibia, together with moral support from the Namibian government and more concrete input from donors, it is hoped that the **Drought Risk Management Centre** will find a home in this country.



# Water Desk



The WADE project (**Floodwater recharge in Alluvial Aquifers in Dryland Environments**), being conducted in selected ephemeral rivers in Spain, Israel, South Africa and Namibia, is analysing recharge into, and long-term losses from, the alluvial aquifer of the Kuiseb River at Gobabeb. Apparatus to measure infiltration at different depths withstood the dramatic February 2006 floods. Time Domain Reflectometry probes buried below the river bed measure the rate of infiltration, and have recorded a rise in the water table resulting in complete recharge of the aquifer at Gobabeb in two flood events.

The Fish River Basin encompasses a large proportion of southern Namibia, and is the focus of the ERB project (**Ephemeral River Basins in SADC**) to assess the potential of institutional development and management of its water resources. Using the Basin Management Approach, stakeholders from various sectors, and with their sometimes opposing needs and desires, are developing an overall vision and management plan for use of the water. The Fish River Basin Forum is established with 24 members from 15 different institutions, ranging from Regional Councils to Farmers associations and Water Point Committees.



The Basin Management Approach, first piloted in the Kuiseb River Basin, is now being implemented in the Cuvelai Basin in north-

central Namibia. DRFN, as a consultant to the Ministry of Agriculture, Water and Forestry, was involved in analysing the Water Resources Management Act of 2004 with respect to the roles and responsibilities of Basin Management Committees, as well as drafting a detailed information and awareness plan for the Cuvelai Basin, focusing on the Iishana sub basin.



DRFN is the secretariat of the **Namibia Water Partnership**. The main role of the NWP is to ensure coordination amongst partners in the water sector, such as Ministry of Agriculture, Water and Forestry, Namwater, municipalities, commercial farmers, Regional Councils, water-related NGOs and private sector contractors and consultants. Public lectures, such as this one on rain and floods in Namibia by Guido van Langenhove of the Department of Water Affairs and Forestry, were organised to raise general levels of awareness about water issues.

# Energy Desk



The **Energy Demonstration Trailer** is a means to raise awareness and spread information about renewable energy and energy efficient technologies. Emphasis is placed on the services - cooking, lighting, refrigeration, entertainment and business - that these technologies can provide. The trailer is a fully functional 'solar household' on wheels, and is now promoting the benefits of following a renewable energy route to development throughout Namibia.



Use of firewood for cooking can be greatly reduced through the use of fuel-efficient stoves. Furthermore, manufacture of these stoves is easy and well suited for small enterprises. DRFN, as Secretariat of the **Biomass Energy Management Programme** of the Ministry of Mines and Energy, organised a training course for tsotso stove manufacture in collaboration with community members at Olukonda in Oshikoto Region. Two stove manufacture businesses have been established.

In conjunction with the Namibia Renewable Energy Project, the Gobabeb example of a **mini-grid off-grid** is being replicated at **Tsumkwe**. Until recently, this remote town relied solely on diesel-generated power that delivered fluctuating and often interrupted electricity, while ringing up an annual deficit of over N\$400,000. Sunshine for an average of 8 hours per day, 300 days per year is too good to ignore! Although the capital expense of solar power is high, long-term savings make it far more economical, and the environmental benefits are an added bonus. So far the clinic has benefited from the conversion.



# Environmental Evaluation Associates of Namibia



A proposed port at **Cape Fria** on the northern Skeleton Coast was the subject of an **Environmental Assessment**. The project is still in prefeasibility stage but requires careful and objective assessment with respect to its economic and environmental viability, since it will bring considerable changes to the face of north-western Namibia, at very major capital expense but, as yet, uncertain benefits. Associated with this project is a proposed railway line to act as the link between the coastal port and north-central and north-eastern Namibia, and neighbouring countries.

These projects were undertaken in collaboration with consulting engineers for the Ministry of Works, Transport and Communication.



A different infrastructural development assessed by EEAN was the powerlines proposed to bring electricity generated by the Kudu gas plant at Oranjemund, across the Sperrgebiet to link up with the main grid.

The biggest job undertaken by EEAN was **Participatory Poverty Assessments** in Omaheke Region, as a pilot study, and then in Erongo, Hardap and Karas Regions, which are still underway. These were done for the National Planning Commission, as a consortium with Urban Dynamics. They have shown how deep-seated the problems of poverty in Namibia really are:- loss of hope borne from poor education and lack of employment opportunities, heavy dependence on very meagre resources such as a few goats, a small patch of mahango or a state pension, and the downward spiral of alcohol abuse. But in every poor community there are individuals who show initiative and a strong desire to break out of the clutch of poverty. These are the people who must be encouraged and strengthened in their capacity to lead development in their communities.



# Gobabeb Training and Research Centre

Every year DRFN contributes two intern students from Grinnell University in USA, to the work and activities at Gobabeb. They have assisted in meeting the IT demands of the station so that all visitors can now enjoy 24-hour access to the net, even though the satellite link is still quite slow! Also, training modules have been compiled with funding assistance from the Finnish Embassy, so that courses are tailored to specific visitor groups such as modules on Energy Efficiency or Integrated Water Resources Management for tertiary students, and Desertification or Desert Ecology for secondary schools. The module on Climate and Weather is always popular with school children, in which one of the exercises in the weather station is to compare soil temperature at different depths.



Biodiversity Monitoring Transect Analysis in Africa (Biota) aims to understand the dynamics of ecosystems and their controlling mechanisms and factors, across different biomes in southern Africa. The project compares different ecosystems along east-west and north-south gradients in Namibia and South Africa, and uses Gobabeb as the important anchor of the east-west transect, tying Biota into the Namib Desert.



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DRFN is proud to offer opportunities for young Namibians seeking experience in environmental work and its interface with social and economic conditions.