

**LESOTHO NATIONAL ACTION PROGRAMME IN NATURAL RESOURCE MANAGEMENT,
COMBATING DESERTIFICATION AND
MITIGATING THE EFFECTS OF DROUGHT**

**UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION IN THOSE COUNTRIES
EXPERIENCING SERIOUS DROUGHT AND/OR DESERTIFICATION,
PARTICULARLY IN AFRICA**

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Acronyms and Abbreviations

ASIP	Agriculture Sector Investment Programme
CCD	Convention to Combat Desertification
DCFL	Department of Conservation, Forestry and Land Use Planning
DDC	District Development Council
DDSC	District Desertification Steering Committee
DNRMC	District Natural Resources Management Committee
EIA	Environmental Impact Assessment
GIS	Geographic Information Systems
GNP	Gross National Product
NAP	National Action Programme
NDSC	National Desertification Steering Committee
NES	National Environment Secretariat
NEYC	National Environment Youth Corps
NGOs	Non-Governmental Organizations
PTC	Production Through Conservation
RMA	Range Management Area
RMD	Range Management Division
SADDMA	Sustainable Agricultural Development Programme of Mountainous Areas
VDC	Village Development Council
VSECC	Vegetative Soil Erosion Control Concept

CHAPTER 1: Elaborating a National Action Programme in Lesotho

1.1. An Overview of Desertification in Lesotho

Lesotho is a fragile ecosystem because of its topography, rainfall patterns, erodibility of its soils, land use patterns and special habitats such as bogs and sponges. The topography is mountainous with sharp terrains ranging in elevation from 1460 metres above sea level in the west to 3400 metres above sea level in the Northeast. The rainfall pattern in Lesotho is very erratic and unpredictable. The rainy season starts in early spring, mostly with heavy downpours and hail storms that cause a lot of soil movement and it lasts till late autumn. The winters are mostly dry but with occasional snow in the high elevations and light rain in the lowlands. The dry winters with no vegetation growth favour conditions for erosive early spring rains. Lesotho soils are derived from the underlying sandstone and basalt parent materials in the lowlands and mountains, respectively. The sandstone derived soils are highly erodible. The land use patterns in Lesotho are communal in the rangelands and semi-private in cultivated lands. Lesotho has world renowned special high altitude wetland habitats with rare plant and animal species. These wetlands are a main source of the southern African region's waters. All these factors make Lesotho a very fragile ecosystem whose use must be guarded.

In Lesotho, desertification is understood as a bio-physical land degradation phenomenon which manifests itself as **loss of biological productivity** resulting from over-exploitation and mismanagement of the natural resource base, be it water, soil, land, plants or animals, and **land degradation** resulting from excessive soil loss, depletion of pastures, loss of soil fertility, loss of water holding capacity of soils, loss of storage capacity of ponds, reservoirs, rivers, pools and inundation of bottom lands with sediments (see Chakela and Seithleko, 1995¹).

Land degradation in the form of soil erosion is pervasive in Lesotho. Rain water induced gully, rill and sheet erosion are the primary agents of soil loss in Lesotho. Soil loss is seen as sheet and rill erosion in many cultivated fields and as gullies that transverse the rangelands and cultivated fields all over the country.

The primary cause of soil erosion is mismanagement of the land, leaving it unprotected and critically vulnerable to agents of destruction. Over-cultivation and overgrazing by domestic animals is common in Lesotho. Consequently, the land is in most instances left without the necessary adequate ground cover. In 1977, about 15,000 ha of land area were classified as gullies and most of the gullies (about 90%) being active (Flannery, 1977). Although gullies take land out of use permanently and are easily observed, sheet

¹Chakela, Q. K. and M. E. Seithleko. 1995. Desertification in Lesotho. A review of policies, strategies and programmes to address land degradation. Paper prepared for the Lesotho National Environment Secretariat.

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and rill erosion have the greatest impact on productivity of the land and contribute immensely to the desertification process. Many fields and pastures have been taken out of production due to excessive sheet and rill erosion taking with it the top soil which is necessary for the production of crops, fodder and grass. Over the last 20 years, Lesotho has lost over 100 thousand hectares of arable land; a 25% decrease in utilizable land for production of food and fodder.

Loss of biological productivity, deterioration of rangelands and poor crop and animal productivity are other signs of land degradation and advancement of desertification in Lesotho. Productivity of major crops and animals has significantly declined in recent years due to poor land and rangeland conditions. In the early seventies, productivity of both crops and animals was relatively high. In the 1970s, a Lesotho sheep produced on average 5 kg of wool per year, maize and wheat yields were about 2 tons/ha and 1 ton/ha, respectively. In recent years, however, yields have declined significantly to where they are now 2.5 kg of wool per sheep per year, 860 kg/ha of maize and 650 kg/ha of wheat.

Furthermore, rangelands have seriously deteriorated. Rangeland carrying capacity have declined to levels where rearing animals in large enough numbers in Lesotho is becoming very difficult. The decline in the quality of rangelands has also affected the special and fragile ecosystems in the alpine reaches of the country. Many bogs and sponges, for which Lesotho is world renowned, are threatened by over-utilisation and trampling by livestock. Many other habitats supporting a variety of endemic species are being destroyed. Overall the country is becoming a dilapidated landscape with gullies and bare rock. Compounding the problem even further is the recurrent drought that often threatens the very existence of Basotho.

Although population density sometimes is mentioned as the underlying factor for resource degradation, leading to over-cultivation and overgrazing, such statement needs scrutiny. In Lesotho, almost all farming systems are of an extensive type. This holds for the cropping component dominated by maize cultivation on semi-privatized fields, and for the livestock component of extensive grazing in open access areas. In rural villages, houses with a home garden and/or fruit trees are a clear minority. Home compounds nor farming fields use to have fences that protect them against grazing animals. Trees are seldom seen in conjunction with agricultural fields. In the Lesotho context, over-cultivation and overgrazing should hence be understood as resource-mining which has reached and even surpassed its ecological limits.

In spite of enormous efforts for several decades of the Government of Lesotho with international support, there has not yet been a significant change for the better in the land use by the rural populations. Apparently the root causes of the land degradation problems have not yet been addressed.

1.2. The Lesotho National Action Plan to Implement Agenda 21

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Because of the seriousness of desertification and drought, the nations of the world agreed on the text of the Convention at the Rio Earth Summit in 1992, and proposed that combating desertification and mitigating the effects of drought be part of Agenda 21. Lesotho has prepared its National Action Plan to Implement Agenda 21 and within it are strategies to combat desertification and mitigate the effects of drought (Agenda 21, Lesotho, 1994).

Lesotho's strategies to implement Agenda 21 are:

- , Prepare a comprehensive National Plan for combating desertification and mitigating the effects of drought;
- , Develop anti-desertification measures to be integrated within the plan;
- , Develop early warning systems to enhance preparedness; and
- , Promote public awareness of desertification control and management of effects of drought

These strategies are in line with the requirements of the Convention to Combat Desertification.

1.3. The International Convention to Combat Desertification

The United Nations Convention to Combat Desertification and Mitigate the Effects of Drought (CCD) for which Lesotho is a Party was ratified by Lesotho in September 1995.

The three objectives of the CCD (*Article 1 (b)*) are:

- i. to prevent and/or reduce land degradation;
- ii. rehabilitate partly degraded lands; and
- iii. reclaim the desertified lands.

The CCD describes ***desertification*** as land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities (*Article 1 (a)*). In *Article 1(b)* of the Convention, ***Combating Desertification*** is meant to include activities which are part of integrated development in desertified areas for sustainable development and are aimed at preventing and/or reducing land degradation, rehabilitating partly degraded lands and reclaiming desertified lands.

The Convention also embraces the efforts that are meant to reduce the negative impacts of drought. The Convention thus describes ***drought*** as a naturally occurring phenomenon existing when precipitation is significantly low and causes the hydrological imbalances which ultimately affect the land resource productive systems (*Article 1 (c)*). ***Mitigating the effects of drought*** means activities related to the

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prediction of drought and intended to reduce the vulnerability of society and natural systems to drought as it relates to combating desertification (*Article 1 (d)*).

The Convention requires that Parties draw their national action programmes to combat desertification and mitigate the effects of drought (*Article 10*).

The purpose of the process of preparing and implementing national action plans is to harmonize the country's efforts in fighting environmental degradation (particularly natural resources deterioration) and to further strengthen the efforts of the CCD and realign them with those of the national environmental programme - particularly the national strategies to combat desertification. A national action programme reflects the results of an iterative process; new knowledge and experiences from implementation will feedback to planning and to updating the programme.

Since desertification and drought affect the rural communities more severely, prior attention is given to these groups throughout the country. In combating desertification and mitigating the effects of drought, participation of local communities, rural organizations, National Government, Non-Governmental Organizations and international and regional organizations is essential. Partnerships will be built to enhance effective implementation of programmes and activities.

1.4. The Role of the NES in the NAP

The CCD calls for Parties to work closely together in the elaboration and implementation of national action programmes (*Article 14*). The National Action Programmes are the key operational tools for transforming the provisions of the Convention into concrete actions to combat desertification and mitigate the effects of drought at the national level. This then calls for a central body from which co-ordination can be brought about.

The National Action Programme to Combating Desertification and Mitigate the Effects of Drought in Lesotho will further be referred to in this document as the NAP.

The responsibility for co-ordination of the preparation and implementation of the NAP in Lesotho is delegated to the National Environment Secretariat (NES), which becomes the focal point for the programme. The NES was established in 1994 under the Office of the Prime Minister to oversee and co-ordinate the National Action Programme to Implement Agenda 21 in Lesotho.

In general, the NES is the lead agency in environmental management in Lesotho and is mandated to promote socio-economically and environmentally sustainable development, by:

co-ordinating, advising, and regulating environmental management in Lesotho;

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- , setting standards and guidelines and monitoring compliance to environmental impact assessments;
- , disseminating information on environmental issues;
- , empowering and creating awareness among local communities and other stakeholders on conservation of the country's environment to achieve sustainable development; and
- , ensuring Lesotho's adherence to international environmental treaties and conventions to which the country is a Party.

The CCD is embraced in Agenda 21 and by virtue becomes part of the activities of the NES.

Therefore, the NES must be posed to implement the NAP and become the Government agency responsible for co-ordinating activities related to the preparation of the NAP document, implementation of programmes, monitoring and assessing the impacts of programmes and international coordination in order to maximize the efficient use of resources, to ensure responsive assistance, and to facilitate the implementation of national action programmes and priorities under the Convention.

1.5. The NES Perspective

The aim of the National Environment Secretariat is to manage the physical environment through the human environment. The NES realizes that natural forces do not destroy the balance of environmental components as much as the human forces do. Therefore, it is imperative that efforts to reverse environmental degradation be addressed towards managing the human environment.

The NES perceives that the National Action Programme to Combat Desertification and Mitigate the effects of drought should embrace the following concerns:

- Public awareness on desertification and drought issues must be promoted and communities at all levels be empowered to participate in all stages of the NAP;
- Communities must be taught to better manage their land resources in a sustainable manner;
- Land degradation and drought monitoring and assessment should support the co-ordination of the NAP and should initiate development of a national environmental information system with a view to providing action-oriented information to users;
- Early warning systems must be developed and put in place to enhance drought preparedness;

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- Research, development and transfer, acquisition and adaptation of technology should increase knowledge of desertification and drought processes and also help develop appropriate technologies for combating desertification and mitigating the effects of drought.

1.6. Consultations for the Elaboration of the NAP

The process of formulating the NAP for Lesotho began in May 1995 with consultations at the national and district levels. At the national level, the process was guided by the production of a paper by Chakela and Seithleko (1995) detailing the level of desertification in Lesotho and the past efforts to combat it. A plenary workshop was held to further elaborate the NAP process and to indicate the way forward towards country-wide consultations. A consultative mechanism was then devised to guide the district and village level consultations.

At the district and village level, discussions were held on land degradation problems, its causes and remedies, and the programmes that could be engaged to combat it and to better manage the land resource base. At the same time public awareness on desertification issues was undertaken. The district and village meetings began in May 1997. From May to August, 1997, ten district workshops (one in each District) and 37 village level meetings were held.

Lessons learned from the district workshops and the village level meetings were many and varied but the following are noteworthy;

1. Villagers are aware of land degradation in their respective areas but are unable to take action due to lack of leadership from traditional as well as cosmopolitan leaders
2. There are few government-community initiatives to enable active participation
3. Communities are aware of the laws governing land use and protection of woodlots, grazing areas and bad agricultural practices, e.g. ploughing along the slope
4. Communities are also aware that law enforcement is lacking in recent days
5. Communities are aware that poverty in their areas is real and widespread and also that it inhibits people to participate fully in land degradation control programmes, especially where financial resources are required
6. Communities also realize that individual initiatives in controlling land degradation are more successful than community or government organized initiatives.

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The lessons learned from national, district and community level workshops and meetings were used by the NES to draft a NAP Concept Paper which subsequently has been reviewed and amended during the National Forum on the CCD held in Maseru from 17 to 19 March, 1998.

The present document is taking into account the results of the Forum as well as the recommendations from the October'98 meeting of the National Desertification Steering Committee.

CHAPTER 2: Programme Objective, Approach and Rationale for the NAP

2.1. Programme Objective

The objective of the NAP is to structure and guide the process and define the elements of strengthening environmental capacities, enhance public awareness and mobilize active participation in order to better manage the natural resources, combat land degradation and desertification and mitigate the effects of drought. The objective also contains elements of strengthening the policy, legal and institutional foundations for environmental management.

2.2. Programme Approach

The programme will, working in line with the strategy of the NES and CCD to combat desertification, work to harmonize all programme activities and raise public awareness on issues of land degradation and desertification. The programme approach will endeavour to ensure collaboration and co-ordination among Government institutions, NGOs, the donor community and the public in order to minimize duplication and fragmentation of efforts and maximize impact. Of considerable importance is the need for accountability and transparency of institutions, organizations and agencies that are involved with the implementation of the NAP. Due to sharing of experiences and information, such programme approach shall have a synergistic effect, save resources, improve efficiency and enhance the quality and process of programme implementation.

The first approach to NAP implementation is to develop a set of indicators of progress or lack thereof in combating desertification and mitigating the effects of drought. A number of indicators have been included in Annex 1 and are to be developed further to enable monitoring and assessment of programme impacts.

2.3. Programme Rationale

The objective of the CCD is to combat desertification and mitigate the effects of drought through effective action at all levels, supported by international coordination and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development (*Article 2*).

The Lesotho NAP components are in support of this objective and seek to reduce poverty within the nation's framework of economic growth and the protection of environment and natural resources. The NAP seeks to support Government efforts in capacity building to better manage the natural resources, combat land degradation and desertification and mitigate the effects of drought.

CHAPTER 3: Programme Areas of the NAP

In order to structure the overall programme of the NAP, five programme areas have been formulated and discussed at the National Forum held at Maseru in March, 1998. These five programme areas can be considered as different dimensions of the programme, and each of these has been further structured with its own sets of objectives and activities. The five programme areas provide the basis for strengthening coordination and arriving at partnership arrangements to support various activities to be undertaken for a successful implementation of the CCD in Lesotho.

The **five programme areas** of the NAP are:

1. *Equity, Poverty Alleviation, Solidarity & Participation*
2. *Technical Measures to Alleviate the Pressures on the Natural Resources Base*
3. *Institutions, Organisation and Instrumentation*
4. *Knowledge Support, Learning and Communication*
5. *Drought Preparedness and Drought Relief Schemes.*

During the Forum attention had been paid to *Resource Mobilisation* as yet another programme area for NAP. However, in the programme it is integrated into programme area 3.

Whereas the focus of the NAP (and the CCD) is on desertification control and environmental rehabilitation, these five programme areas represent the different dimensions of the NAP which all must be taken into account in order to effectively address the land degradation problem.

The first programme area represents the *poverty alleviation dimension* of the NAP (and the CCD). As the Rio Conference clearly has stated, poverty and environmental degradation are closely interlinked. This programme area of the NAP conditions the other programme areas to ensure explicit attention to the issues of equity, poverty alleviation, solidarity and access to information and decision-making, and includes measures in the realm of natural resource management which may improve the economic environment to eradicate poverty.

The second programme area represents the *technical dimension* of the NAP, i.e. those measures in environmental rehabilitation and natural resources management that can be taken to alleviate the pressures on natural resource base.

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The third programme area is the *institutional dimension*, including the creation or strengthening of government institutions and local organisation, measures to define roles of Government, NGOs and communities, encourage active decentralization and reach agreements on instrumentation and procedures; in brief, this programme area deals with fostering an *enabling environment*.

The fourth programme area is concerned with the *process dimension*. It includes measures to improve knowledge, and use this knowledge for learning and communication. It creates *enabling mechanisms* for the NAP process.

The fifth and last programme area deals with *emergency preparedness* in the case of droughts.

In the following sections of this chapter, each programme area will be described with its basis for action, its objectives and the activities pertaining to each objective.

Programme Area 1: Equity, Poverty Alleviation, Solidarity & Participation

Basis for Action

Overall, Lesotho is a poor country with per capita GNP of US\$650 (1995 World Development Report). Eighty-two percent of the 1.9 million people of Lesotho lives in the rural areas and 90% of those who live in the rural areas are poor². Land degradation in the form of depleted rangelands, barren soil conditions and gullies is prevalent, especially in the more densely populated lowlands region of the country. Consequently, current livelihood and resource-use systems are not able to maintain living standards. Therefore, measures to alleviate poverty and reduce pressure on the land must be sought and adopted.

It is a well known and accepted notion that poor people tend to not take proper care of environment and the associated natural resources whilst their basic needs for food, shelter and health are not met. As a consequence, therefore, rural people put more pressure on their natural resource base than they would otherwise do in instances of less poverty.

As has been indicated from the consultation process, lack of clear land ownership policy was cited by rural communities as a limiting factor in proper land management. Often, communities blame the chief for environmental degradation problems as he/she is seen as the owner of the land and they as mere resource users. The confusion is further exacerbated by the presence of Development Councils whose role has been to

²See "Pathway out of poverty. An Action Plan for Lesotho. GOL, Maseru. Lesotho.

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restrict the use of the resource base and application of heavy fines to culprits and less on the proper use and better management of the land.

The NAP seeks, through programme area 1, to offset to the rural poor the negative consequences of land degradation which express themselves as diminished access to the use of natural resources. This programme area aims at using the limited resources in a more intensive and, yet, productive and sustainable manner, and at engaging the rural population gainfully in environmental rehabilitation works.

Objectives of Programme Area 1: Equity, Poverty Alleviation, Solidarity & Participation

Programme area 1 has seven objectives (numbered 1.1 till 1.7):

- 1.1. Labour-intensive, environmentally sound farming systems
- 1.2. Employment opportunities for rural poor and women, in support of environmental rehabilitation (e.g. private tree nursery production, fruit trees, seed multiplication)
- 1.3. Opportunities for alternative livelihoods as a basis for reducing pressure on land resources
- 1.4. Employment opportunities for rural poor / women in environmental rehabilitation activities of a public nature or at community level (e.g. gabion construction, plantation of common lands / through food or cash for work)
- 1.5. Additional sources of income, particularly for rural poor / women, thereby improving their living standards
- 1.6. Solidarity assistance by outsiders for activities beyond the capacity of the village population (e.g. Lesotho Work camps Organisation, Lesotho Scouts Organisation, Lesotho Red Cross, Military)
- 1.7. Access to information / awareness of all resource users of Government programmes and responsibilities.

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Activities of Programme Area 1 (Poverty Alleviation, etc.)

Objective 1.1: Labour-intensive, environmentally sound farming systems;

- 1.1.1.** Promote sustainable farm technologies with low external inputs for intensifying land use (e.g. LEISA farming such as Machobane Farming System)

Objective 1.2: Employment opportunities, in support of environmental rehabilitation

- 1.2.1.** Support privatization of tree nursery production, fruit trees, seed multiplication, etc. by enabling local people / groups to produce vegetative materials needed in programmes or projects of environmental rehabilitation and natural resources management

Objective 1.3: Opportunities for alternative livelihoods to reduce pressure on land resources

- 1.3.1.** Promote local production and marketing capacity as a means of developing alternative livelihood systems that alleviate poverty
- 1.3.2.** Establish and strengthen village associations focussed on economic activities of common agricultural interest, e.g. market gardening
- 1.3.3.** Promote the establishment and mobilization of rural credit and savings schemes

Objective 1.4: Employment opportunities in environmental rehabilitation activities of a public nature

- 1.4.1.** Contract local people for erosion control works on roads, trails and other sites of the public domain (e.g. gabion construction, plantation of common lands / through food or cash for work)
- 1.4.2.** Organize and support local groups for rehabilitation works on common lands (e.g. Environmental Youth Corps)

Objective 1.5: Additional sources of income, thereby improving the living standards of rural poor.

- 1.5.1.** Promote the establishment of entrepreneurship within rural groups to facilitate establishment of rural cottage industries and business ventures.

Objective 1.6: Solidarity assistance for activities of resources rehabilitation which are beyond the capacity of the village population

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- 1.6.1.** Mobilize assistance for resource rehabilitation activities from voluntary organizations (e.g. Lesotho Work camps Organisation, Lesotho Scouts Organisation, Lesotho Red Cross, Military)

Objective 1.7: Access to information on Government programmes and responsibilities

- 1.7.1.** Make the information on rights and obligations regarding natural resources management accessible and available to rural people, particularly the poor and landless

Programme Area 2: Measures to Alleviate the Pressures on Natural Resource Base

Basis for Action

In combating desertification on rangelands, rainfed cropland and irrigated land, it is important to distinguish in the degree of severity of degradation of the land and the corresponding need to address the desertification trend with appropriate measures. Desertification *preventive measures* should be adopted in areas not yet affected or only slightly affected by the desertification process. Desertification *corrective measures* should be implemented to sustain the productivity of moderately desertified lands. *Rehabilitation measures* should be taken to recover severely desertified lands.

In a fragile ecosystem such as Lesotho, natural resources management must focus on establishing and maintaining adequate vegetation cover. An adequate vegetation cover would promote and stabilize the hydrological balance and maintain land quality and land productivity. These protective measures must be applied on lands not yet degraded. Application of corrective measures and rehabilitation of moderately and severely degraded lands should be through the introduction of environmentally sound, socially acceptable, fair and economically feasible land use systems which will enhance the carrying capacity of the land and maintain biotic resources.

Objectives of Programme Area 2: Technical Measures

Programme area 2 has five objectives (numbered 2.1 till 2.5):

- 2.1. Improved production systems in order to achieve greater productivity whilst conserving natural resources and in the framework of integrated approach to rural development;
- 2.2. Appropriate management of existing natural formations for the conservation of biodiversity, watershed protection, sustainable production and agricultural development in those areas not yet affected by desertification;
- 2.3. Rehabilitation through, *inter alia*, soil and water conservation, of moderately to severely desertified drylands for productive utilisation and sustainable production;

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- 2.4. Increased vegetation cover and improved management of biotic resources in regions affected or prone to desertification and drought through afforestation or reforestation, agroforestry, community forestry and vegetation retention schemes;
- 2.5. Allocation of land to its best use.

Activities of Programme Area 2 (Technical Measures)

Objective 2.1: Improved production systems in order to achieve greater productivity whilst conserving natural resources and in the framework of integrated approach to rural development

- 2.1.1. Promote conservation agriculture such as Production Through Conservation (PTC)
- 2.1.2. Promote the use of high yielding varieties and genes to enhance high productivity per unit (avoiding possible conflicts with biodiversity conservation through loss of local varieties)
- 2.1.3. Promote the use of organic waste for soil fertility improvement
- 2.1.4. Promote the development and use of water harvesting and retention techniques

Objectives 2.2: Appropriate management of existing natural formations for watershed protection, the conservation of biodiversity, sustainable production and agricultural development in those areas not yet affected by desertification

- 2.2.1. Implement urgent direct preventive measures in vulnerable lands by introducing; 1) improved land use policies and practices for more sustainable land productivity, 2) appropriate, environmentally sound and economically feasible agricultural and pastoral technologies, and 3) improved management of soil and water resources
- 2.2.2. Promote *in situ* protection and conservation of special ecological areas (e.g. high altitude wetlands) through legislation and other means for purposes of combating desertification while ensuring protection of biodiversity [see also 2.5.1]

Objective 2.3: Rehabilitation of moderately to severely desertified drylands for productive utilisation and sustainable production

- 2.3.1. Carry out accelerated afforestation programmes using drought resistant, fast growing species, in particular native ones, combined with community based agroforestry schemes.
- 2.3.2. Implement urgent direct corrective measures in moderately to severely desertified drylands, with a view to restoring and sustaining their productivity

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Objective 2.4: Increased vegetation cover and improved management of biotic resources in regions affected or prone to desertification and drought

- 2.4.1.** Promote participatory management of natural resources, including rangelands, to meet both the needs of rural populations and conservation purposes, based on innovative or adapted local technologies (e.g. *Maboella*, Grazing Associations, etc.).
- 2.4.2.** Promote and encourage investment in forestry development in dryland areas through various incentives (e.g. private land ownership, tax credits, etc), including legislative means.
- 2.4.3.** Promote the development and use of sources of energy which will lessen pressure on local resources, including alternative sources of energy (e.g. electricity, biogas and solar power) and improved stoves.

Objective 2.5: Allocation of land to its best use

- 2.5.1.** Demarcate zones of appropriate types of land use as part of village level natural resources management (e.g. areas appropriate for residential and urban development, agricultural areas, grazing lands, areas to be protected);
- 2.5.2.** Reallocate fields which are not properly used to other users / leaseholders
- 2.5.3.** Protect mount-aux sources, springs and wells through legal provisions, law enforcement and local management

Programme Area 3: Institutions, Organization & Learning

Basis for Action

The social systems interacting with land resources make the problem of desertification much more complex, requiring an integrated approach to the planning and management of land resources, while at the same time defining specific roles for each partner to perform. Action plans to combat desertification and drought should include management aspects of environment and development, thus conforming with the approach of integrating national development plans and national environmental action plans.

For some time now, the Government of Lesotho has been advocating a balanced approach to development; i.e. there must be popular participation in project formulation and implementation. At present there seems to exist some difficulty in attaining this objective. There is still a top-down approach to programme formulation and implementation. The experiences gained on the successes and failures of past projects in Lesotho point to the need for popular participation. The past projects did not apply a participatory approach to

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development and probably therefor met with limited success only. Some measure of success is achieved in recent projects which do apply a participatory approach. However, the level of popular participation is still inadequate. Hence, it is necessary to go beyond the theoretical ideal of popular participation and focus on obtaining actual active popular involvement, rooted in the concept of partnership. This means that there should be sharing of responsibilities and mutual involvement of all parties with serious commitment to a long-term common goal.

In context therefore, this programme area must be considered an essential supporting component of all desertification control and drought relief activities.

Objectives of Programme Area 3: Institutions, Organization & Instrumentation

Programme area 3 has five objectives (numbered 3.1 to 3.5)

- 3.1. Capacity of village communities to take charge of their development and management of their resources;
- 3.2. Strategic planning frameworks at all levels (for development, protection and management of natural resources) that recognise individual roles of Government, NGOs, user groups and communities, and integration of these plans into national development plans;
- 3.3. Partnership between Government, at both national and local levels, other executing agencies, non-governmental organisations and land users for the planning and implementation of environmental rehabilitation and sustainable natural resources management;
- 3.4. Support mechanisms to local communities in their efforts in combating desertification and ensuring full participation;
- 3.5. Mechanisms for resource mobilization (cross-sectoral, national and international).

Activities of Programme Area 3 (Institutions, Organization, etc.)

Objectives 3.1: Capacity of village communities to take charge of their development and management of their resources

- 3.1.1.** Develop and adopt policies at the national level regarding a decentralized approach to land-resource management, delegating responsibility to rural communities and organizations.
- 3.1.2.** Strengthen capacities and management skills of rural organizations and communities to enable better management of village production and pastoral lands

Objective 3.2: Strategic planning framework at all levels (for development, protection and management of natural resources) that recognizes individual roles of Government,

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organizations and communities, and this framework must enable integration of these plans into national development plans

- 3.2.1.** Establish co-ordination among ministries, institutions, and organizations working on anti-desertification programmes at national and local levels. [the intended role for NES]
- 3.2.2.** Develop specific sets of instruments and procedures for Strategic Environmental Analysis (SEA), and Environmental Impact Assessment (EIA) to be applied as part of planning for natural resource management at District and village level
- 3.2.3.** Develop District Environmental Strategies, and include these in the District Development Plans
- 3.2.4.** Establish local, national and intersectoral mechanisms to handle environmental and developmental consequence on land use; e.g. Committees for natural resources management and/or land use planning
- 3.2.5.** Clarify and adjust to each other the roles of Land Use Planning Divisions in the Ministry of Agriculture and in the Ministry of Local Government

Objective 3.3: Partnership between Government, at both national and local levels, other executing agencies, non-governmental organizations and land users for the planning and implementation of environmental rehabilitation and sustainable natural resources management

- 3.3.1.** Adopt policies and establish administrative structures for decentralized decision-making and implementation for sustainable natural resources management
- 3.3.2.** Strengthen the organization and capacity of user groups to plan and negotiate natural resource management (e.g. Grazing Associations)
- 3.3.3.** Create commitment for long-term goals on natural resources management of all stakeholders
- 3.3.4.** Establish District Committees for Natural Resources Management / Land Use Planning

Objective 3.4: Support mechanisms to local communities in their efforts in combating desertification, and ensuring their full participation

- 3.4.1.** Introduce legislative, institutional and financial measures to secure user involvement

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- 3.4.2.** Establish guidelines for the use of incentives, allowances, subsidies, etc. for land rehabilitation
- 3.4.3.** Establish enforcement mechanisms conducive to fulfilling commitments from the different partners concerning sustainable natural resources management and rehabilitation

Objective 3.5: Mechanisms for resource mobilization (cross-sectoral, national and international)

- 3.5.1.** Monitor budgets and funding available for sustainable natural resources management from government and non-government sources
- 3.5.2.** Identify bottlenecks in funding for environmental rehabilitation
- 3.5.3.** Establish rehabilitation funds at District and village level
- 3.5.4.** Establish taxation mechanisms of the agricultural lands and of grazing fees on (communal) grazing lands, and use those revenue at local level to manage grazing lands and other common access resources
- 3.5.5.** Establish mining fees, and use those revenues at local level to rehabilitate areas affected by mining.

Programme Area 4: Knowledge Support, Learning & Communication

Basis for Action

Although there are a number of publications on soil erosion in Lesotho, the country still has inadequate basic data and information on desertification and drought processes to enable appropriate decision-making. Systematic observation systems that are helpful for the development and implementation of effective anti-desertification programmes are inadequate. The capacity of existing national institutions to generate and exchange relevant information and systematic observation based on appropriate technology is also lacking in Lesotho. The data sets and information embracing national and local levels are essential for understanding the dynamics of desertification and drought processes. It is therefore important to develop adequate measures to deal with desertification and drought and improve socio-economic conditions. These could be achieved through a strong emphasis on (applied) research, gaining thorough knowledge of the factors contributing to desertification, a strong monitoring and assessment programme, and communication of this knowledge to planners.

Besides a better understanding of the physical processes that lead to desertification, a more thorough understanding is warranted of the socioeconomic aspects of land degradation and

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natural resources utilization. Little is known, for instance, on the attitudes of rural people and the sense of urgency they feel towards resource degradation in their own environment, and the reasons why they have so far not yet massively resorted to rehabilitation and land use intensification, even not in their own home gardens or farming fields. About these questions one can find mainly hypotheses and suppositions, but no research data.

Objectives of Programme Area 4: Knowledge Support, Learning and Communication

Programme area 4 has eight objectives (numbered 4.1. till 4.8):

- 4.1. National environment information co-ordination centres that will act as focal points for data collection and management and to provide standardisation in information and back-up services;
- 4.2. Systematic observation networks linked to development of national systems for observation of land degradation and desertification (caused by both climatic fluctuations and human activities), and identify priority areas for action;
- 4.3. Permanent system for monitoring desertification and land degradation to provide up to date information;
- 4.4. Long term relay process for development, implementation and monitoring strategies related to resource management;
- 4.5. Process monitoring system based on agreed principles of interaction;
- 4.6. Integration of local knowledge and experience, with validation of indigenous knowledge;
- 4.7. Understanding by partners of each other's roles, needs, objectives and points of view (by providing training, public awareness and open dialogue);
- 4.8. Understanding land tenure and customary rights for natural resources utilisation.

Activities of Programme Area 4 (Knowledge Support, Learning, etc.)

Objectives 4.1: National environment information co-ordination centres on desertification

- 4.1.1.** Establish and strengthen environmental information systems at the national level.
- 4.1.2.** Strengthen national and local environmental assessment and ensure coordination/networking between environmental information and monitoring systems.
- 4.1.3.** Strengthen the capacity of national institutions to analyse environmental data so that ecological change can be monitored and environmental information obtained on a continuing basis.

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Objective 4.2: Systematic observation networks linked to development of national systems for observation of land degradation and desertification

- 4.2.1.** Review and study the means for measuring the ecological, economic and social consequences of desertification and land degradation and introduce the results of these studies into desertification and land degradation assessment practices
- 4.2.2.** Review and study the interactions between the socio-economic impacts of climate, drought and desertification and use these results to identify priorities and to secure concrete action

Objective 4.3: Permanent system for monitoring desertification and land degradation to provide up to date information

- 4.3.1.** Support the integrated data collection and research work of programmes related to desertification and drought problems.
- 4.3.2.** Support national programmes for integrated data collection and research networks carrying out assessment of soil and land degradation (e.g. mapping and monitoring the vegetation cover).
- 4.3.3.** Strengthen national meteorological and hydrological networks and monitoring systems to ensure adequate collection of basic information and communication among national centres.

Objective 4.4: Long term relay process for development, implementation and monitoring strategies related to resource management.

- 4.4.1.** Establish national and local anti-desertification networks comprising authorities in Government and local committees or associations of land users with a view to strengthening coordination between all actors (from grass roots level to the highest level of Government)

Objective 4.5: Process monitoring system based on agreed principles of interaction;

- 4.5.1.** Establish monitoring systems that frequently feed-back to planning levels information dealing with response and lessons learned which are relevant for future implementation of environmental rehabilitation activities

Objective 4.6: Integration of local knowledge and experience, with validation of indigenous knowledge

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- 4.6.1.** Make study, at an early stage of planning for environmental rehabilitation, of successful and/or innovative actions and experiences by local resource users and authorities
- 4.6.2.** Use successful cases for farmer-to-farmer exchange
- 4.6.3.** Document successful cases for use in extension and awareness programmes

Objective 4.7: Understanding by partners of each others roles, needs, objectives and points of view (by providing training, public awareness and open dialogue).

- 4.7.1.** Establish and utilize mechanisms for the consultation and involvement of land users and enhance capacity at the grass-roots level to identify and contribute to action programmes.
- 4.7.2.** Develop training programmes to increase the level of awareness and participation of people, particularly of rural poor, women and local user groups.
- 4.7.3.** Hold awareness campaigns for Village Chiefs, VDCs and DDCs.
- 4.7.4.** Introduce community level educational systems to help spread knowledge among affected groups.

Objective 4.8: Understanding land tenure and customary rights for natural resources utilisation.

- 4.8.1.** Study the relevance of local land tenure and customary rights for environmental rehabilitation and sustainable natural resources management
- 4.8.2.** Document lessons learned and formulate recommendations for modifications (if needed) in land tenure and/or legislation at an early stage of planning environmental rehabilitation programmes and projects

Programme Area 5: Drought Preparedness and Drought Relief Schemes

Basis for Action

Drought, in differing degrees of frequency and severity, is a recurring phenomenon in Lesotho and the economic costs associated with drought-related disasters are high. During periods of drought, there are costs associated with lost production, misused inputs and diversion of development resources for drought relief. Drought has both human and physical dimensions. Oftentimes and in desperate situations, people face food shortages and starvation during drought periods. The physical dimensions of drought are expressed in terms of lost vegetation cover that may lead to soil erosion when rains return.

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Therefore, early warning systems to forecast drought are necessary to enable drought preparedness and implementation of drought-relief schemes. Integrated packages at the farm and watershed level, such as alternative cropping strategies, soil and water conservation and promotion of water harvesting techniques, could enhance the capacity of land to cope with drought and provide basic necessities, thereby minimizing the need for emergency drought relief. At the same time, contingency arrangements for relief are needed for periods of acute drought and scarcity.

Objectives of Programme Area 5: Drought Preparedness and Drought Relief Schemes

Programme area 5 has three objectives (5.1. to 5.3):

- 5.1 National strategies for drought preparedness in both the short and the long term, aimed at reducing the vulnerability of production systems to drought;
- 5.2 Early warning system to enable implementation of strategies for drought intervention;
- 5.3 Drought relief schemes and means of coping with environmental refugees and integrate them into national development planning.

Activities of Programme Area 5 (Drought Preparedness)

Objectives 5.1: National strategies for drought preparedness

- 5.1.1.** Design strategies to deal with national food deficiencies in periods of production shortfall; such as storage and stocks to be kept at all times, imports to supplement existing national stocks and transport and distribution networks.
- 5.1.2.** Improve national capacity for agro-meteorology and contingency crop planning
- 5.1.3.** Establish contingency arrangements, where necessary, for food and fodder distribution and water supply
- 5.1.4.** Establish budgetary mechanisms for providing, at a short notice, resources for drought relief.
- 5.1.5.** Establish safety nets for the most vulnerable households.

Objective 5.2: Early warning system to enable implementation of strategies for drought intervention

- 5.2.1.** Develop early warning systems and strengthen the flow of early warning information to decision makers.

Objective 5.3: Drought relief schemes and means of coping with environmental refugees

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- 5.3.1** Prepare rural projects for providing short-term rural employment to drought-affected households to alleviate distress in times of drought.
- 5.3.2.** Develop drought relief schemes and means of coping with environmental refugees

CHAPTER 4: Operationalizing the NAP in Lesotho

4.1. Need for Partnership

Considering the efforts of the past by Government and other organizations, it is obvious that the issue of land degradation in Lesotho is very old and continues to be a concern of many people and organizations. Although the Government is keen to conserve the land and the land based resources, this concern has not been met by individual Basotho assuming appropriate responsibilities and initiatives. Although Basotho rural people realize the problem of land degradation due to soil erosion, the efforts of Government supported programmes and of NGOs to assist them in order to sustainably managing the natural resource base and combating desertification have been unsuccessful as land degradation continues unabated.

Apparently the root causes of the land degradation problems have not yet been addressed. It is possible, that this has been caused by partial views, professional bias, or lack of trust among the persons concerned with combatting desertification.

Desertification is a cross-cutting environmental problem, whose effects and impacts transects sectors, especially primary sectors such as agriculture and health. This has been recognized by the Government of Lesotho which has worked to integrate all environmental problems, including desertification, into sectoral planning. The Sectoral Round Table discussions which were recently held in Lesotho from which sectoral development programmes such as Agricultural Sector Investment Programme (ASIP) emanated are an example of Government initiatives to integrate sectoral and environmental planning into national planning. The NES was represented at these discussions which included primary sectors such as Agriculture, Health and Tourism. The recognition that environmental problems, including desertification, do not only affect the bio-physical aspects of land but also the socio-economic aspects of the country, has led to emphasize the necessity of cross-sectoral planning and coordinated implementation of environmental rehabilitation and natural resources management programmes.

Cross-sectoral and coordinated efforts hence call for partnership among sector-wise organized Government institutions, and between government and NGOs. Whatever success these aforementioned groups may have in building partnership between themselves, the most important partner in the effort to combat desertification, however, is the rural population.

The NAP is addressing the establishment of partnership links in its programme areas. The first step in partnership building in the NAP implementation has to be at Government level and with NGOs, in order to create the conditions conducive to real and committing local participation and partnership with the rural Basotho.

There are a number of on-going programmes and projects in Lesotho with an important component of land rehabilitation and natural resources management. Although they are being implemented by different organizations, they have one commonality which makes them

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important towards land management in Lesotho. All projects are aimed at managing the land resource better and to reduce its degradation. It is therefore appropriate that their efforts are linked so as to make the most impact. Linkages could be built in many respects, amongst which are the awareness of the existence of each other, joint efforts at the field level, and holding seminars or meetings to discuss issues of common concern.

4.2. Coordinating Role of the NES

The NES is the Government agency responsible for co-ordinating activities related to the preparation of the NAP document, implementation of programmes, monitoring and assessing the impacts of programmes and international coordination in order to maximize the efficient use of resources, to ensure responsive assistance, and to facilitate the implementation of national action programmes and priorities under the CCD.

In addition to its co-ordination role in environment management, the NES is preparing itself to play a more crucial role of protecting the country's environment in the near future. The NES will not only co-ordinate the efforts of other departments and organizations, but will also enforce environmental protection in the country.

4.3. Relevant On-going Programmes, Projects and Activities

Land degradation has over the years received quite a considerable attention from Government and other organizations. Several area based land rehabilitation and reclamation projects have been undertaken in the past. These projects dated way back to the early seventies with the implementation of the Thaba Bosiu Rural Development Project and the Khomo-Khoana Development Project and, more recently, the Land Conservation and Range Development Project.

There are currently a few programmes by Government and NGOs being undertaken to combat land degradation and desertification. The Government programmes are under the NES and the Ministry of Agriculture. According to its design, linkages will be established to the Agricultural Sector Investment Programme (ASIP) now being elaborated. The other programmes are done by a number of NGOs active in the field.

4.3.1. NES Programmes and Projects

Currently, the NES is running and co-ordinating two environmental programmes: the National Environment Youth Corps (NEYC) and the Environmental Impact Assessment (EIA). The NEYC programme functions to educate the youth about environment and how to protect it. The youth are taught how to rehabilitate the degraded lands through soil conservation methods. The programme now covers a greater portion of the country where youth are planting trees and building stone structures in dongas and degraded lands. The NEYC is also a poverty alleviation programme where youth are engaged in environmental

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enterprising; collecting and selling cans as they clean the environment and produce and sell tree seedlings.

The Environmental Impact Assessment programme co-ordinates the efforts of other ministries and departments in providing guidelines on environmental protection. The Ministries and Departments the programme is currently involved with are the Ministry of Works, Roads Construction Department, the Ministry of Natural Resources, Lesotho Highlands Development Authority (particularly in dam and road construction and the relocation programme), the Ministry of Tourism, sports and Culture and other related ministries.

The activities of the NEYC and EIA programmes are designed to pre-empt land degradation by raising awareness among the youth on land degradation issues and providing guidelines on environmental protection, respectively. The two NES programmes are intended to prevent land degradation, rehabilitate and reclaim degraded lands. These programmes work in line with the objectives of the CCD. Their activities must thus be extended and included in the overall objectives of the NAP.

In addition, a small number of cross-sectoral and innovative pilot projects is being supported by NES. These are the Drakensberg Maloti Mountains Conservation Programme and the Maloti-Drakensberg Transfrontier Programme.

4.3.2. Agriculture Programmes and Activities

The sector most directly intertwined with environment in Lesotho is agriculture. All agricultural activities directly affect environmental components, such as vegetation, biodiversity, water, etc. Due to an apparent lack of adequate technical know-how in land management by the Lesotho land resources users, agriculture seems to be impacting in a negative sense in the environmental quality of the country. Current agricultural activities are degrading Lesotho's environment as there are soil erosion, caused by bad agricultural practices, and overgrazing in the rangelands, low crop and animal productivity and excessive ecosystem destruction due to over-utilisation and over-harvesting of wood resources.

The Ministry of Agriculture has several programmes that deal with the conservation of soil, water and other related environmental components. These programmes are led by the Department of Conservation, Forestry and Land Use Planning (DCFL) and Range Management Division (RMD) of the Department of Livestock Services. The DCFL has over the years operated soil conservation programmes that dealt with rehabilitating degraded lands, donga rehabilitation and tree planting. Currently however the DCFL is placing emphasis on watershed management as a means of halting the degradation of rangelands and reducing soil erosion. In cultivated lands, the department is emphasising conservation farming through the programme of Production Through Conservation (PTC).

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In addition, the RMD of the Department of Livestock Services plays a crucial role in advising Basotho rangeland users on ways to better manage their grazing areas. Through the programme of Range Management Areas (RMAs) the Division is advancing the vegetative soil erosion control concept (*VSECC*). The *VSECC* is based on the understanding that the ecological balance will be restored and rates of soil erosion and runoff will be reduced to acceptable levels when vegetative cover and top soil conditions are improved and provided there is good management of cultivated and grazing lands. The Division recognizes that in order to attain an ecological equilibrium in rangelands, in which soil fertility, productivity and infiltration rates are increasing and soil erosion and runoff are decreasing, there must be involvement of land users as managers of the land rather than just users of the land.

The Agricultural Sector Investment Programme (ASIP) aims at improving the productivity of the agricultural sector through a number of measures, including a unified agricultural extension service. In the framework of ASIP, additional projects are in the pipeline, such as the IFAD-funded Sustainable Agriculture Development Programme for the Mountain Areas (SADPMA) and the World Bank proposed Agricultural Policy and Capacity Building Project. The current proposals are in line with the ambitions of the NAP and, among others, stress the need for coordination through NES and aim at decentralized planning for natural resources management.

These programmes of the Ministry of Agriculture as set out in the ASIP must therefore be linked with the activities of the NAP so as partnerships are built, maximum impact is effected and duplication of efforts is avoided.

4.3.3. NGOs Programmes and Activities

There are other land management programmes in the country, operated by Non-Governmental Organizations. These programmes are mostly rehabilitation work and improvement of crop production. The leading and very active programmes are the Mafeteng and Phamong crop production improvement run by Rural Self-Help Development Association, the Taung land rehabilitation and tree planting programme run by World Vision (Lesotho), the Seapala and Mphaki tree planting by Durham-Lesotho Link, and the crop production improvement by Machobane Farming Systems Foundation.

4.4. Selection of Lead Institutions for the NAP

A desk study of Government institutions and NGOs was undertaken prior to the National Forum in order to identify and assess their activities in relation to land management, combating land degradation, mitigating the effects of drought and preservation of the land based resources. The review was also done to identify institutions and organizations that could assume a leading co-ordination and facilitation role in the implementation of activities within the various components of the NAP.

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The institutions and organizations were assessed on the following aspects:

1. Activities related to soil conservation, *inter alia*, tree planting, donga reclamation, etc.
2. Long term vision for the country in terms of land management and combating desertification
3. Track record in terms of the number of land management programmes that have been undertaken in the past
4. Current and planned activities related to desertification control and mitigating the effects of drought
5. Coverage in terms of scope of land area to be realistically covered in the near future.
6. Means and methods of financing own activities.

Both Government institutions and Non-Governmental Organizations were assessed. These are:

Government::

- * Mafeteng Rural Development Project
- * Department of Conservation, Forestry and Land Use Planning
- * Range Management Division of the Department of Livestock Services
- * Research Division
- * Department of Chieftainship Affairs
- * Department of Rural Development

Non-Governmental Organizations:

- * Plenty Lesotho
- * Africa 2000 Network
- * Rural Self-Help Development Association
- * Durham-Lesotho Link
- * Lesotho Red Cross Society
- * Machobane Agricultural Development Foundation
- * CARE Lesotho
- * Christian Council of Lesotho
- * World Vision International (Lesotho)

As a result of this assessment, the following organizations are considered the lead institutions for the implementation of the NAP in Lesotho:

Of the Government:

The Ministry of Agriculture, and in particular, its Department of Conservation, Forestry and Land Use Planning, and the Range Management Division of the Department of Livestock Services.

Of the NGOs:

Durham-Lesotho Link
Machobane Agricultural Development Foundation

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World Vision (Lesotho)
Rural Self-Help Development Association

These organizations are considered leaders in the field of planning and implementing natural resources management programmes and projects. Their leadership notwithstanding, a close coordination and partnership with others remains necessary for the effective implementation of the NAP according to its five programme areas and objectives

4.5. Establishment of a National Desertification Steering Committee

In compliance with the terms of the CCD as stipulated in *Article 19 (a)*, Lesotho has set-up a National Desertification Steering Committee to oversee the elaboration and implementation of the NAP. The CCD recognises the crucial role that science and technology play in combating desertification and mitigating the effects of drought. Also, Lesotho recognises the important role multiple groups would play in the elaboration and implementation of the NAP. Therefore a multidisciplinary steering committee has been set up to help strengthen the NAP process, forge closer technical and scientific coordination, assist in the transfer, adaptation and acquisition of technologies. The NDSC is therefore expected to evolve appropriate technologies to combat desertification and mitigate the effects of drought, give advice on their possible acquisition and application, as well as socializing the NAP process to be a people's process. It is important that the committee take a leading role in facilitating the elaboration and implementation of the NAP and articulating the role of concerned parties in the whole process.

4.5.1. Functions of the NDSC

The NDSC has already played an important role in the preparatory activities, such as consultations, which have led to the present NAP-documents.

The functions of the NDSC include:

- , Determine the most appropriate ways and means to combat desertification and mitigate the effects of drought.
- , Ensure popular participation in sustainable land management programmes and activities at all stages of the NAP; i.e. design, implementation, monitoring and evaluation.
- , Catalyse partnership building among all stakeholders in the spirit of the CCD.
- , Diversify and strengthen multi-funding sources for the support of NAP process and, in particular, determine the convenience of establishing a National Desertification Fund (or otherwise named fund for natural resources rehabilitation) and other means of resource mobilization.

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4.5.2. Composition, Procedure and Financing

The NDSC is composed of one representative from NES as co-ordinator of the Committee, two representatives from the Ministry of Agriculture, one representative each from the Ministry of Natural Resources, Ministry of Home Affairs, Disaster Management Authority and the National University of Lesotho and two representatives from NGOs whose activities involve land management, combating land degradation, and mitigating the effects of drought.

To activate its operations and achieve maximum impact, the NDSC will establish a system of *ad hoc* panels to elaborate and deliberate on specific issues of concern within the context of NAP so as to effect its implementation. The panels will be composed of respective stakeholders and eminent experts dealing with the relevant issue and shall make appropriate recommendations to the NDSC for further recommendation.

In furtherance of its objectives, the NDSC together with the NES will set up in every District a District Desertification Steering Committee (DDSC) or District Natural Resources Management Committee (DNRMC). These District Committees will be responsible and report to the NDSC, acting as relays to and working under the supervision of the NDSC. The probable membership of the DDSC or DNRMC could be the District Secretary as its chair, one representative of NGOs active in the District, two members of the Local Government (DDC and Chieftainship) and one member from the Ministry of Agriculture at the District Level (preferably a Department active in natural resource management).

4.5.3. NDSC Relationship with NES

The NES is a focal point for the co-ordination of CCD activities in Lesotho. Therefore, the NDSC must be responsible to and work in consultation with the NES, and report on a scheduled basis on its progress and performance. The NDSC will propose its own rules of procedure for approval by the NES and will propose mechanisms for financial resource mobilization. The NES is to consider these proposals in consultation with the NDSC and must approve of the NDSC's undertaking. The relationship of the NDSC and the NES must be mutual and with a common purpose of better managing the natural resource base of Lesotho, combating desertification and mitigating the effects of drought.

In view of the recent changes in the status of the NES, through the creation of the Ministry of Environment, Gender and Youth Affairs, of which NES has become a Department, the functions of the NDSC may have to be redefined. Furthermore, the role of the NDSC *viz-a-viz* the (proposed) National Environmental Council, and its relation with other Committees that are established to oversee the elaboration and implementation of Agenda 21 and parts thereof must be defined at its earliest convenience.

It is obvious that combating desertification must not be done in isolation as the effects have gone far beyond the basic requirements of the CCD of preventing land degradation, rehabilitating partly degraded lands and reclaiming desertified lands. The measures stated in

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programme areas one through five of the NAP must also be coupled with the efforts of other Conventions such as Convention on Conservation of Biological Diversity and Climate Change.

4.6. Monitoring and Evaluation

The purpose of the NAP is to formulate and implement CCD and its related components. The process of NAP involves a complex array of interventions from different sectors and at various levels. Planning and implementation of activities should benefit from experiences of previous implementation. The NAP is an iterative process and a learning process. Monitoring and evaluating the NAP process during its implementation is therefore important for its management and co-ordination. The purpose of monitoring and evaluating the NAP is to assess the long term success of the programme in terms of its effectiveness in reducing the scourge and rate of land degradation and its positive impacts on the socio-economic conditions of the affected communities.

As a process, the NAP evolved with set targets focussing on key issues that have been agreed upon to constitute an effective programme. Therefore, a set of carefully selected and predetermined indicators will assist to gauge the progress and impacts of programmes throughout their respective stages of implementation. An initial step in the implementation of the NAP is to determine a set of indicators from which baseline information can be collected and from which further evaluation of the process can be done. Baseline information on the status of the land in Lesotho can be collected using modern technologies. Monitoring of land degradation and the gains made to reverse land degradation using a set of predetermined indicators can be monitored using remote sensing and Geographic Information Systems (GIS). Baseline data is needed to help accommodate comparison of important trends and to help in the improvement of programme implementation.

A set of indicators and the methods to measure them are indicated in Annex 1. A number of monitoring and assessment indicators can be used at the beginning of the programme implementation to enable acquisition of the baseline data. These indicators can be categorized as 1) ecological, 2) climatic, 3) economic and 4) socio-cultural indicators. The report 'Desertification in Lesotho' (Chakela and Seitlheko, 1995) which was prepared at the start of the NAP preparations, provides more suggestions for specific indicators.

Ridgway (1995: op.cit. Chakela and Seitlheko, 1995) has suggested the following criteria to select desertification indicators at field level:

- , they should relate closely to the land use and management practices being applied by the land users, who are able to draw on well founded indigenous knowledge base when monitoring the state of the environment;
- , they should be able to demonstrate changes over relatively short time periods, 5-10 years, in terms of productivity, environmental degradation and its abatement;

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- , they should be able to distinguish short-term phenomena of degradation from longer-term processes of desertification so taking account of resilience;
- , they should be able to be applied in standard format over different locations that are used by different people.

In addition to the use of indicators, the NAP will also seek other ways of monitoring the process of land rehabilitation or land degradation. Through the participatory approach advocated in the NAP, agreements will be reached with stakeholders on the nature of the desertification problem, its trends – if unchecked, and the common goal of environmental rehabilitation and the respective responsibilities and commitments of the parties involved. Monitoring of the NAP process shall then also be facilitated by a system of frequent reporting, from local level upwards, of responses, lessons learned and other unplanned events resulting from the process. Such a kind of monitoring system, though often qualitative and subjective, may provide valuable inputs on responses, behaviour, demands, initiatives and/or failures which a monitoring systems with sets of indicators may fail to detect. Desertification in Lesotho is an anthropogenic problem. Putting people at the heart of a monitoring system may reveal more effectively the potential and limitations of mobilizing social dynamics for the healing of the land than the use of formal indicators would be able to do.

CHAPTER 5: Priority Areas for Action

5.1. Selection of Priorities for Action

The thematic focus of the NAP is desertification control and environmental rehabilitation. The core concern is conservation and sustainable use of the natural resources, land, water and vegetation.

The priority for combating desertification in Lesotho is based on the implementation of preventive measures for lands that are not yet degraded, or which are slightly degraded. However, the severely degraded areas are not neglected but measures to reclaim them are to be undertaken. Since desertification and drought affect more severely the rural communities, priority attention is given to these groups throughout the country. In combating desertification and mitigating the effects of drought, participation of local communities, rural organizations, National Government, Non-Governmental Organizations and international and regional organizations is essential. Partnerships will be built to enhance effective implementation of programmes and activities.

The technical measures to control desertification and to rehabilitate the land are well known. Throughout the country soil conservation and erosion control works of good technical quality can be seen. Knowledge is available on improved and sustainable cropping systems, range management, agroforestry and reforestation. However, these have been the result of efforts driven by organizations (government and NGO) and reflect the concern of outsiders to the rural community. Maintenance of erosion control and soil conservation works by the users or by the rural community is rare, in general.

The challenge for the NAP is to change the land use practices of the rural Basotho from the mining (depletion) of natural resources to effective, ecologically sound and more productive land and animal husbandry.

In order to meet this challenge the priorities for action will be to establish better rapport between government services and the needs and aspirations of the rural communities. The initial actions on this path pertain to the socioeconomic and anthropological domain:

First, the priorities of the different types of user groups need to be better understood, as well as eventual local (and perhaps hidden) conflicts between different groups in the rural societies, paying particular attention to the most disadvantaged groups such as landless families;

Secondly, a good understanding is needed of the local customs of resource allocation, the application of sanctions when resources are abused, and the sense of social justice which justify these local customs – this may differ from one community to the other;

Thirdly, local perceptions on natural resource degradation need to be compared with the perceptions of specialists. Discussion of differences in perception, combined with illustration through field visits, and the visualization of scenarios with and without improved practices of

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land husbandry and rehabilitation should result in a common understanding between community and outsiders of trends in availability of natural resources viz-a-viz the needs of the (increasing) population;

Fourth, based on the common understanding of natural resource degradation and possible measures to arrest degradation and land rehabilitation, commitment must be sought for a long term goal of sustainable natural resources management;

Finally, based on the previous steps, a framework of action for natural resources management for the medium- and long-term should be sketched and a short-term plan of activities be defined, with clear specification of tasks, inputs needed, sources of inputs, responsibilities, commitment, and sanctions for not complying.

The set of actions described above will be applied at the village level. At the District level a number of actions will be undertaken in order to support action at village level, by a number of workshops, such as for the awareness raising of village chiefs and VDCs, and preparing District and community level field workers of government and NGOs for this participatory approach.

In depth studies of a specific nature will also be done. For example, a poverty analysis in selected priority communities.

5.2. Selection of Geographic Priorities

Besides priorities for action, priorities will be established to address degradation in specific geographical regions of the country.

For the NAP, the priority geographical areas are the Districts of Mafeteng, Mohale's Hoek and Quthing, as well as a part of Maseru District in the South-West of Lesotho (Mafura, pers.com). Of the ten districts in the country, the three Eastern and mostly mountainous districts of Mokhotlong, Thaba Tseka and Qacha's Nek are much less populated and are being covered under ASIP by the proposed IFAD-funded Sustainable Agricultural Development Programme (SADPMA) which in its design includes most of the elements contained in the five programme areas of the NAP. In comparison with the remaining districts, the selected priority district present more serious degradation problems.

For example, places such as Mafeteng which used to be the bread-basket for Lesotho are much desertified and are unable to produce crops satisfactorily. Also the season at which crops were to be produced have somewhat shifted. That is, planting maize at the regular time of October and November often leads to poor yields because of failure to satisfactorily pollinate in hotter months of January and February in Mafeteng and Mohale's Hoek. The problem of poor yields in these districts is further compounded by early frost incidents. Planting in December, as is now being done by the area farmers is also not a sure bet either due to early frosts that often obliterates these crops. Thus these places are often poorly planted and in drought years are not planted at all.

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The desert-like conditions in Mafeteng and Mohale's Hoek where soils are also barren have seriously impacted the social fabric of these areas. There are now more social conflicts in these districts.

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ANNEXE

Field level indicators of Desertification.

Indicator Category	Methods of Measurement
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<p>1. Ecological Indicators</p>	<p>Water Status : Amount of annual and seasonal water deficits : Length of dry season over years : Annual, seasonal, and inter-seasonal rainfall amounts, distribution and intensity : Ground water depth in wells and aquifers</p> <p>Soil Properties: Depth of soil over root inhibition zone : Soil fertility in N.P.K amounts, organic matter and organic carbon content : Presence of soil crusts causing surface sealing and development of small areas with swept appearance to large bare areas swept and packed : Dust and dust storms and wind erosion status, rate and hazard</p> <p>Soil-Water relations : Water erosion status, rate and hazard as measured by density of rills and gullies, rate of mass movement, thickness of top soil, organic matter content, quantity and type of sediment deposits downstream and in dams, slope angle, presence of vegetational cover, soil texture, permeability and erodibility.</p> <p>Vegetation : Vegetation characteristics as measured by its quality, growth form, rate of regeneration and succession in formerly cultivated and disturbed fields or grazing lands, change in perennial and annual composition, woody and herbaceous litter, prevalence of key species and vegetational yield and productivity.</p>
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<p>2. Climatic Indicators</p>	<p>Rainfall patterns : Decrease in rainfall as measured by daily, monthly and annual rainfall totals</p> <p>: Cloud types</p> <p>: Rainfall variability during the wet season</p> <p>Wind patterns : Wind directions and speed</p>
<p>3. Economic Indicators</p>	<p>Cash income : Rate and degree of fluctuations of cash incomes available to meet felt needs and financial obligations</p> <p>Redistribution of wealth : Social mechanisms for wealth distribution and their effectiveness, lobola, mafisa, feasts, festivals, funerals, etc.</p> <p>Production Systems : Diversity of production systems as measured by the degree of diversity of array of production systems and resource availability to community</p>

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<p>4. Socio-cultural Indicators</p>	<p>Population density : Population estimates and fertility rates</p> <p>Social processes : Extent of conflicts and marginalization : Breakdown of patterns of redistribution and forced out migrations : Discontinuities between subsistence and cash income economies</p> <p>Raising Awareness : Rate of formation of effective farmer conservation groups and of farmer to farmer training programmes : Extent of local NGOs training schemes : Local incentive programmes for abatement of desertification</p> <p>Tree Planting : Rate of uptake of farmers in the planting and care of trees</p> <p>Conservation works: Rate of adoption of soil conservation technologies : Lengths and numbers of physical bunds and terraces constructed and buffer strips laid out : Improvement of soil fertility and structure</p> <p>Agroforestry : Rate of incorporation of agroforestry into existing cultivation practices in dryland farming</p>
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