# Namibia's
# Third National Report
# on the implementation of
# the United Nations Convention
# to Combat Desertification

Republic of Namibia

UNCCD United Nations Convention to Combat Desertification

Compiled by

Desert Research Foundation of Namibia

DRFN

**Windhoek**

**October 2004**

**NAMIBIA'S THIRD NATIONAL REPORT**
**ON THE IMPLEMENTATION OF THE UN CONVENTION**
**TO COMBAT DESERTIFICATION**

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Desert Research Foundation of Namibia

# List of abbreviations

| | |
|---|---|
| BERMMP | Bush Encroachment Research, Monitoring and Management Project |
| BMZ | Bundesadministerium für wirtschaftliche Zusammenarbeit und Entwicklung |
| CBNRM | Community Based Natural Resource Management |
| CBO | Community Based Organisation |
| CN | Counterpart Network |
| COP | Conference of Parties to the UNCCD |
| CRIC | Committee for the Review of the Implementation of the Convention |
| CPP | Country Pilot Programme |
| DEA | Directorate of Environmental Affairs, MET |
| DEES | Directorate of Extension and Engineering Services, MAWRD |
| DoF | Directorate of Forestry, MET |
| DRFN | Desert Research Foundation of Namibia |
| EMIN | National Environmental Monitoring and Indicators Network |
| FAO | Food and Agricultural Organisation |
| Finnida | Finnish International Development Agency |
| FIRM | Forum for Integrated Resource Management |
| GEF | Global Environment Facility |
| Gobabeb Centre | Gobabeb Training and Research Centre |
| GRN | Government of the Republic of Namibia |
| GTZ | Gesellschaft für Technische Zusammenarbeit (German Agency for Technical Cooperation) |
| InfoCom | Information and Communications Unit, MET |
| LIFE | Living In a Finite Environment Project |
| MAWRD | Ministry of Agriculture, Water and Rural Development |
| MET | Ministry of Environment and Tourism |
| MLRR | Ministry of Lands, Resettlement and Rehabilitation |
| MoF | Ministry of Finance |
| MRLGH | Ministry of Regional and Local Government and Housing |
| Nangof | Namibian NGO Forum |
| Napcod | Namibia's Programme to Combat Desertification (= NAP) |
| NASSP | Namibian Agricultural Services and Support Programme |
| NAU | Namibian Agricultural Union |
| NCB | National Coordinating Body |
| NCSA | National Capacity Self-Assessment project for Global Environmental Management |
| NDP | National Development Plan |
| Nepru | Namibian Economic and Policy Research Unit |
| NGO | Non-Governmental Organisation |
| NHE | National Housing Enterprise |
| NNF | Namibia Nature Foundation |
| NNFU | Namibian National Farmers Union |
| Nolidep | Northern Livestock Development Programme |
| NPC | National Planning Commission |
| NRM | Natural Resource Management |
| NSC | National Steering Committee (= NCB) |
| PST | Project Support Team |
| REEE | renewable energy and energy efficiency |
| R3E | Renewable Energy and Energy Efficiency Bureau |
| SADC-ELMS | SADC Environment and Land Management Sector |
| Sardep | Sustainable Animal and Range Development Programme |
| SDDI | SADC-DRFN Desertification Interact |
| SO | Service Organisation |
| TWG | Technical Working Group |
| UNCBD | United Nations Convention on Biodiversity |

| | |
|---|---|
| UNCCD | United Nations Convention to Combat Desertification |
| UNDP | United Nations Development Programme |
| UNFCCC | United Nations Framework Convention on Climatic Change |
| USAID | United States Agency for International Development |
| WILD | Wildlife Integration for Livelihoods Diversification |
| WWF | Worldwide Fund for Nature |

## Summary in words

Napcod, Namibia's Programme to Combat Desertification, started in 1994. Until 2004, its main financial support was from the German Government through BMZ/GTZ. This funding has recently ended, in July 2004, and the current status of the National Action Plan (NAP) is unclear. Continuation of activities is being considered under a Country Pilot Partnership on Sustainable Land Management, with support from the UNDP/Global Environment Facility (GEF). Elements of the NAP will be continued and integrated in the new project 'Strengthening the MET'. It is necessary to formalise the new approach to the NAP so that the momentum built up during Napcod is not lost.

While Napcod was not formally accepted by the government as a National Action Plan and did not follow UNCCD guidelines for NAPs (because it started before the UNCCD came into being), it has enjoyed support and involvement from government ministries, especially the Ministry of Environment and Tourism (MET) and the Ministry of Agriculture, Water and Rural Development (MAWRD), and acceptance by the UNCCD.

Napcod has been characterised by a 'rolling planning' approach, meaning that the programme has evolved under the guidance of its National Steering Committee / National Coordinating Body according to needs identified by stakeholders, rather than following a standardised predetermined format.

Institutional support for combating desertification has been provided through a reasonable framework of programmes, policies and legislation that aim toward sustainable management of natural resources. However, there are some contradictions that need to be resolved, and some policies and bills are not yet enacted. In the past 4-5 years there has been slow movement in enacting new legislation necessary to enable sustainable practices. Also, there has been little commitment on the ground to law enforcement (e.g. regulations concerning cutting of trees, illegal fencing of communal land). MET has recently expressed renewed conviction to address these issues.

A diagnostic feature of Napcod has been its very broad and effective participation, especially at community level. The FIRM approach (Forum for Integrated Resource Management) has been shown to be successful in Napcod pilot sites, and will be extended to other communities in future. Local-Level Monitoring, a technique that assists farmers to monitor rangeland condition and adjust stocking rates accordingly, is also being promoted and extended beyond the pilot sites where it was tested. These methods enable farmers on the ground to make appropriate decisions for sustainable natural resource management.

Napcod's tentacles are therefore reaching out far. In addition to LLM and FIRM, the component of Napcod dealing with bush encroachment has given rise to development of a policy on bush encroachment accompanied by MAWRD activities addressing this problem. Thus, activities and approaches that were started during Napcod are now being operationalised and mainstreamed into the work plans of MAWRD and other ministries.

Combating desertification is often viewed by decision-makers as merely an 'environmental' issue that does not deserve high priority. Its role in directly influencing people's livelihoods, and its benefit to high-priority programmes such as poverty reduction, are, to date, often misunderstood or ignored. Despite often getting low political priority, the MET Minister's opening statements at a workshop at the conclusion of Napcod shows that there is political will to continue combating land degradation. The minister stressed the need to escalate the efforts in combating desertification and that the end of the Napcod programme, should be seen only as the end of a particular programme, and not in the efforts to combat desertification. Namibia is proud of the achievements of Napcod over the past ten years, but there are a number of identified challenges in combating desertification that still needs to be met.

A lot of environmental work in Namibia is enhanced because of the good working relationship between the government and NGOs. While there are some disagreements and conflicts, there is overall consensus that these two sectors need each other and complement each other to produce long-lasting and significant improvements in agricultural and environmental practices for sustainable natural resource management, especially at community level.

Napcod has enjoyed international recognition for its achievements, as confirmed in September 2004 by the words of the UNCCD General Secretary, His Excellency Hama A Diallo: *"Namibia has made commendable efforts in the management of its natural resources at community, as well as national level. This is what the UNCCD and its its partners, UNDP, UNEP, FAO, African Development Bank and World Bank wanted to see. Namibia's experiences are quite useful to all its neighbours".* This recognition underlines the value of strong NGO-government partnerships, an emphasis on community-level participation, and the advantages of a flexible "rolling planning" approach.

# Summary in tables

## Table 1: Focal point institution

| Focal point Institution | |
|---|---|
| Name of focal point | Mr. Sem Shikongo |
| Address | Directorate of Environmental Affairs, Ministry of Environment and Tourism, Windhoek, Namibia |
| E-mail address | sts@dea.met.gov.na |
| Country-specific websites related to desertification | www.desertification.org |

## Table 2: Situation of NAP

| Situation of NAP | |
|---|---|
| Date of validation<br><br>1994 | Body/institution/government level which validated the NAP<br><br>Ministry of Environment and Tourism |
| NAP review | 2002, 2003, 2004 |
| NAP integrated into the poverty reduction strategy? | Environment, not the NAP *per se*, is currently being integrated into the National Poverty Reduction Plan |
| NAP integrated into the national development strategy? | NAP principles have been integrated into Vision 2030 and NDP2 |
| NAP implementation started with or without the conclusions of partnership agreements? | Implementation started with partnership agreements with donor. In approximately 1996/97 an agreement was signed between MET and MAWRD |
| Expected NAP validation? | Funding for Napcod has ended. The NAP will be continued through the upcoming UNDP/GEF-financed Country Partnership Programme. Elements of the NAP will be continued and integrated in the new project 'Strengthening the MET' |
| Final draft of NAP exists? | Napcod has used a rolling planning approach. Documentation exists but not as a single NAP. |
| Formulation of a draft of a NAP is under way? | No, see above |
| Basic guidelines for a NAP established? | Yes |
| Process has only been initiated? | No, see above |
| Process has not yet started? | No, see above |

## Table 3: Member of SRAP/RAP

| Name of subregional and/or regional cooperation network | | Involvement specifically in topics such as water harvesting techniques, soil erosion |
|---|---|---|
| 1 | SRAP established through SADC-ELMS | Involved in UNCCD implementation in SADC region. |

## Table 4: Composition of the NCB (= Napcod's National Steering Committee)

| Name of institution | | Government | NGO | Male / female |
|---|---|---|---|---|
| **1.** | *Ministry of Environment and Tourism* | X | | M & F |
| **2.** | *Ministry of Agriculture, Water and Rural Development* | X | | M |
| **3.** | *Ministry of Lands, Resettlement and Rehabilitation* | X | | M |
| **4.** | *Ministry of Regional and Local Government and Housing* | X | | M |
| **5.** | *Ministry of Foreign Affairs* | X | | M |
| **6.** | *Ministry of Finance* | X | | M |
| **7.** | *National Planning Commission* | X | | M |
| **8.** | *University of Namibia* | X | | F |

Napcod projects from the German Government through BMZ/GTZ. The Namibian Government also contributed in kind by granting office space to the National Coordinator and creating the post of Chief Development Planner in the DEA to coordinate all 3 conventions.

During Napcod the Steering Committee was not in a position to promote synergies among different stakeholders, UN conventions or programmes, apart from the fact that the NSC itself was a group of different stakeholders, representing a wide range of backgrounds. This is not to say its role was insignificant. The composition of the NSC helped enormously to ensure synergistic programming of projects addressing the principles of UNCCD. Most specifically, the DEA's Chief Development Planner organised a Local Level Synergies Workshop in 2003. The NSC also provided a network for a variety of projects and programmes to take advantage of the existing wide network in ministries and NGOs addressing issues of the UNCCD. An NGO member of the NSC was a member of the Core Team developing Vision 2030. However, synergies should also be promoted amongst an even wider range of programmes and stakeholders, and not be limited to UNCCD programmes. This may be possible if the NSC is adopted by the CPP.

The networks amongst members of the NSC were not based on the NSC itself but on activities arising from Napcod and other activities of mutual interest. The NSC could be identified as the seed, but growth of networks did not involve it as a mechanism of communication. Networking amongst civil society organisations and government sectors at the local level was more effective than amongst government sectors at the national level.

As reported under the NCSA below, cooperation and collaboration are strong features of Namibia's institutional capacity (although much more is still required). Despite the fact that the NSC had no formal authority, its networking power was considerable. It should therefore be retained and replicated as a foundation on which to build greater integration of policies and programmes in future.

### *National Focal Point*

The National Focal Point (NFP) has been based at DEA (MET) throughout the Napcod programme. Within the MET, communication between the NFP and the chair of the NCB is direct as the NFP reports to the chair of the NCB in his official position. Currently, the NFP is subsumed into the 'Strengthening the MET' project with ongoing responsibilities as the NFP for the CBD and the UNFCCC. That the NFP is the same person for all three UN conventions certainly ensures synergistic implementation of the conventions.

### *Napcod National Coordinator*

Napcod had a National Coordinator, who was also the National Focal Point, until February 2003, when Phase III was supposed to end. She was based at DEA (MET). Since then the current NFP has taken on the responsibilities previously held by the National Coordinator. Also, DRFN has had the implementing responsibility for some of the components, and had an internal coordinator for Napcod until July 2004.

### *The Counterpart Network and Technical Working Groups*

Napcod formed a network between professionals in government, NGOs and the private sector addressing various aspects of the national programme. The Counterpart Network (CN) shared information and approaches of mutual interest and most of the members were closely involved in Napcod. The CN included stakeholders with diverse backgrounds. The diversity of the group contributed in a fruitful way to the discussions as viewpoints from different institutions and disciplines were introduced.

However, the diversity of the group was also a drawback as the discussions seldom reached the required depth, i.e. not all stakeholders had the understanding or interest of the topics being discussed. This led to the network becoming a forum

where more general issues regarding desertification were discussed, and few inputs were given from the CN members towards the actual development and implementation of the programme. This was compensated by the introduction of the Technical Working Groups, i.e. smaller, more focused expert groups associated to the main components of the programme. The members of the different technical working groups were experts with direct interest in a specific component who were directly involved in the development of the various components.

The Technical Working Groups (TWGs) formed sub-committees to the NSC with the main objective to oversee and direct the progress within the components. These sub-committees were formed to ensure an active and involved Steering Committee but also in response to the limited direct inputs given by the larger CN. To ensure commitment from the members of the different working groups, the members of the groups were self-selected and included persons who were not official members of the NSC, but had an interest in a specific components of the programme. Some TWGs functioned better than others. For instance, the TWG on bush encroachment was very successful, while the policy group was less effective.

## Napcod products

Relatively minor products of Napcod were a series of discussion documents focussing on practical aspects (e.g. providing guidelines to Water point Committees on tariff structures), and a set of booklets on the achievements of Napcod compiled in 2002 but never published. Also, booklets on Local Level Monitoring and the FIRM approach have been published (see SDDI p26).

The main successes of Napcod were two 'products' that can be used as tools for improved resource management at the local level: Forums for Integrated Resource Management (FIRMs) and Local Level Monitoring (LLM). Both products are based on participatory approaches. Participatory processes within the Napcod programme have been relatively effective as far as they extended, although they were not all-encompassing.

### *Local Level Monitoring*

Local Level Monitoring (LLM) is a tool for improved decision-making based on monitoring of biophysical indicators that farmers themselves have identified. Currently LLM consists of five different indicators; livestock conditions, rainfall, rangeland condition (especially grasses), carrying capacity and bush density. It builds on a technique developed by the CBNRM programme to assist conservancies monitor their wildlife by using 'event books' to keep records of numbers of game, poaching and similar aspects. LLM simply adapted the event book system to include agricultural aspects in the routine monitoring that conservancies do to meet MET requirements.

The monitoring is done by the farmers themselves, using a field guide developed for the specific geographical area with tables and graphs that are easy to fill in. Local Level Monitoring involves the application of technical and scientific skills by communities. The indicators and monitoring procedures are worked out in cooperation with relevant service providers but the monitoring itself is undertaken by individual farmers. Discussion and application of the results of the monitoring should ideally be done by communities, preferably facilitated by relevant service providers such as agricultural extension technicians.

A Napcod evaluation of the impact of LLM and the FIRM approach was conducted in the first half of 2004. Three pilot areas were visited, Uuvudhiya, #Khoadi//Hoas, and the Gibeon area. In the evaluation, people in the pilot areas knew more about LLM than FIRM. This could be because LLM is a tool used by individual farmers, while FIRM is a management approach, and only directly involves a few community members. There is however a trend that knowledge and use of LLM decreases when moving away from the centre of Napcod pilot areas. As with FIRM, it seems that Napcod's LLM influence has been geographically restricted to pilot areas.

In Uuvudhiya and in the Gibeon pilot areas, individual farmers do the monitoring, while #Khoadi//Hôas conservancy has chosen to train a number of Environmental Shepherds that do the monitoring of the whole conservancy. LLM has only recently been introduced in Uuvudhiya and Gibeon, and the training has not yet been completed.

Rainfall, livestock condition and grasses are the indicators that the farmers find easy to monitor, and are also most important. Carrying capacity and bush density are more difficult, and bush density is not applicable in all pilot areas. Training on how to use the carrying capacity and bush density indicators is not completed, and more training will be provided by DEES in the near future.

Although the majority of the respondents claim they already use LLM for decision making, public discussions of the monitoring results and training in using and analysing the data are needed in all pilot areas. This way LLM can be a tool for communities to jointly manage natural resources, and not just an individual tool.

LLM is under continuous revision and upgrading. Several farmers gave advice on how to improve the system. This is very encouraging as it shows that they understand it and use it critically. One example is a farmer that pointed out the need to distinguish between "good" (highly edible) and "bad" (not used by livestock) grasses when monitoring rangeland conditions. Napcod wants the farmers to come together and discuss this in groups, as the community members can help each other to improve their natural resource management.

It is important to be aware that the monitoring is not a goal in itself, and unless the information gathered is used in decision making, LLM has no real value. At the moment several of the farmers are able to fill in the forms, but unsure about how to use the data. More training is needed in order to make LLM the effective decision making tool that it could be. Another problem with LLM is that it requires a prepared field guide. Production of the material may be a bottleneck for continuous use of the system. Agricultural extension officers will be responsible for distributing LLM material, and, if DEES makes budgetary provision, there might be funds to copy forms for the field guides.

The importance of livestock is deeply rooted, not only as a security and source of income, but to tradition and culture. Farmers still sell livestock when they are in urgent need of cash, and not when they can get the best price for their animals. Some farmers still choose to let their animal die during drought instead of selling them (arguing that they belong to someone else in the family and that they *cannot* sell them). However, some observations in the pilot areas indicate that young farmers are more conscious about marketing livestock and sell animals on a regular basis, using bank accounts rather than herds of livestock as security.

### *Forum for Integrated Resource Management (FIRM)*

The 2nd Country Report provides a detailed background to the FIRM approach. In short, the FIRM approach arose out of the need for communities to coordinate the assistance they required from service organisations (SOs), to reduce the duplication of efforts made by SOs and to bring a more holistic approach to community development.

FIRM is a good feature for institutional and participatory capacity building at the community level, as it involves CBOs and Service Providers working together to build an institution through which they can identify and address challenges to sustainable land use and management practices. Institutional capacity building, in parallel with individual capacity building of FIRM members, is essential to ensure implementation of UNCCD objectives and principles at local level. Napcod has continuously addressed local level capacity building, mainly through training courses, workshops, demonstrations, exposure trips and feedback sessions. By the same token, information gathered from the local level has, through the dialogue in

FIRMs, been incorporated into the Napcod programme. Information has flowed in both directions.

The FIRM approach uses traditional knowledge systems widely. Traditional knowledge is one of the fundamentals of FIRM – it is included in the overall resource management plan and contributes to implementation at local level. Similarly, the conservancy programmes also use traditional knowledge, and there is a traditional knowledge working group in the ongoing National Biodiversity Programme.

Through FIRM, the community is able to request and receive support to develop their management plan, and community members are trained to ultimately take over and develop and manage the plans on their own. FIRM also assists extension staff from SOs in the area, through capacity building and by making resource materials developed by Napcod and other projects available as sources of information on sustainable natural resource management.

### *FIRM evaluation*

In the evaluation done in early 2004, around 50% of the total number of respondents had heard about FIRM. As expected a considerably lower number of people were involved in FIRMs. Community members are represented through CBOs, and thus only a small minority actually take part in FIRM meetings. The Gibeon pilot area in southern Namibia does not have well established FIRMs yet. A specific problem in southern Namibia is the low involvement of NGOs and donor funded projects. The FIRMs in the south are thus bound to be small. This is not necessarily a weakness if the stakeholders take responsibility and are committed to the FIRM approach. In the other pilot areas, the NGOs have taken the main responsibility, together with the communities, to establish FIRMs and develop them into functional units. In the south a lot depends on the extension officers and government officials.

The people that have heard of or are involved in FIRM have a good knowledge and understanding about the approach. Most of the respondents are positive to the approach, and claim it has helped the community, but few actually see personal benefits generated through FIRM. Important and positive aspects of FIRM mentioned by respondents include sharing of knowledge, the establishment of a platform for discussion and dialogue, and that it has become easier to get outside support.

## Lessons learnt

- Some of Napcod's activities have been geographically restricted to pilot areas. In Uuvudhiya, involvement in and knowledge about FIRM decreased with distance away from Onkani village, which is where the DEES office and the Napcod field facilitator were based.
- Transition to complete self-reliance is slow and mainly determined by the rate of change with which the community is comfortable. This requires considerable patience and flexibility from all other stakeholders, particularly projects bound by a certain timeframe and rigid spending patterns. Programmes are, after all, usually a short-term intervention, and it is important that communities are aware of this. The ending of the programme is not a programme weakness in itself, but the fact that communities see it this way should be addressed. All communities are not self-reliant yet. Programmes in future should be even clearer on their timeframe.
- Improved communication amongst stakeholders is still needed, even though the FIRM approach has improved the situation considerably.
- Not all stakeholders attend the meetings, even if they have committed themselves to do so. Some of the reasons are lack of transport, not being allowed to attend from head office, and that the FIRM meeting conflicts with other obligations. The communities themselves have little influence over the other stakeholders, and they express frustration of 'not being important enough' to the stakeholders. Although FIRM is a community driven approach, the commitment

from key players and stakeholders is crucial for successful FIRMs. A renewed commitment to the approach is thus needed from some of the external stakeholders.

- Lack of communication *within* the community is sometimes a problem. Representatives often do not consult with their constituents before attending meetings nor do they report back after events have taken place. Most of the farmers are not actually in the FIRM, but are represented by the local CBOs and know little about what is discussed and decided upon in the meetings. Improved communication, especially feedback sessions in the community, would solve this. One of the problems for the local CBOs is the lack of feedback they get *from* the community members. While no one actually approaches the CBOs and requests more feedback, they still complain about the lack of it. It is obvious that the CBOs have a huge responsibility to distribute information in the community, but the rest of the community also carry a responsibility to actively give feedback and request information.

### Major FIRM achievements

- Greater sense of ownership over development agendas by communities:

If the community forms the basis of the development process and agrees to "drive" the process based on their own goals and objectives, the process becomes community-driven and has a higher chance of succeeding. Service providers then become catalysts and the community takes the lead in their own development process. Successes and failures are owned by the community and the desire to convert failures into successes is that of the community and not of the development agent.

- Clearer vision of future plans and their implementation:

The FIRM approach focuses on strategic planning and goal development by the community and how service providers can contribute towards achieving it. The communities are guided through a process of determining their own vision and goals for the future. Based on these goals and objectives, the community is then guided through a process of developing plans that will enable them to achieve those goals and objectives. Through this process, communities take the lead in indicating how they want to implement their plans and where they might need help from outside agents in pursuit of their goals.

- Improved capacity to identify development priorities and solicit support:

Communities are supported to identify development constraints, to find possible solutions and to put in place plans that will enable them to address the constraints.

- Mechanisms to monitor and assess the process and impact of development:

There are no such things as bad plans, although they must be realistic. It is usually poor implementation of a plan that results in limited success. The FIRM approach not only makes provision for development of integrated workplans, but also makes provision for regular integrated monitoring, evaluation and adjustment of workplans. This provides a very good opportunity for the community (and service providers) to track progress in implementation and it also exerts some pressure on all partners to deliver what was promised in the planning process.

- Less duplication of service provision:

The FIRM approach makes provision for involvement of all relevant service providers to sit in one forum with community representatives and develop one integrated workplan based on identified needs and priorities of communities. Service providers can consult each other on the nature and extent of services and products to be provided, thus reducing chances

of duplication.

– Less conflicting services are provided according to agreed policies and procedures:

Policies and procedures of the different donors and service providers vary and this creates confusion, unhappiness and at times resentment in the community, and has even led to communities playing service providers off against each other. The FIRM approach establishes common policies and procedures, based on common principles, for delivery of services and products by service providers.

Since the last Country Report, the FIRM approach has taken hold and, in one case (Omuthiya), is being implemented by a conservancy independently. In one region the Oshikoto Livestock Development Project (OLDeP) is adopting the FIRM approach supported by Local Level Monitoring. The Desert Margins Programme (DMP) is also addressing capacity and institutional building modelled on the Napcod approach. The Directorate of Extension and Engineering Services of MAWRD has adopted the FIRM approach in three of their control regions: north-central, east and north-west, covering more than half of the communal areas of Namibia. The FIRM approach is being developed spontaneously by Agricultural Extension Technicians with the communities they serve. MET will continue promoting this approach in its new project 'Strengthening the MET'. The conservancy approach promoted by MET has taken hold in north-western and north-eastern reaches of Namibia. Less directly focused on land degradation but nevertheless directed at capacity strengthening are the efforts of other ministries and NGOs broadly addressing development. To date, regional and local stakeholders are comfortable with the benefits of this approach.

### *Bush Encroachment Research, Monitoring and Management Project (BERMMP)*

A component of Napcod was a project on bush encroachment. Bush encroachment is considered to be a problem predominantly on commercial agricultural land in Namibia, and in localised parts of communal areas. It is seen as a part of desertification because it results in less productive agricultural land, and is therefore defined as a type of land degradation.

The Finnish Government, through Finnida, funded the Bush Encroachment Research, Monitoring and Management Project (BERMMP), a project directly connected to Napcod, reporting to the Steering Committee. BERMMP was planned as a two phase project. Phase I would establish an information base, develop monitoring systems and management plans. Phase II was intended as an implementing phase. However, the Finnish government has decided not to finance the implementation of Phase II, and the project thus ended in December 2003.

The overall long-term project objective was to promote and establish appropriate systems for diverse and sustainable land management in bush-encroached areas. The project aimed to develop a common information base on, and understanding of, the issues related to bush encroachment and prepare a long-term programme to reverse the adverse effects of bush thickening. The project experiences have been compiled and published, and a policy to reduce bush encroachment is now under consideration in a Cabinet committee. Training of MAWRD extension officers about bush encroachment is ongoing.

## Programmes / projects related to Napcod

Over the years Napcod became an umbrella programme and there were several projects and programmes targeting desertification and land degradation that fell under this umbrella. In addition to the projects directly related to Napcod, there were other programmes addressing the same issues, especially community development. These are discussed below. The principles of sustainable development and integrated land use and management have been integrated into all relevant ongoing projects although this has not been done specifically under the heading of UNCCD. Indeed, sustainable

development is ingrained in Namibia's Constitution, and these projects aim to make that principle real.

Other than addressing bush encroachment, technologies have not been a focus of Napcod. It has instead focused on institutional development and capacity building. Stakeholder participation in desertification-related projects continues to be strong, and has increased since the last CRIC Country Report. The MAWRD has actively initiated several projects encompassing the results of Napcod initiatives. This results in greater participation from extension personnel and communities implementing these projects. For example, river basin management has been enriched by the Napcod vision. Now, the Basin Management Committee established for the Kuiseb, and the emerging committee in the Cuvelai basin, encompass many more stakeholders participating in relevant activities (MAWRD).

A very positive feature of Napcod's work has been collaboration between government ministries and NGOs. FIRMs and LLM have been successful because government officials and NGO staff have contributed their roles as equal partners. For example, extension and veterinary staff in MAWRD give advice on livestock breeding and improvement, complemented by NGO expertise in facilitating the training and providing support in a flexible manner where necessary. Further projects mentioned below show the value of this cooperation and partnership between ministries (e.g. MAWRD, MET, MLRR, MME, NPC) and NGOs (e.g. NNF, Nepru, DRFN, WWF).

### *Sustainable Animal and Range Development Programme (Sardep)*

Sardep started in 1991 and ended in 2002. It developed and demonstrated rangeland management and improved livestock production strategies in a participatory manner in pilot communities. Napcod pilot sites originally started as Sardep foci.

### *Northern Regions Livestock Development Programme (Nolidep)*

Nolidep has also ended. Its interventions were more technical than in Sardep (such as auction pens, livestock marketing), with the emphasis on facilitating offtake of livestock to release pressure on natural resources through improved marketing in northern communal areas. Training of sustainable range management practices was also given, covering aspects such as water point development, monitoring rangeland condition and rotational grazing. Nolidep's impacts still continue in activities that have been taken up in the work plans of MAWRD.

### *Wildlife Integration for Livelihoods Diversification (WILD)*

A USAID-funded project implemented by NNF and WWF, providing support to conservancies with regard to their wildlife management, and running in close collaboration with the CBNRM programme in MET.

### *National Capacity Needs Self-Assessment for Global Environmental Management (NCSA)*

The NCSA is a UNDP/GEF funded programme initiated to identify priorities and needs for capacity building to protect the global environment. Its findings will be a catalyst for domestic and externally assisted action to meet capacity needs for implementing the 3 UN environmental conventions on desertification, biodiversity and climate change in a coordinated and planned manner. The regional and local-level assessment has been completed (see below); the national level assessment is underway.

### *Desert Margins Programme (DMP)*

DMP is a GEF funded programme currently being implemented in nine African countries, including South Africa, Botswana and Namibia. In Namibia DMP has been cooperating closely with Napcod, and applies Napcod's approaches within its operational area. DMP's main area is the eastern part of Namibia that is in or bordering the Kalahari desert.

### *Environmental Learning and Action in the Kuiseb River Basin (Elak)*

ELAK has brought together all the different stakeholders in the Kuiseb River basin, to jointly manage their water resources.

ELAK was very active in the process of establishing first the Kuiseb Stakeholders Forum, and then the Kuiseb Basin Management Committee (KBMC). The KBMC is now functioning on its own, and has provided residents of the Kuiseb basin with a common platform where they meet and discuss issues regarding the management of the basin. The new water policy requires that basin management committees should be established in all other river basins. ELAK is an EU funded project, and ended in September 2004. Lessons learnt from ELAK are being incorporated into the Cuvelai Basin Management Committee process, and more basins will follow this process.

### *Summer Desertification Programme (SDP)*

The SDP is an annual research and training course for tertiary Namibian students, that has been generously funded by the Government of Sweden for 13 years. Each SDP has a different topic, but they all focus on environmental management and sustainable use of natural resources. SDP is a capacity building programme giving both the students, and the community members where the research is conducted, important insight into environmental issues. SDP has proven very successful and many former SDP students are found in influential positions in ministries and other Namibian institutions. SDP courses, as they are presently run, will come to an end after this year' scourse ending in February 2005, but will be continued in future in a changed form by the Polytechnic of Namibia.

### *Renewable Energy and Energy Efficiency Capacity Building Project (REEECAP)*

REEECAP is a three year long capacity and awareness raising project, started in 2003 and funded by the Danish Government, and implemented jointly by the Ministry of Mines and Energy, the R3E Bureau, DRFN and National Housing Enterprise (NHE). The main objective of REEECAP is to create energy awareness in rural areas, and to promote energy efficient stoves that require minimal firewood. In urban areas, REEECAP focuses on energy efficient housing programmes, in cooperation with the Habitat Centre in Windhoek.

### *Oshikoto Livestock Development Project (OLDeP)*

Started in June 2004. Funded by the EU, through the European Development Fund. The main purpose is to increase the off-take of livestock in the Oshikoto Region. Some of the activities of OLDeP include improving access to veterinary services, helping communities establish vendors for livestock drugs, and building auction pens. This project has grown out of the findings and achievements of Nolidep and Napcod.

### *Kalahari-Namib: Nossob Catchment*

A SADC-ELMS initiated project aimed at introducing the Napcod products (FIRM and LLM) in the Nossob catchment. The project has been on hold since February 2002 due to shifts in SADC structures and lack of continuity in funding channels, but is due to be revived. It will parallel and complement the Napcod, DMP and OLDeP projects.

### *Participatory Poverty Assessment (2 regions)*

A six month assessment of poverty being undertaken in two regions, Omaheke and Caprivi, and funded by UNDP through the National Planning Commission. The assessment is being done using participatory approaches.

### *Every River Has its People Project*

An NNF-directed project aiming for sustainable resource management in the Okavango River Basin. Emerging conservancies in Kavango Region are applying the FIRM approach.

### *Support to the Land Reform process*

MLRR has sought advice from the agricultural sector to increase the chances of newly established , resettled farmers of making a living on economically viable, appropriately sized farms.

*Strengthening the MET*

This four year programme, funded by the GTZ, will focus *inter alia* on biotrade and dryland products. It will be run in close collaboration with the National Biodiversity Programme and support the aims of combating desertification through diversification of livelihoods.

*Country Pilot Partnership (CPP) on Sustainable Land Management*

The CPP is still in planning stages but is envisaged to provide an umbrella for integration of activities aiming for best practices in sustainable land management. So far, two projects have been proposed:

i) Enhancing Institutional and Human Resource Capacity through Local Level Coordination of Integrated Land Use Planning, Management and Support (CALLC). CALLC intends to establish more FIRMs and to introduce LLM methods in the 4 north-central regions, and to promote these methods to a wider audience in Namibia and the SADC region. Its main driver will be DEES.

ii) Promoting Environmental Sustainability through Improved Land Use Planning (PESILUP). The overall goal is to develop an adaptive management framework to guide policy and investment decisions at local and national levels, applying an ecosystem approach.

### Awareness raising about desertification

In Phase I, Napcod intentionally went to much effort to raise awareness about desertification. There has not been the same level of effort to promote awareness about desertification since then, but some work has been carried out in this field. Specific awareness campaigns have focused mainly on the use of fuel efficient stoves and on effective use of water resources. Within the programme of Napcod, awareness about sustainable land use has been promoted on a participatory basis. The Summer Desertification Programme has annually provided course work to tertiary level students, the Polytech now has a set course on Land Management, and the University of Namibia offers training at its Agricultural Colleges and is introducing a Rangeland Management masters programme. In addition, Napcod has opportunistically provided information to institutions, and materials related to combating desertification, developed by stakeholders in Namibia and elsewhere, have been distributed widely with the support of Napcod.

## The consultative process in implementing the programme

### Sub-regional, regional and wider networks

Namibia has a very strong international status in desertification work. It attracted participants from all over the world to the Desertification 2000-2002 Conference Process; Namibia hosted the African Regional CRIC in 2002, and was selected to present again at the International CRIC that followed; it also hosted the Globe Southern African Legislators Conference on Desertification in 2002, and the UNCCD was represented at the Local Level Synergies / Rangeland Forum workshop in Grootberg in July 2003. Most recently Namibia has been recognised with the visit of His Excellency Hama A Diallo, the UNCCD Executive Secretary, to participate in the CPP Consultative Meeting in September 2004.

The Government of Namibia participates in dialogues in SADC and the African Union, such as Nepad and various SADC protocols. Representatives from Namibia participate in various meetings in the sub-region on topics ranging from water to poverty reduction.

All SADC countries have ratified the UNCCD and many of them have operational NAPs, and the Sub-Regional Action programme (SRAP) was approved by the Council of Ministers in 1997. The Convention encourages forging partnerships, training and networking as a way to share information on combating desertification. SDDI acted as a forum to address

challenges in SADC countries, as well as provide potential solutions and achievements in implementing UNCCD (see below).

On the African regional level, the MET and DRFN are involved in the AID-CCD project funded by the EU, and have submitted a proposal to FAO in terms of Land Degradation Assessment in Drylands (LADA). These activities all address integrated sustainable land management and sharing of best practices in this regard.

National scientific and technical institutions participate in regional and wider networks. The Environmental Observatory Network of Namibia (EONN) participates in the Environmental Long Term Observatory Network of southern Africa (ELTOSA) and the International Long Term Environmental Research Network (ILTER). The Director of the Gobabeb Centre is currently the chair of ELTOSA, representing EONN, and Namibia will host ELTOSA and ILTER meetings at the Gobabeb Training and Research Centre in the coming three years.

Several Namibian institutions (e.g. Department of Water Affairs (MAWRD), Namwater, Polytechnic, DRFN) participate in the Global Water Partnership, WaterNet and other sub-regional networks, as well as contributing to international projects and meetings with funding from a variety of international sources.

## SADC-DRFN Desertification Interact (SDDI)

Napcod Phase III Component 5 emphasises information sharing and spreading of Napcod experiences to other stakeholders, e.g. organisations and governments involved in other NAPs, mainly within the SADC region. SDDI was developed in cooperation with SADC Environment and Land Management Sector (ELMS), with funding from the German Government through BMZ/GTZ and UNCCD. It was initially planned as a two-year project, but was extended for another 6 months with no additional costs. It was directly connected to Napcod, both in terms of funding and reporting to the Steering Committee. SDDI was based on the objectives of the NAP. Representatives from Namibia participated in various meetings in the sub-region on topics ranging from water to poverty reduction. An information network was established, but is no longer very active, as SADC- ELMS was dismantled and its functions were handed over to the Food, Agriculture and Natural Resource (FANR) sector of SADC.

SDDI played an important role in the preparation, performance and follow-up of the Desertification 2002 Conference Process. Training courses to SADC participants on preparing National Action Plans and other topics were presented at the Conference in Cape Town and the follow-up workshop at Gobabeb 6 months later.

SDDI resulted in a number of publications focusing on the local level. The book 'Community Contact' describes how communities can arrange exposure trips and learn from other communities. Booklets on FIRM and LLM are also a result of SDDI. The project had a full-time coordinator for most of the project period, based at DRFN, who worked very closely with Napcod staff.

## Scientific input

The national-level desertification risk assessment (see Napcod Phase III p18), is a scientifically robust mechanism for monitoring desertification trends in Namibia. It is the subject of a Ph.D. study under the Napcod umbrella. Information is provided from remote sensing facilities, from soil surveys done by MAWRD, and from the Namibian Meteorological Office. With the end of Napcod funding and integration of the programme into the 'Strengthening the MET' project, other programmes will take on or re-establish these mechanisms, e.g. National Environmental Monitoring and Indicators Network

(EMIN) housed in MET. The Environmental Observatories Network of Namibia contributes to this role. Napcod has served as the umbrella for a number of other related MSc and PhD studies and various study groups have made scientific contributions to the programme. The German funded and implemented Biota programme is contributing scientific information on aspects of biodiversity, which can be linked to land degradation and ecosystem health.

As mentioned before, there has been an emphasis on increasing knowledge at the local level, and on applying 'common sense' to the challenge of desertification. Local Level Monitoring is a systematic method, as scientifically robust as the national-level monitoring, whose only difference from conventional science is that it is carried out at a simpler academic level.

Much of the training and facilitation of local-level work has been undertaken by young Namibians who have shown promise either in their own communities or during Summer Desertification Programme courses. Through 'on-the-job' training and exposure, Napcod has built capacity in its local trainees and junior researchers to tackle desertification and livelihood challenges with a systematic, scientific approach.

### *Gobabeb Training and Research Centre*

The Gobabeb Training and Research Centre participates in and contributes to combating desertification and has an established, long-term monitoring system for environmental changes in the arid western part of Namibia.

As a SADC-recognised Centre of Excellence, part of Gobabeb's role is to demonstrate technologies that will lead the SADC region in sustainable development. Thus, one of the ongoing aims of Gobabeb is the research, development and implementation of appropriate technologies. Currently, Gobabeb demonstrates technologies that are applicable at both community and commercial / industrial level. Examples of these include development of fog-harvesting apparatus as a means of supplementing limited water sources for the Topnaar and other communities in the Namib; clay brick technologies using local silts, rammed earth construction and ground-cooling as a passive means of air-conditioning. In addition, the Gobabeb Centre is working with the private sector in terms of renewable energy and energy efficiency promotion and demonstration.

In terms of science that is applicable to natural resource management, Gobabeb researchers are investigating the relationship between livestock and river vegetation as well as the basic dynamics of ephemeral rivers. These ongoing investigations focus on the effects of rurally owned livestock (mainly goats) and of river dynamics on the health and regenerative abilities of plants, especially large trees, in the Kuiseb River bed. Through this research and in combination with a strong community based approach, Gobabeb hopes to gain a better understanding of how communities and livestock impact on and adapt to ephemeral river systems. Conclusions from this study have wide applicability to ephemeral rivers in the rest of Namibia, which act as linear oases supporting people, livestock and wildlife.

## Agreements with developed country partners

International support for Napcod has been mainly in the form of funding. Based on results obtained from this funding, Namibian institutions have been invited to participate in various activities such as the AID-CCD project (EU funded) and LADA (promoted by FAO). Also, the Desertification 2002 Conference Process (see CRIC 2 report) involving the SADC region and international participants was based largely on international funding. Because combating desertification is still dismissed as being an 'environmental' (i.e low-priority) issue by some high level decision makers in Namibia and thus not deserving of strong funding, it has been difficult to obtain traditional or alternative sources of funding.

Extensive dialogue by MET has taken place with GEF and the World Bank and several new programmes are being established. The Gobabeb Centre and the DRFN have established many general partnership agreements with international partners with some focusing on particular projects or programmes.

### *German Government support through BMZ/GTZ*

BMZ/GTZ has been the main funding contributor for the whole Napcod programme, and has also been involved in funding additional projects, such as SDDI. Germany has also funded projects such as Sardep, the Regional Awareness Project supporting Napcod, the Namibian Biodiversity Programme, upgrading of the Gobabeb Centre and the Namibian Water Resources Management Review programme. The German Government has shown a firm commitment towards the UNCCD, and towards Namibia during the past ten years.

### *The Government of the Republic of Namibia (GRN)*

Donors have expressed concern about the lack of financial support from GRN, and see this as a lack of commitment to the implementation of UNCCD. Voices within GRN, however, claim that GRN through its ministries are involved in a wide range of activities, directly or indirectly addressing land degradation and desertification. Examples of these are the support from Directorate of Rural Water Supply (MAWRD) in setting up Water Point Committees, and the support provided by Directorate of Extension and Engineering Services (MAWRD) to assisting FIRMs. The costs of these activities should be seen as GRN's contribution to combating desertification, even though they are the "normal" responsibilities of GRN. The problem is not with GRN activities, but that they are not specifically identified as activities that combat desertification. In actual fact the GRN can be congratulated on mainstreaming these desertification-related activities! A way to clearly show GRN' sfinancial commitment to UNCCD is to have allocations for combating desertification and land degradation clearly marked out in all budgets.

### *Finida*

Finida funded the bush encroachment programme (BERMMP) until the end of 2003, and there was substantial Finnish involvement in the remote sensing projects being undertaken by the Directorate of Forestry, MET.

### *Global Environment Facility (GEF)*

GEF through UNDP is supporting the Country Pilot Partnership in Namibia which may extend many of the approaches undertaken by Napcod. The GEF is funding the Desert Margins Programme.

### *UNCCD Secretariat and FAO*

The UN has also provided financial support for some of Napcod's activities, through the UNCCD Secretariat and via UNDP through FAO. For instance the Desertification 2002 Conference was partly funded by UNDP and FAO.

## Funding of related activities and programmes

Agreements are mainly with donors in terms of specific projects and programmes. The Gobabeb Training and Research Centre has many Memoranda of Understanding with a variety of partners relating to general cooperation approaches. Early during the Napcod programme a MoU was established between MET and MAWRD with respect to combating desertification, to enhance partnerships including with developed countries, but this was not followed through. Agreements with ICRISAT and others in the GEF-supported Desert Margins Programme have been established.

## Research and exchange with developed country parties

### *Young professionals and international students*

Namibian NGOs such as DRFN, often benefit from assistance given by foreigners temporarily working in fellowships and as interns. For instance, DRFN has agreements with Noragric at the Agricultural University of Norway, Grinnell College (USA), and Nuetingen and Wurzburg Universities (Germany) by which interns assist in projects related to arid environments and desertification. In some cases there is complimentary exchange of staff so that Namibian personnel can gain experience in environmental and development studies overseas.

One Ph.D and nine M.Sc. theses have been carried out by international students under the Napcod umbrella, which have all contributed in various ways to implementation of the programme. How have communities at the study sites benefited from these research projects? Firstly, all project plans were first introduced and discussed with representatives from the communities to give them a chance to question the relevance of the research and comment on the approach. Secondly, each researcher was required to report on preliminary findings to the community, and most of the research results and reports have been brought back to the communities where the research was carried out. Thirdly, exposure to the 'outside' researchers and the involvement of community members in the research activities was generally appreciated at the pilot sites.

There are obvious positive aspects of bringing in young professionals, volunteers and interns, such as the input of academically skilled staff members at little cost to the programme. However, a system like this also means a high turnover rate, and Napcod has experienced the negative aspects of this approach.

## Capacity needs to facilitate greater participation

Participation in desertification-related issues would be enhanced with strong support from high level decision makers within the ministries participating in the discussions. Recognition of and support for combating desertification and integrated sustainable land use and management are essential for the dialogue to continue. The UNCCD and the GEF could assist by helping to place the issues at a high level on the national agenda. The GEF-Country Pilot Partnership of Namibia could contribute in this way.

### *NCSA capacity assessment*

Namibia has recently completed (August 2004) a National Capacity Self-Assessment (NCSA) of implementation of the three environmental conventions, at the regional and local levels. The study sampled three of Namibia's 13 Regions as representative samples of the situation countrywide. These included the coast and relatively well developed towns of Walvis Bay and Swakopmund in Erongo Region; Hardap Region in the arid south; and Oshikoto Region in the relatively wetter and more densely populated north of the country. The assessment looked at capacity at three levels:

- Systemic capacity, referring to the policy framework and the extent of collaboration between institutions;
- Institutional capacity, the level of infrastructure and technical support in institutions, and their staffing procedures;
- Individual capacity, referring to the general level of skills, knowledge and attitudes of individuals.

The policy framework for environmental management, as described in 'Institutional measures' above, is reasonably well developed, and forms a good basis for systemic capacity. There are contradictions between some policies, such as the intention to plant trees to combat desertification, and the need for water conservation measures in this arid country. Also, many stakeholders are not fully aware of the policy framework and it needs to be more clearly explained at the regional and

local levels.

The most promising aspect of systemic capacity is the linkages and collaborations between various stakeholders at regional and local levels. Traditionally in Namibia, cooperation and collaboration, amongst government sectors or amongst government institutions and civil society in its many forms, was not extensive, if it occurred at all. The current situation therefore represents a major shift during the past fourteen years (since independence) and is better developed in some sectors and institutions than in others. For instance, cooperation between government extension officers, local conservancies and NGOs are living proof that regional-local level linkages are working and are making decentralization of services happen. Various forums for this sort of collaboration exist and are functional. For instance, Regional Aids Coordinating Committees (RACOCs) sit on the Regional Councils, and although they are hampered by many aspects of institutional capacity (such as insufficient finances, poor work infrastructure), they create a forum for stakeholders from different sectors to address their main issue of focus, HIV/Aids. Basin Management Committees create a forum to integrate water management issues. FIRMs create forums for addressing management of a wide range of natural resources and activities such as water, grazing, land allocation and income generation from tourism. In many cases the 'networks' are very rudimentary, such as one or two enthusiastic individuals from different ministries cooperating in a project. Despite this, networks and forums that grow out of the need to address specific issues are extremely valuable in contributing to sustainable resource management.

Although regional and local-level coordination does occur, there is still a great need for integrated land use planning, that would include environmental planning, in the Regional Councils. This was the most urgent requirement for institutional development identified by the NCSA study. Unsurprisingly, almost all institutions providing services to communities (ministries, traditional, local and regional authorities, and NGOs) noted that lack of finances and insufficient budget allowances for field-work hampered their ability to carry out their work.

With the trend moving towards communities establishing FIRMs and getting organised, there is a great need for service providers to support these initiatives towards sustainable land management. Thus, the greatest capacity need at the individual level is for more training about sustainable land use systems, and for organizational and leadership skills to establish and support strong local organizations such as farmers cooperatives, conservancies, village and constituency development committees. Group training and individual mentoring within institutions and in dealing with communities and other organisations would help staff to understand the 'big picture' with respect to environment and sustainable development.

## Measures taken or planned within the framework of NAPs, including measures to improve the economic environment, to conserve natural resources and promote their sustainable use, to rehabilitate land, to enhance knowledge on desertification and its control, and to monitor and assess desertification and drought

Institutional development has been initiated to empower communities to take the initiative to better manage their own land and its resources and to market or otherwise make use of the results of these actions. This includes activities ranging from marketing of livestock and other products to crafts and other enterprises. These have not been forced on communities but communities have been 'put in the driver's seat' to undertake and implement them.

Napcod has always put great emphasis on capacity building, and the programme's growth and evolution reflected the existing capacity to combat land degradation. It also identified the capacity needs and outlined ways of addressing them. This focused on FIRM and Local Level Monitoring as two primary tools for combating desertification. While the NAP

reflects this need, the high level political support for implementation was not gained during the 10 years of Napcod's duration. Nevertheless, several projects and programmes, within government and outside, are taking these approaches forward.

Preparation for the Johannesburg WSSD in 2002 and preparation of Namibia's Vision 2030 both included an exhaustive re-evaluation of past experience. Closure of the Napcod programme was accompanied by a synthesis of lessons learnt and recommendations for discussion at the final workshop. Funding currently is being sought to publish lessons learnt from the 10-year Napcod process. The Napcod synthesis and prior evaluations have outlined recommendations made for combating desertification and for integrated, sustainable land use and management; the 'Strengthening the MET' project will promote these recommendations. These recommendations are integrated into the Desert Margins Programme of GEF, and the lessons learnt and recommendations are being integrated into various programmes of the MAWRD evolving out of the Napcod programme.

The Napcod umbrella Steering Committee was established specifically to adapt and integrate ongoing projects into the NAP process. The future of this approach is currently undecided. The Country Project Partnership (CPP), if established, will serve as an 'umbrella' covering projects that will take forward the objectives of participatory combating of land degradation. Outside of the CPP, there are other institutions that work towards these goals. For example, research undertaken under the auspices of Gobabeb, which focuses on understanding the structure and functions of arid environments, is integrated to make a contribution to the objectives of the NAP process.

## Conclusion

Napcod's funding has come to an end, so the programme has functionally stopped. Many activities have been taken up by MAWRD and other ministries, and these will continue, but the framework within which they are carried out is lacking. Namibia's NAP needs to be properly established to put this framework in place.

The strong points of Napcod can be summarised as follows:

- The Steering Committee comprised people from diverse backgrounds, and benefited from the spread of ideas and priorities that these people brought to the meetings. All members of the Steering Committee held influential positions in their respective organisations, so the concepts and approaches that were discussed in Napcod were spread widely into other organisations.
- The policy framework for sustainable resource management is quite solid in Namibia. Nevertheless there are gaps to fill, and enforcement of regulations is often weak.
- Community empowerment to manage rangeland and livestock resources sustainably, which equates to being flexible and adaptive to variable rainfall, has been very successful, although the number of sites where this is occurring is limited. Local Level Monitoring has been taken on and used by community-level farmers, and needs to be promoted and established much more widely. Similarly, the FIRM approach is now accepted as a useful way for communities to address land degradation issues on communal land and to plan integrated and effective activities. These are valuable 'tools' to use to combat desertification.
- Many programmes and projects being undertaken in Namibia, by various ministries and organisations, contribute to improving the management of rangeland resources. There is therefore great scope for synergy between them, through cross-fertilisation of ideas and approaches, running complementary activities, and spreading 'best practices' from pilot areas to wider implementation. This is the momentum that needs to be maintained by having a flexible and responsive NAP in place.

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# UNCCD country profile

# NAMIBIA

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**Introduction**

This country profile is based on information available at the time of compilation. The variables for which information is requested by the UNCCD do not, in many cases, correspond with the information needs identified by Namibian stakeholders. Experience from developing national-level desertification indicators in Namibia underlines the importance of using *specific* indicators applicable to the *Namibian* situation. There are several benefits to this:
1. There are no global causes or effects of land degradation, making it very difficult to develop and use a set of core desertification indicators that are universally applicable.
2. The participatory approach involving stakeholders on both national and local levels gives stakeholders ownership of the process and the resulting indicators, and increases understanding of the concept of environmental monitoring amongst stakeholders.
3. The indicators that have been developed were discussed with local land users and relevant experts on an ongoing basis, resulting in consensus amongst most stakeholders. The stakeholder workshop at the conclusion of the Napcod programme, attended by 40-50 stakeholders, ratified the conclusions of Napcod, including the desertification risk map.

The indicators are therefore

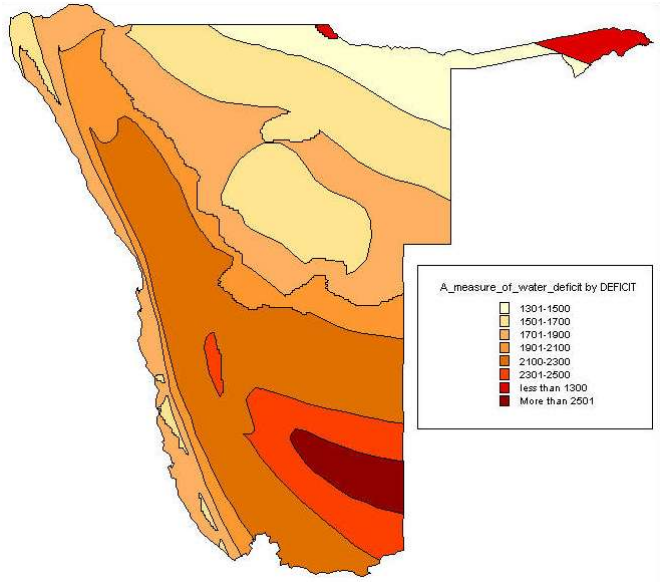
- Appropriate to the Namibian situation;
- Understood by Namibian stakeholders at national and local levels;
- Agreed by all stakeholders as useful for future monitoring of desertification.

These points justify the way this country profile differs from the UNCCD format and possibly from profiles from other countries.

**Biophysical indicators relating to desertification and drought**

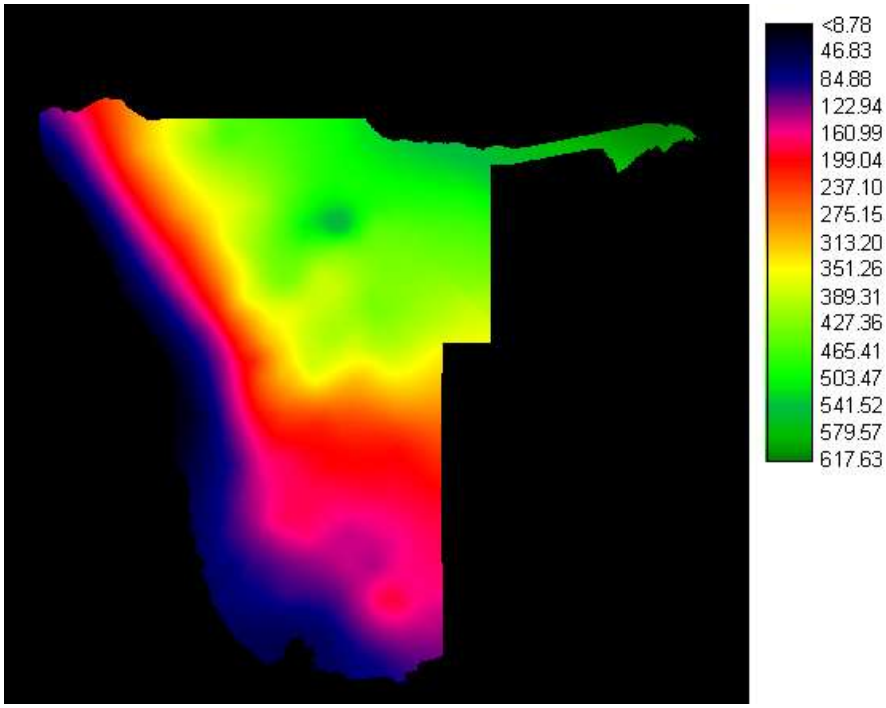
1 Climate

1.1 Index of aridity

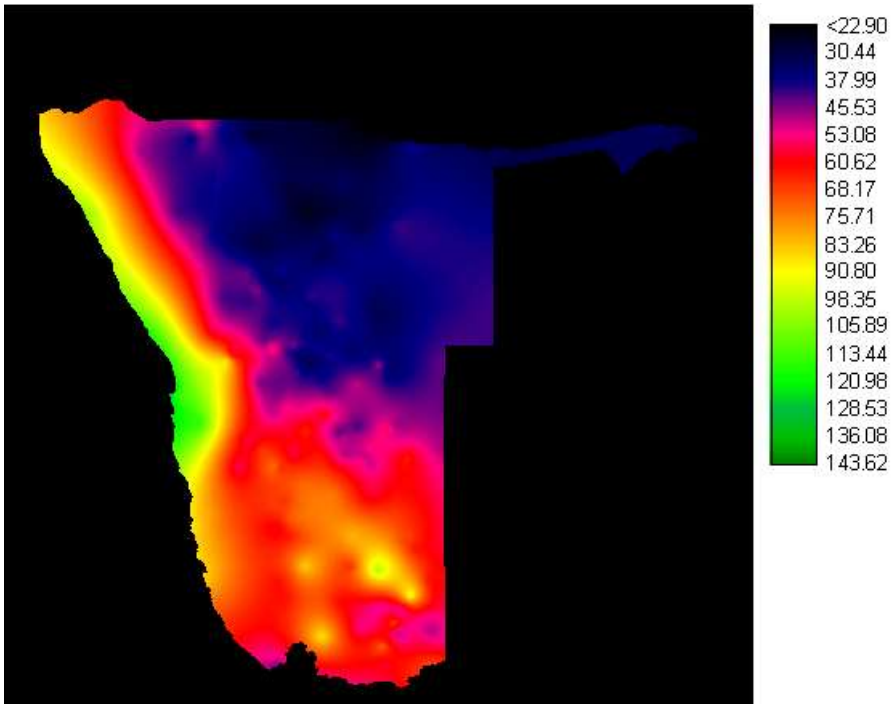



The map shows water deficit, defined as Potential Evapotranspiration – Annual Rainfall.

1.2 Normal rainfall



1.3 Rainfall coefficient of variation




**2. Vegetation and land use**

2.1 NDVI:
NOAA AVHRR LAC available from 1993 – 2001 is available but the record is not complete due to sensor failure. Presently there is no receiver operational in Namibia.

2.2 Vegetation cover (% of total land area):
No information on national level exists for vegetation cover. However, information about species distribution exists.

2.3 Land use (percent of total land)
No information available for the two time periods given, only general information for the following land uses:

- Agriculture and tourism on freehold land: 43.3%
- Communal land: 36.3%
- State protected areas (Parks): 14.1%
- Other government and parastatal uses: 3.9%
- Urban: 0.9%
- Resettlement: 0.8%
- Government agriculture: 0.7%

2.4 Surface albedo:
Not available in Namibia

**3 Water resources**

Figures from Namibia Water Resources Management Review, 2000: *Water Use and Conservation: Theme report*. Ministry of Agriculture, Water and Rural Development.

3.1 Fresh water availability:

| Source | $Mm^3/a$ |
|---|---|
| Surface water from empheral rivers and groundwater | 414 |
| Perennial rivers | 286 |
| Reclaimed water (classified as waste water) | 17 |
| Total available resources | 717 |

3.2 Fresh water resources per capita: 414.5 $m^3/a$
Rough calculation: 717 $Mm^3/a$ divided by population of 1,730,000. Does not take unquantified ecological flow requirements into account.

3.3 Agricultural water use:

| Use | $Mm^3/a$ |
|---|---|
| Irrigation | 135.9 |
| Livestock watering | 77.1 |
| Total | 213 |

3.4 Industrial water use: 5.6 $Mm^3/a$

**4. Energy**

Consumption

4.1 Energy use per capita (kg oil equivalent) *Not available*
4.2 Agricultural energy use per hectare (million of BTU) *Not available*

Production

4.3 Energy from renewables excluding combustible renewables and waste (% of total supply):
*Not available*

Renewables – consumption by sector

4.4 Industry (% of total renewable consumption): *Not available*
4.5 Residential (% of total renewable consumption) *Not available*
4.6 Agriculture (% of total renewable consumption) *Not available*

**5. Types of land degradation**

No detailed information about the extent of different types of land degradation in Namibia exists at this stage. However, a system that presents a land degradation risk based on four primary indicators is operational, see below.

**6. Rehabilitation**

No detailed information of extent of land being rehabilitated in Namibia exists at this stage.

**Socio-economic indicators related to desertification and drought**

| | |
|---|---|
| <u>7. People and economy</u> | |
| 7.1 Population total | 1 830 330 |
| • Population urban | 33 |
| • Population rural | 67 |
| 7.2 Population growth (annual %) | 2.6 |
| 7.3 Life expectancy (years) | 50 (F), 48 (M) |
| 7.4 Infant mortality rate (per 1000 live births) | 49 (F) 55 (M) |
| 7.5 GDP (current US$) | |
| 7.6 GNI per capita (current US$) | |
| 7.7 National poverty rate (% of population) | |
| 7.8 Crop production (metric tons) | |
| 7.9 Livestock production (metric tons) | |
| <u>8. Human development</u> | |
| 8.1 Primary education completion rate (% of age group) | |
| 8.2 Number of women in rural development (total number) | |
| 8.3 Unemployment (% of total) | |
| 8.4 Youth unemployment rate (age 15-24) | 47 |
| 8.5 Illiteracy total (% age 15 and above) | 22 |
| 8.6 Illiteracy male (% age 15 and above) | |
| 8.7 Illiteracy female (% age 15 and above) | |
| <u>9. Science and technology</u> | |
| 9.1 Number of scientific institutions engaged in desertification related work (total number) | No exact number available, however a number of key institutions should be mentioned: Ministry of Environment and Tourism (MET), Ministry of Agriculture, Water and Rural Development (MAWRD); Namibian Economic Policy Research Unit (Nepru), Desert Research Foundation of Namibia (DRFN), Gobabeb Training and Research Centre, |

**National level desertification risk assessment**

Namibia is one of the few countries in the SADC region that has actually developed desertification indicators. This has been done through a rigorous process for national state of the environment (SOER) reporting. Many of the suggested indicators are applicable to desertification monitoring. Their strength is that they all have been thoroughly defined: underlying theory has been referred to, benchmarks and/or threshold values have been defined where possible, the indicators have been implemented and the results have been published.

Namibia's Programme to Combat Desertification (Napcod) led the process of developing four primary desertification indicators in close cooperation with national and local stakeholders. These four national indicators used for the land degradation risk assessments evolved from a process of workshops involving major stakeholders, where potential indicators, criteria for selection, and final implementation were discussed. The local level indicators used by land users in Namibia were developed together with farmers, based on their information needs. The process led to the development of five major biophysical indicators and a documentation system being used by local farmers for their own decision making. Both national and local indicators are presently being used.

The national results form part of a combined national SOE report compiled by the Directorate of Environmental Affairs in the Ministry of Environment and Tourism. Local resource users at Napcod's pilot sites routinely use the local level indicators to collect information to support their decision-making. Agricultural extension services have recently adopted the Napcod approach and have started to train extension staff in how to establish local level monitoring systems together with local farmers. This will hopefully lead to a rapid expansion of this tool throughout Namibia.

All indicators developed by Napcod, i.e. the four primary indicators and the combined national risk assessment, and the five indicators used by local land users, have defined benchmarks. However, it should be noted that these only serves as guidelines, especially for the local level monitoring system, and that they are subject to continuous evaluation and modification. It is important to note that an indicator without defined benchmarks is still useful as it can show change if repeatedly monitored, however without benchmarks it is difficult to interpret what this change actually means to the system being monitored.

The indicators are:
Population index
Livestock pressure index
Rainfall index
Soil properties index
Overall degradation risk

# Definitions of primary indicators used for the Namibian national level desertification monitoring system

## Definition of the population index

The population density was calculated based on the national census carried out in 1991 (Bureau of Statistics, 1994). The population figures are presented based on enumeration areas, ranging from a size of <1km$^2$ to 20 000km$^2$ with an average size of 390 km$^2$. Criteria for each grid cell included:

- population density,
- percentage of population depending on firewood
- percentage of population depending on agriculture
- dependable growing period, i.e. growing period length equalled or exceeded in 3 years out of 4.

Threshold values for the index are presented in Table 1. To compensate for the growth rate since the 1991 census an annual population growth rate of 3,3% was assumed for the entire time series.

Table 1. Threshold values for the population index after SoER - Socio-economics (MET, 1999). DGP = dependable growth period, PD = population density, AD = % of population depending on agriculture and FW = % of population depending on firewood.

| | **Moderate Pressure** |
|---|---|
| DGP >85 days<br>PD > 15/km2<br>AD > 60%<br>FW > 80% | DGP >85days<br>PD > 10/km2<br>AD > 50%<br>FW > 70% |
| DGP >33 days<br>PD > 7/km2<br>AD > 50%<br>FW >80% | DGP >33 days<br>PD > 3/km2<br>AD > 40%<br>FW >60% |
| DGP >6 days<br>PD > 3/km2<br>AD > 40%<br>FW > 70% | DGP >6 days<br>PD > 1/km2<br>AD > 30%<br>FW >50% |
| DGP = 0 days<br>PD > 1/km2<br>AD > 30%<br>FW > 60% | DGP = 0 days<br>PD = 0.5/km2<br>AD > 20%<br>FW > 40% |

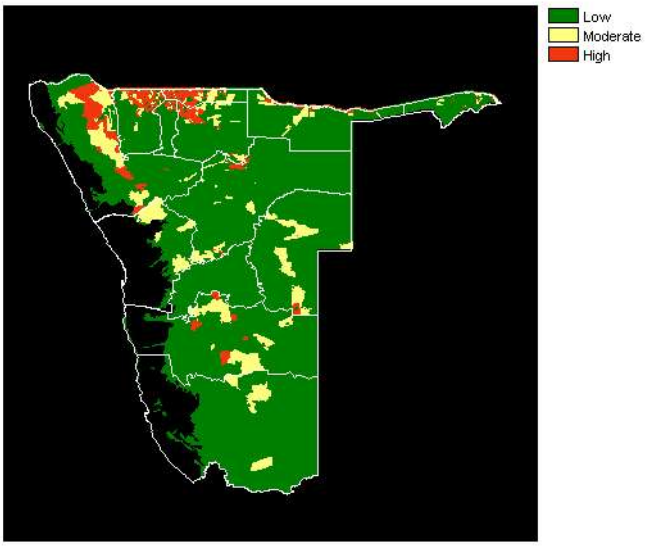



Figure 1 The population pressure index for 2001.

**Definition of the livestock pressure index**

The present version of the index is based on annual livestock figures corresponding to the 15 State Veterinary Districts in Namibia. As we don't know the exact areas where the livestock are grazing, the index still has to rely on some assumptions:

- In order to determine where the livestock are it was assumed that all cattle within each veterinary district are within 10 km from any permanent water point.
- Further, it was assumed that the animals are evenly distributed within these areas.

The dependable growth period has been used to differentiate areas with different carrying capacity. This is an improvement compared to the first approximation, but still a very unreliable measure as carrying capacity is variable, strongly influenced by amount and timing of rainfall.

*Calculation of the index:*

1. The number of cattle, sheep and goats counted within each State Veterinary District were used
2. Goats and sheep were recalculated into large stock units (LSU) by dividing the total number by 5.25. i.e. one head of cattle is equal to 5.25 goats.
3. A buffer with a radius of 10 km was created around each borehole, in order to determine the areas occupied by livestock within each State Veterinary District (SVD)
4. The density of livestock within each State Veterinary District was calculated by dividing the total area within 10km from any borehole (within each SVD) with the total number of LSU within each SVD.
5. Four classes were defined for the dependable growth period, i.e. 0 days, >6 days, >33 days and >85 days (i.e. the same as used for the population pressure index).
6. Threshold values are still theoretical, see Table 2 below

Table 2. Threshold values used for calculation of the livestock-water availability index. The numbers represent hectares/large stock unit (Ha/LSU).

| Class | DGP = 0 days | DGP > 6 days | DGP >33 days | DGP >85 days |
|---|---|---|---|---|
| Very high | 7 | 5 | 4 | 3 |
| High | 10 | 8 | 6 | 4 |
| Moderate | 20 | 16 | 12 | 8 |
| Low | 40 | 32 | 24 | 16 |
| Very low | 60 | 48 | 36 | 24 |

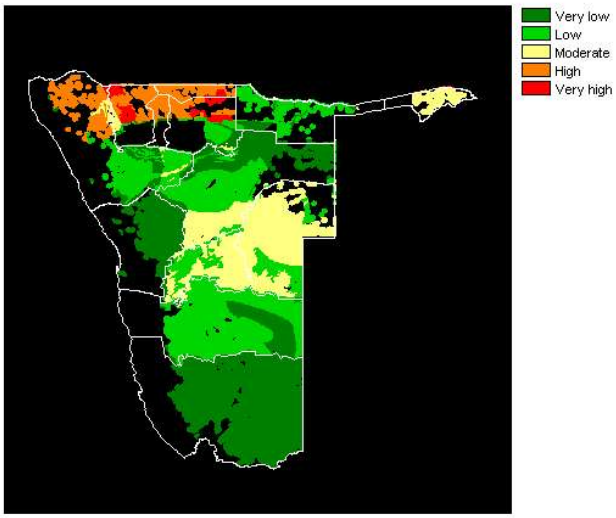



Figure 2. The livestock pressure index for 2001.

### Rainfall index

The index is based on rainfall records from the Namibian Weather Bureau that have been corrected by DEA for MAWRD (Agmet 2000). The long-term median for each rainfall station and the standard deviation were used to interpolate a median and a standard deviation map of Namibia (see Figures 3 and 4 below). Annual rainfall maps were then produced by interpolating the total rainfall for each rainfall station. The index is calculated by the following formula:

Rainfall Index (year x) = (Annual total rainfall$_{(year\ x)}$ - long term mean) / standard deviation

The following threshold values were used:

Very high >= -2sd

High >-2sd and <=-1sd

Moderate >-1sd and <1sd

Low >=1sd and <2sd

Very low >=2sd

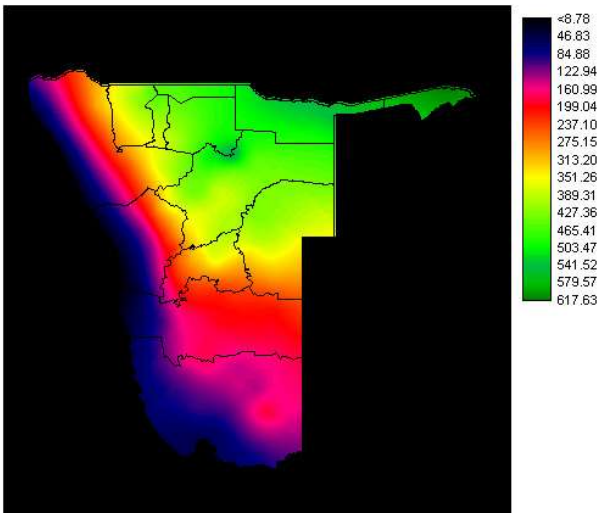



Figure 3. Interpolation of annual mean rainfall, based on 60 years rainfall records from 275 rainfall stations in Namibia.

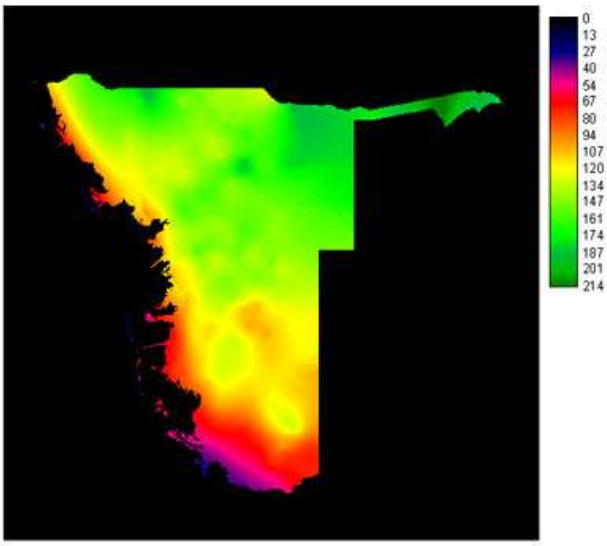



Figure 4. Interpolation of standard deviation based on records from 275 rainfall stations.

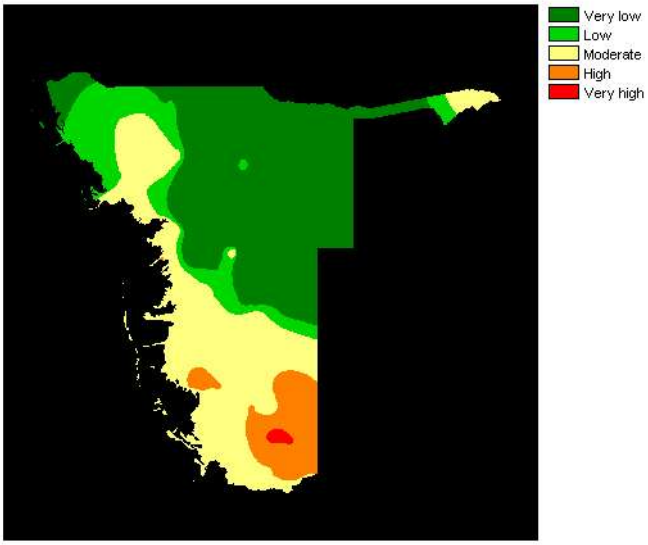



Figure 5. The rainfall index for 1997

## Soil property index

Calculation of this index was based on results from Namibia's Agro-Ecological Zones project (Pauw, 1996). Soil erosivity was determined based on slope and soil characteristics for each agro-ecological zone. Three slope classes were defined, i.e. low: 0-8°, moderate: >8-15° and high: >15° (see Figure 6). Definitions of the soil types were based on the UN Fertility Capability Classification (FCC) (FAO, 1983). The corresponding map is presented in Figure 7. The soil types and corresponding risk classes are presented in Table 3 and Figure 7. The map for the soil property index is presented in Figure 8 below.

Table 3. The soil types identified in Namibia according to the FAO Soils Units and Fertility Capability Classification (FCC) and the risk classes defined based on (Pauw, 1996).

| FCC Class | Soil type | Risk class |
|---|---|---|
| L | Loamy (<35% clay but not loamy sand or sand) | High |
| LR | Loamy with rocks or other hard root-restricting layer | Low |
| S | Sandy | Low |
| Se | Sandy with low capability to provide nutrients to plants | Moderate |
| She | Sandy, low capability to provide nutrients and presence of soil acidity | Moderate |
| SLe | Sandy loamy with low capacity to provide nutrients | Moderate |
| SRdb | Sandy with rocks, dry soils (associated with very dry moisture regimes), basic reaction indicated by CaCO3 or pH>7.3) | Low |
| Ss | Sandy with presence of soluble salts | High |

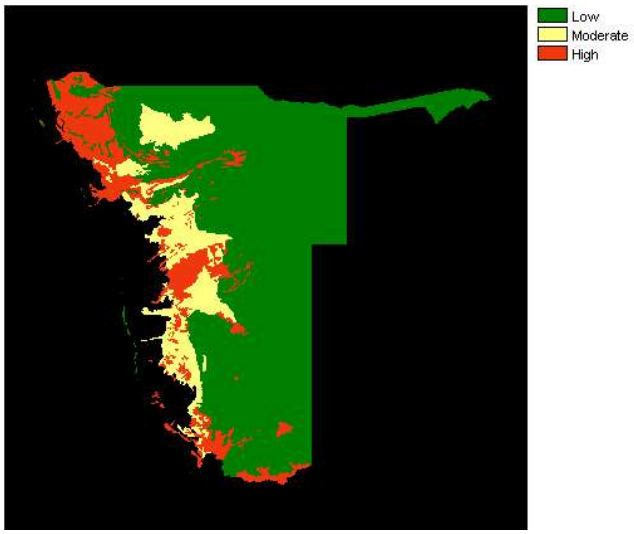



Figure 6. Slope risk map based on the following threshold values: low: 0-8°, moderate: >8-15° and high: >15°.

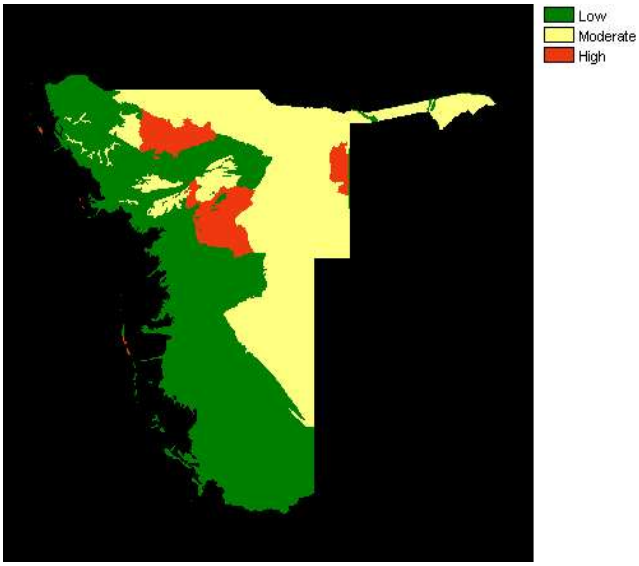



Figure 7. Soil risk classification, based on the thresholds presented in Table 3 above.

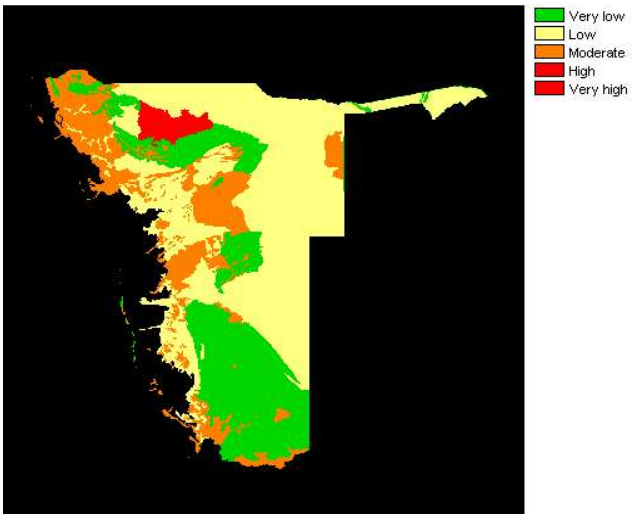



Figure 8. Soil erosion risk map based on the soil and the slope risk maps.

### Degradation risk map

Data were available for all four indicators for the period 1971-1997. Annual degradation risk maps were calculated by combining the four indicators (Figure 9). The population pressure index has only three classes according to its definition. The class values 2 (moderate) and 3 (high) were modified to 3 and 5, i.e. moderate=3 and high=5. Definition of the resulting five land degradation risk classes: very low, low, moderate, high, and very high is given in Table 4.

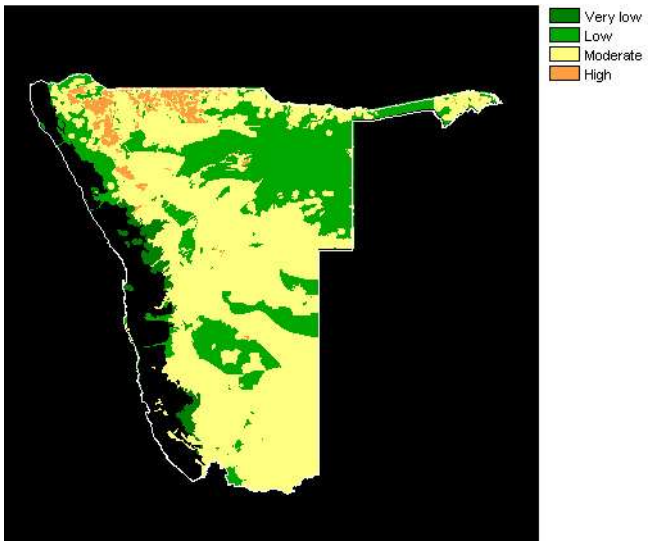



Figure 9. Namibia's land degradation risk map for 1997 based on four indicators described.

Table 4. Table shows the relationship between individual indicators and the resulting degradation risk map. For each class, very low=1, low=2, moderate=3, high=4 and very high=5.

| Degradation risk class | Population | Livestock | Rainfall | Erosion | Range |
|---|---|---|---|---|---|
| Very low | 1 | 1 | 1 | 1 | 1-4 |
| Low | 1 | 2 | 2 | 2 | 5-7 |
| Moderate | 3 | 3 | 3 | 3 | 8-12 |
| High | 5 | 4 | 4 | 4 | 13-17 |
| Very high | 5 | 5 | 5 | 5 | 18-20 |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