



Republic of Kenya
Ministry of Environment and Natural Resources

NATIONAL ACTION PROGRAMME

A FRAMEWORK FOR COMBATING DESERTIFICATION IN KENYA
In the Context of the United Nations Convention to Combat Desertification



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PREFACE

Kenya's drylands account for 88% of her land surface area. They are the home of a population of approximately 10 million people. About 50% and 70% of livestock and wildlife respectively are located in the dry lands. Tourism, which is mainly based on wildlife viewing, contributes 25% of the national foreign exchange earnings. In this regard, drylands play a big role in the socio-economic development of Kenya. The existing ecological conditions in drylands are harsh and fragile. These conditions are exacerbated by frequent drought and the influx of people from the high potential areas into the drylands. Overgrazing and subdivision of land into uneconomic land parcel sizes have further worsened them. Under these circumstances, drylands are getting more and more vulnerable to desertification in Kenya.

Desertification is a global issue and cannot be tackled by one government. As a result the world community negotiated the United Nations Convention to Combat Desertification. The Convention serves as a mechanism for concerted efforts and synergies among world communities to address desertification effectively.

Kenya ratified the convention in 1997 with a view to joining the World Community to Combat Desertification. One of the main commitments of the Parties to the Convention is to develop National Action Programme, which serve as guiding frameworks for the implementation of the Convention at national levels. In this respect, Kenya developed the National Action Programme (NAP) through a consultative and participatory process that involved all the stakeholders and culminated in the production of this document in line with the principles of the CCD.

The success of the implementation of NAP lies on the preparation of viable projects within the framework of these NAP priority areas. Further, special attention will be given to NAP in the major national development strategies, frameworks and process such as the Poverty Reduction Strategy Paper (PRSP). Implementation of NAP is going to be the responsibility of all institutions including various Government arms and agencies, Research Institutions, UN agencies, multilateral and bilateral development partners, NGOs, CBOs, local communities and individuals. In this regard, the stakeholders are challenged to play their part by expediting preparation of the aforesaid projects and programmes.

On its part, the Government of Kenya, over and above ratifying the Convention, will continue to offer an enabling environment for the successful implementation of NAP.

Hon. Joseph J. Kamotho, E.G.H
MINISTER FOR ENVIRONMENT
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Preparation of the National Action Programme (NAP) has been an enormous task, which could not be adequately accomplished without institutional support, significant financial outlay and expertise in many disciplines drawn from various organizations. The office of the Minister for Environment and Natural Resources provided encouragement and inspiration while that of the Permanent Secretary provided overall guidance, advice and coordination during the whole process of the development of NAP.

The initial financial support for processes that culminated into the 1st National Forum, which included sensitization workshops and consensus building fora was provided by UNDP/UNSO and the Government of Kenya. Drafting, editing, printing and the validation workshop were supported by the UNCCD Secretariat and the Government of Kenya. All this support is hereby acknowledged with deep appreciation.

Many stakeholders drawn from Government departments and ministries, universities, research institutions, private sector, United Nations agencies, NGOs, CBOs and local communities provided baseline information and recommendations which formed the bulk of NAP at the formative stage. They have also provided useful critique and adopted the NAP document. Their consensus has facilitated consideration and approval of NAP by the Government of Kenya. Their contribution to the document is acknowledged with gratitude.

A number of consultants carried out intensive research on the thematic areas of NAP. Their findings further provided very useful data and information on which the stakeholders based their informed recommendations for the NAP. In this regard, the contribution of the consultants is hereby also acknowledged.

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It is indeed impossible to thank all persons and institutions that have contributed to the success of the NAP document by name. Their efforts are hereby acknowledged with deep appreciation.

The demise of Mr. F.S. Guturo and Prof. S.M. Mutiso, which occurred in the years 2000 and 2001 respectively, are much regretted. Prof. Mutiso was the first chairman of the National steering Committee until his death. Mr. Guturo was an active founder member of the National NGO Coordinating Committee on Desertification (NCCD-K). He played a major role in zealously mobilizing local communities and CBOs to participate effectively in the NAP process. Their contributions are posthumorously acknowledged. May the almighty God rest their souls in eternal peace.

ACRONYMS

AHITI	Animal Health and Industry Training Institute
ALDEV	African Land Development Board
ASAL	Arid and Semi-arid Lands
BOT	Board of Trustees
CAP	Community Action Plan
CBO	Community Based Organization
CBS	Central Bureau of Statistics
UNCCD	United Nations Convention to Combat Desertification
DCTF	Desertification Community Trust Fund
DDC	District Development Committee
DEC	District Environment Committee
DMC	Drought Monitoring Center
DRSRS	Department of Resource Surveys and Remote Sensing
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GoK	Government of Kenya
GMO	Genetically Modified Organism
GM	Global Mechanism
GTZ	German Technical Assistance Agency
IMCE	Inter-Ministerial Committee on Environment
IGAD	Intergovernmental Authority on Development
ITCZ	Inter-Tropical Convergence Zone
KARI	Kenya Agricultural Research Institute
KLDP	Kenya Livestock Development Programme
KREMU	Kenya Rangeland Ecological Monitoring Unit
MLRWD	Ministry of Land Reclamation Regional and Water Development
MoU	Memorandum of Understanding
MRDASAW	Ministry of Reclamation and Development of Arid and Semi-Arid and Wastelands
NAP	National Action Programme
NCB	National Coordinating Body
NCCD	National NGO Coordinating Committee on Desertification
NDF	National Desertification Fund
NES	National Environment Secretariat
NGO	Non-Governmental Organization
NIB	National Irrigation Board
PACD	Plan of Action to Combat Desertification
PRSP	Poverty Reduction Strategy Paper
SIDA	Swedish International Development Agency
SRAP	Sub-regional Action Programme
SSO	Sahara-Sahelian Observatory
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNSO	UNDP Office to Combat Desertification
USAID	United States Agency for International Development
WFP	World Food Programme
WCPC	Water Conservation and Pipeline Corporation.

EXECUTIVE SUMMARY

Kenya ratified the United Nations Convention to Combat Desertification (CCD) in 1997. One of the main commitments of the parties to the Convention is to develop national action programmes, which serve as guiding frameworks for the implementation of the convention. The key guiding principles include involvement of all the stakeholders and bottom-up approach in the implementation of NAPS.

In 1997, Kenya received financial support from UNDP/UNSO to Develop the National Action Programme (NAP). The initial stages were characterized by a process of sensitization of stakeholders including government departments, research institutions, private sector, non-governmental organizations (NGOs) community-based organizations (CBOs) and local communities in affected dry lands. The sensitization was carried out simultaneously with data and information collation and analysis for background information, which could assist the stakeholders to make informed decisions in the recommendations for the NAP. At the same time direct support was provided on a pilot basis to local level community-based initiatives associated with combating desertification with a view to learning and promoting management of local natural resources, food security and partnerships with local communities.

Consultation workshops were conducted at local and national levels for the stakeholders to deliberate and make recommendations on NAP. The recommendations form the bulk of this NAP document, which has been subjected to stakeholders' review and adoption. The document is divided into three parts, namely, background, priority areas and implementation strategies.

In part I of this document, the background and rationale for Kenya to ratify CCD has been stated. This recognizes the pressure exerted on the natural resources base by the high and ever increasing population as well as the climate and socioeconomic conditions prevailing in the drylands of the country. The review indicated that the resource bases in the drylands of Kenya are adequate to reverse or effectively control desertification in the country.

A review of the past actions revealed that the efforts to combat desertification date back to the 1930s. These previous efforts fell short of achieving their objectives due to various constraints. These constraints contributed to the limited positive impacts of programmes and projects in the drylands ecosystems / environments; the socio-economic development; abandonment of uncompleted projects; duplication of efforts; and conflict of interests.

These constraints were diagnosed as including:

- Sectoral approach to programming
- Uncoordinated and frequent shifts of mandate of dryland development from one institution to another
- Low and uncoordinated funding
- Inadequate involvement of local communities in programming and decision making
- Inadequate policies and regulatory frameworks
- Inadequate capacity for implementation, monitoring and evaluation
- Inadequate access to production resources by local communities

This framework plan endeavors to address the above constraints in order to have an effective implementation of NAP.

To ensure that these constraints are adequately addressed the NAP formulation process was characterized by intensive consultations of all the stakeholders with a bottom-up approach. This ensured to a good extent ownership of this National Action Programme. Thus Part I presents further achievements made in the mobilization of stakeholders, awareness raising, institutional as well as proposed financial arrangements for implementing the NAP at various levels from community to national levels.

At the 1st National Forum the stakeholders identified priority areas for action as presented in Part II. These actions and measures fall in three clusters. The first cluster presented in Chapter 4 are proposed activities and measures that will lead to a conducive or an enabling environment for combating desertification at all levels of action. These measures include:

- Putting in place adequate and robust policies, legal and institutional frameworks to enable all stakeholders effectively participate in the programmes and projects for combating desertification, including the local communities' ability to sustainably manage their natural resources at their levels.
- Effective and ecologically sound land use plans / zoning policies including land and resource tenure policies and legal frameworks.
- Provision of adequate information and enhancement of knowledge on the causes, processes and effective measures in controlling desertification.
- Putting in place sustained programmes for comprehensive and actor-specific education and awareness raising for all the stakeholders. This will facilitate cooperation and a common understanding of the objectives of NAP among the stakeholders.
- Putting in place effective strategies in support of local level community initiatives through education and awareness on issues of desertification; communities' roles and responsibilities in the management of their projects and natural resources; and through direct financial support.
- Putting in place sustained and assured financial resources and mechanisms to ensure completion of projects and sustained programmes
- Ensure capacity building for all stakeholders and institutions.

The second cluster of activities and measures are presented in Chapter 5. These are sectoral priority areas in which investments could be employed at various levels to ensure sustainable development and management of natural resources; reverse adverse trends; rehabilitate degraded areas and /or reclaim wastelands. These will also include innovative ways of creating alternative livelihood systems in order to spare land and land resources from unsustainable exploitation by the rapidly expanding human populations.

These sectoral priority areas include programmes and projects in:

- Energy
- Vegetation cover and wildlife
- Forest conservation
- Agriculture and pastoralism
- Soil management

- Water resources management

The third cluster of activities and measures are cross-sectoral in nature. They are activities and measures that will support sectoral investment programmes as well as prop the effectiveness of those for enhancing the enabling environment.

The priority areas within the cross-sectoral programmes include:

- Mainstreaming gender into all desertification programmes and projects
- Science and technology
- Poverty and environment
- Early warning systems

In each of the priority areas, the status was assessed, key issues identified and proposed priority actions stated. Part II of the document forms the backbone of the implementation of NAP, as the proposed actions form the framework on which projects for implementation will be based. Detailed programmes and projects in line with this NAP framework could be an initiative of any of the main stakeholders who are therefore encouraged to commence initiatives.

Part III of the document elaborates the envisaged implementation strategy that will ensure that the NAP is well coordinated and steered, financed and monitored. Thus coordination arrangements do not only include steering and institutional collaboration but also emphasizes taking ownership through clear roles and responsibilities by all stakeholders.

The expected financial resources and mechanisms for all the priority areas are outlined including the special Desertification Community Trust Fund (DCTF) that will be focusing on local level community initiatives that combat desertification.

Particular emphasis is also given to monitoring and evaluation with the central utilization of environmental information systems. This monitoring and evaluation process emphasizes the importance of learning, flexibility and iterative nature of the NAP process.

In conclusion the NAP framework document recommends that

- Appropriate mechanisms be developed to sensitize and mobilize stakeholders to develop as many viable programmes and projects as possible for implementation of NAP
- Resources be mobilized from all possible sources for implementation of NAP
- Mechanisms for implementation of NAP be developed to ensure:
 - Transparency and accountability
 - Bottom-up and participatory approach
 - Equity in benefits sharing especially the affected local communities
- Mechanisms for mainstreaming NAP in the national development process including budgeting are enhanced.
- NAP is integrated into regional and sub-regional programmes.

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PART I: BACKGROUND

1. INTRODUCTION

1.1 General Historical Background

Globally, there have been many attempts to combat desertification. The first major international effort was the 1977 Plan of Action to Combat Desertification (PACD). PACD and other past interventions have had dismal impact on desertification, because of various reasons, including inability to institute measures and mobilize sufficient resources to achieve set objectives.

The devastating drought of 1968-1974 in the Sudano-Sahelian region led to the birth of United Nations Sudano-Sahelian Office (UNSO), while the 1992 United Nations Conference on Environment and Development (UNCED) recommended to the UN General Assembly for the negotiation for the United Nations Convention to Combat Desertification and the effects of drought, particularly in Africa (CCD). Negotiations began in early 1993. The Convention was concluded and opened for signing in June 1994 and entered into force on 26th December 1996. The Government of Kenya (GoK) signed the convention in October 1994 and ratified it in June 1997. Over 129 countries had ratified the Convention by the beginning of 1998 and currently over 173 countries have ratified it. The seriousness attached to the Convention could be attributed to the fact that desertification affects over 5.2 billion hectares and about 1 billion people worldwide in over 100 countries.

The CCD defines desertification as land degradation in arid, semi-arid and dry sub-humid areas (also referred to as drylands) resulting from various factors, including climatic variations and human activities. At the national level, the CCD calls for the implementation of activities aimed at prevention and/or reduction of land degradation, rehabilitation of partly degraded lands and reclamation of degraded lands through National Action Programmes. Preparation of the National Action Programme (NAP) is an obligation of parties to the convention.

The CCD, although a global agreement, was an African initiative whose activities and programmes emphasize people's participation in programme and project formulation and implementation. The programmes and projects should incorporate measures for reducing poverty and other factors known to contribute to desertification.

The GoK is keen to implement the provisions of the Convention in cooperation and partnership with all stakeholders. The main objectives are to enhance synergy, maximize use of resources, minimize duplication of efforts and conflicts, and increase resource use efficiency and effectiveness. In fact, the CCD recognizes that financing the anti-desertification activities is the responsibility of the government and other stakeholders.

This report presents a summary of the main elements of the Kenya National Action Programme that have been agreed upon by all the main stakeholders through a consultative process.

1.2 Profile of Kenya

1.2.1 Physiography

Kenya lies on the eastern coast of the African continent, between latitudes 5°40' north and 4°4' south and between longitudes 33°50' and 41°45' east. The Equator bisects the country into two almost equal parts. Kenya has a total land area of approximately 590,000 km². Most of the country lies within the eastern end of the Sudano-Sahelian belt, a region often affected by drought and desertification in Africa.

Kenya has diverse landforms ranging from the coastal plains through the dry Nyika plateau to the savanna grasslands and the highlands on either side of the rift valley. Mount Kenya, the Mau Ranges, Mount Elgon and the Aberdare Range dominate the highlands that are traversed by the Great Rift Valley. The vast expanse of northwestern, northern, eastern and southern parts of Kenya varies from flat semi-desert in the east to the more rugged country west of lake Turkana. The coastal region is narrower in the south but widens out in the north with an altitude range of 0–400m above sea level. Mountains and hills, including the Taita Hills and Chyulu range mark the western limits of the coastal region.

The Nyika plateau occupies the greater part of Kenya. It covers the whole of the northern Kenya and lies between the coastal region and the highlands to the east of the rift valley. Altitude ranges from about 360m to just over 900m above sea level except in the north where there are volcanic hills such as Marsabit (1428m). The Nyika Plateau and the Coastal Region are the areas mainly affected and threatened by desertification.

1.2.2 Climate

Physiography to a large extent influences rainfall potential and subsequently, water resources. For instance, the topographic heights determine the windward and leeward side with the former having more rainfall. For example, the flanks of the western and eastern sides of the Rift Valley have higher rainfall than the Rift Valley floor. "Relief" rainfall occurs on the windward side of high areas while 'convictional' rainfall is experienced in predominantly flat areas, especially near large water bodies like Lake Victoria.

Further, the seasonal northward and southward movement of the inter-tropical convergence zone (ITCZ) has enormous influence on the climatic condition of the country. ITCZ produces two rainy seasons – March-May (long rains) and October-November (short rains). The coastal belt is relatively wet with more rainfall in the south. The Nyika plateau is generally arid and semi-arid. The highlands receive moderate to very heavy rainfall.

The mean annual rainfall ranges between 250 mm and 1000 mm in dry lands. Although the rains are experienced in two distinct seasons, they are erratic in both temporal and spatial terms. The temperatures are relatively high and account for annual potential evaporation, which is often above 2500 mm. The rainfall and the potential evaporation have been the cause of frequent crop failure in the drylands.

Climatic variation is the main cause of droughts in Kenya. According to the Intergovernmental Panel on Climate Change Third Assessment Report, 2001, climate will be

associated with rise of mean temperatures by the year 2025. The change is likely to increase the intensity and frequency of drought. Droughts that have occurred in Kenya have caused heavy losses in terms of crop failure, deaths of livestock and human beings and heavy investments for purchase of relief food. It is anticipated that the projected climate change by the year 2025 will exacerbate the losses already experienced due to drought.

1.2.3 Socio-Economic Dimension

Kenya is a developing country whose population is still largely rural with only 25% living in urban areas. According to the 1999 population census report, Kenya's population was about 28.4 million people, and is projected to reach 37.5 million by the year 2010. About 60% of the population is below the age of 20 years. About 70% of Kenya's population live in the 12% of the total land area, which is classified as being of medium to high potential. The remaining 30% of the population live in the dry lands, a zone which accounts for 88% of the total land area. The high potential areas (e.g., central highlands, western Kenya, parts of the rift valley) are characterised by high population density of about 300 people per km² or more, while the dry lands are sparsely populated with as low as 3 people per km². The high potential areas enjoy a high rainfall regime with fairly even distribution and are therefore areas of high productivity in terms of agriculture and livestock production. The main source of livelihood for the majority of Kenyans is agriculture, livestock, fishing and forestry. In addition, tourism is Kenya's greatest foreign exchange earner, and one of the largest employers. However, the new goal towards industrialization by the year 2020 is expected to increase employment in the industrial sector.

According to the 1998 published information of the Ministry of Finance and Planning, over 65% of the population in drylands lives below the poverty line. Poverty prevalence was highest in North Eastern and Eastern provinces, while gross enrolment rate in schools in these provinces was much lower than in other areas of the country. Additionally, about 75% of Kenyan households are male headed, while the rest are female headed.

1.3 Desertification in Kenya

1.3.1 Status

In Kenya, activities to combat desertification and mitigate the effects of drought have been carried out since 1940s. The implementation of the Convention to Combat Desertification must therefore take into account this historical background and take cognizance of the lessons learnt.

The drylands on average receive an annual rainfall of between 250mm and 1000mm. The rains are typically of short duration, but of high intensity and therefore highly erosive. The rate of evapotranspiration is also high.

The main challenge in developing drylands is how to increase availability and access to information and technology for the development and management of natural resources. The other major limitation is inadequate government policy for developing drylands, a zone that constitutes about 88 % of the country and supports about two-thirds of the entire livestock population. Area classified as ASALs vary from district to district (see *Table 1*). The eco-climatic zones provide a good indication of the drylands of Kenya (figure 1).

Desertification is intensifying and spreading in Kenya, threatening millions of inhabitants and severely reducing productivity of the land. The droughts of 1970-2000 have accelerated soil degradation and reduced per-capita food production. According to the United Nations Environment Programme (UNEP) much of the problem is due to a growing imbalance between population, resources, development and environment.

Table 1. Percent of area of various districts classified as ASAL

District	% ASAL	% of Kenya ASALS
Isiolo, Marsabit, Garissa, Mandera, Wajir, Turkana	100 %	62
Kitui, Tana-River, Taita-Taveta, Kajiado, Samburu	85-100 %	25
Embu, Meru, Machakos, West-Pokot, Kilifi, Kwale, Baringo	50-85 %	10
Lamu, Narok, Keiyo, Marakwet	30-50 %	3

NB: ASAL refers to very arid, arid and semi-arid lands, while drylands refer to very arid, arid, semi arid and dry sub-humid lands

Rapid population growth is exacerbating the existing problems of imbalance between human numbers and available arable land, deforestation, poor land use systems and inappropriate farming methods. All these are among the major problems leading to food crises and desertification in Kenya. Drought and population pressure are considered as key in accelerating desertification in Kenya.

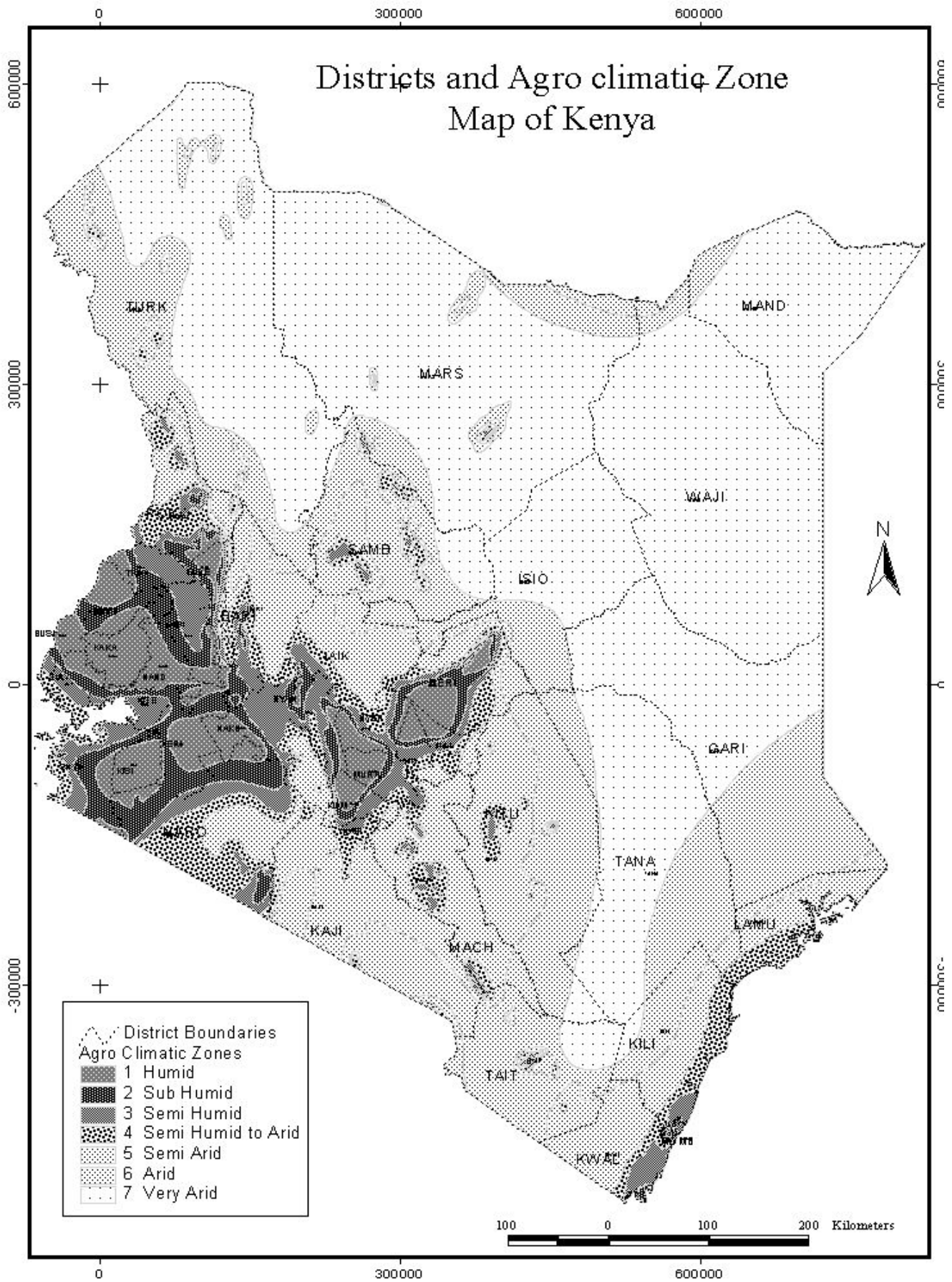
1.3.2 Drought

Drought is a phenomenon, whose effects are amplified by ineffective social responses and poor land use practices. Severe drought in combination with poor land use practices often result in serious land degradation and loss of productivity. Drought could have a permanent effect by accelerating soil erosion and degradation

Impacts of drought on croplands or rangelands which are already subjected to poor cultivation and grazing practices, leaves land bare and vulnerable to wind and water erosion. Erosion strips away the topsoil, destroying the land's fertility and its potential to support human and animal populations. Rains, particularly the torrential ones common to much of tropical Africa, accelerate soil erosion. Most run-off, tears away the topsoil at an even faster rate.

1.3.3 Population Pressure

High population growth rates and skewed distribution has played a key role in land degradation. According to the 1999 national population census, Kenya's population was 28.4 million people. About 70% of the population lives in 12% of the country's land area, which is suitable for rain-fed cultivation, most of which is already being utilised. Unprecedented increase in population size in recent decades has led to excessive pressures on arable land and the subsequent spill-over into marginal areas, pasture and forest lands, and steep slopes. This excessive human pressure on fragile eco-systems has led to accelerated land degradation. The spill-over has led to deforestation, poor land use systems and inappropriate farming methods. These are among the major factors that have contributed to accelerated desertification in Kenya.



There are other factors such as aridity, which limit the area of usable land, intensifying the pressures on available farm and grazing lands. Rapid population increase and encroachment of rangelands have accelerated the collapse of the traditional cultivation systems that allowed land to regain its productivity. Fallow periods are therefore progressively getting shorter with disastrous results on land productivity.

Increasing demand for food crop production has led to expansion of cultivated areas, which however diminishes fallow periods in marginal lands. This in turn has led to long-term loss of productivity and increased land degradation. Other effects include encroachment of rangelands, deforestation and soil erosion.

a) Rangeland Encroachment

Population pressure on rainfed croplands and increasing encroachment by cultivators on adjacent rangelands are diminishing available grazing lands. This has resulted to intensified overstocking and overgrazing. This is more so in northern and eastern rangelands where the land is more vulnerable.

b) Deforestation

Forest cover is decreasing rapidly due mainly to clearing for settlement, cultivation, extraction of timber for commercial and domestic use, and removal for fuel and charcoal production. In Kenya, the forest cover has reduced to a worrying 2.8 % of the total land area. Furthermore, forest is being cut much faster than it is being replaced thus the forest cover is rapidly diminishing. Demand for fuelwood far exceeds the supply. In some areas fuelwood supplies have already run out and people are forced to use animal dung and crop residue as cooking fuel.

c) Soil Erosion

Deforestation and poor cultivation and grazing practices are the principal threats to the livelihoods of the people in drylands. All of them contribute to soil erosion. Once the forest cover is gone, the often fragile soils become vulnerable to rapid destruction by wind and water erosion. Average annual rate of soil loss in Kenya is estimated at 4310 metric tons per km².

2. OVERVIEW OF NATIONAL EFFORTS TO COMBAT DESERTIFICATION

2.1 Introduction

The review of past and present efforts to combat desertification highlights the policy and legislative frameworks that have influenced institutional arrangements and structures. In general, institutional arrangements focus on the structures and bodies required to facilitate the implementation of the Convention. This review also addresses programmes, co-operation and financial arrangements that focus on efforts for achieving sustainable development in drylands. It further highlights the constraints that have affected, in one way or another, the efforts.

2.2 Policy Frameworks

The management of Kenya's dry lands has been guided by several cross-sectoral policy instruments, most of which came to force long before Kenya ratified the CCD. In this regard they form a firm foundation and opportunity for Kenya to implement CCD. Some of the policies are:

- a) Swynerton Plan of 1954
- b) Sessional Paper No. 10 of 1965 on African Socialism and its Application to Planning in Kenya.
- c) District Focus for Rural Development (1982)
- d) Sessional Paper No. 1 of 1986 on Economic Management for Renewed Growth.
- e) Development Policy for Arid and Semi-Arid Areas of 1992
- f) National Environmental Action Plan of 1994.
- g) Sessional Paper No. 1 of 1994 on Recovery and Sustainable Development to the year 2010
- h) National Development Plans for 1974-79, 1980-84, 1985-89, 1990-92, 1993-97 and 1998-02.
- i) Sessional Paper No. 6 of 1999 on Environment and Development
- j) National Poverty Eradication Plan (1999)
- k) Poverty Reduction Strategy Paper (2001)

The broad-based policy instruments have been supplemented by sectoral instruments, which include, among others:

- a) National Water Policy
- b) Forestry Policy
- c) Population Growth Management Policy
- d) National Food Strategy
- e) Wildlife Management Policy

2.3 Legal Frameworks

Prior to late 1999, laws on the environment, issues on desertification and drought were sectoral in approach. These include, among others:

- a) Water Act (Cap 372);
- b) National Water Conservation and Pipeline Corporation Order 1988 (L.N. 270 of 1988) under the State Corporations Act (Cap 446);
- c) Forests Act (Cap 385),
- d) Wildlife Conservation and Management Act (Cap 376)
- e) Science and Technology Act (Cap 250) of 1977
- f) Land (Group Representative) Act (Cap 287).
- g) Agriculture Act.

The Environmental Management and Coordination Act No. 8 of 1999 has harmonized the hitherto sectoral laws and has addressed the required policy, legal and institutional framework to manage the environment including actions to combat desertification and mitigate the effects of drought.

2.4 Institutional Frameworks

Several bodies, including governmental, inter-governmental, non-governmental and donor agencies have been involved in initiatives to combat desertification and, to a lesser extent, mitigate the effects of drought. Some of the institutions are briefly described below.

2.4.1 African Land Development Board

One of the earliest bodies to combat land degradation in Kenya is the African Land Development Board (ALDEV). It was created in 1946 to address the serious effects of land degradation that followed the 1933-34 droughts. The primary function of the Board was to improve basic infrastructure and promote proper agricultural practices. The Board introduced de-stocking, grazing control schemes, afforestation of steep slopes and soil erosion control. Some of the ALDEV initiatives became projects, programmes and grazing schemes that later translated into group ranches. Later the World Bank and the Kenya Livestock Development Programme (KLDP) supported this approach. Communities in the southern rangelands registered group ranches, while in northern and eastern Kenya, the grazing block approach was adopted. The latter approach was coercive and was abandoned soon after independence.

2.4.2 Range Management Division

After independence, initiatives to combat desertification were assigned to the Range Management Division of the Ministry of Agriculture. Its mandate was to conserve rangelands through proper grazing management programmes, develop rangelands and ensure equity for pastoralists in the provision of national development resources. However, a major constraint to the Division was lack of an enabling legal framework on rangeland management.

2.4.3 Arid and Semi-Arid Lands Branch

The Branch was created in 1977 and mandated to develop and implement projects based on pre-investment studies carried out in four ASAL districts, namely, Kitui, Tana-River, Samburu and Narok.

2.4.4 Kenya Rangeland Ecological Monitoring Unit (KREMU)

The Kenya Rangeland Ecological Monitoring Unit (KREMU) was established in 1975 to monitor ecological changes in the drylands. It later evolved to become the Department of Resource Survey and Remote Sensing (DRSRS) initially under the ministry of Tourism and Wildlife, and later under the ministry Planning and National Development. It was relocated to the Ministry of Environment and Natural Resources in 2001.

2.4.5 Ministry of Reclamation and Development of Arid, Semi Arid Areas and Wastelands (MRDASAW)

The Ministry of Reclamation and Development of Arid, Semi-Arid Areas and Wastelands (MRDASAW) was created in 1989 to resolve the problems arising out of the fragmented

approach and resultant conflicting sectoral objectives in ASAL development. The mandate of the ministry was to co-ordinate the overall policy formulation of all development activities in the ASAL. The ministry was scrapped in 1997 and the ASAL mandate relocated to the Ministry of Water Resources.

2.4.6 National Environment Secretariat (NES)

The National Environment Secretariat (NES) was established in 1974 and charged with responsibility for the inter-sectoral co-ordination of all environmental issues, including those of drylands. It is largely involved in policy formulation and monitoring of their implementation. NES is currently responsible for the follow-up of the CCD through the National Co-ordination (NCB) a body whose activities are supervised by a sub-committee of Inter-Ministerial Committee on Environment (IMCE)

2.4.7 Donor Community

Many initiatives in the drylands are supported by donor agencies including bilateral, multilateral, United Nations agencies and other organizations

2.4.8 Non-Governmental Organizations

There are many NGOs operating in the drylands or dealing with issues of drylands. Presently, the National NGO's Coordinating Committee on Desertification (NCCD) coordinates local NGOs addressing issues of desertification.

2.4.9 Drought Management Committees (DMC)

The Drought Management Committees (DMC) was established following the 1984 drought. The committees have representatives from government, international organizations and NGOs. The Drought Management Committees are constituted within the Drought Relief Programme housed in the Office of the President. However DMCs in some districts have become inactive.

2.4.10 Extension Services

The permanent community-level institutions that exist in the ASALs are mainly within the extension services system of the various ministries. Technical staffs run the systems supplemented by para-professionals. The latter are individuals who live among the communities, but receive minimum technical training, informally, in order to supplement the work of the government and non-governmental extension staff.

2.5 Programmes

There have been many programmes that address assessment and monitoring of ASAL resources in Kenya. Some of these programmes are highlighted below.

2.5.1 Research and Training

The institutional capacity to monitor land degradation processes dates back to the era of ALDEV (1946-62). The research activities at Chemeron Range Research Station in 1950s focused on land degradation processes such as land denudation, bush encroachment and range improvement through reseeding of suitable grass species. Related projects included.

- a) Training of technical experts in Range Management at Egerton college (established in 1964) and the Animal Health and Industrial Training Institute (A.H.I.T.I) established in 1966 at Kabete.
- b) Promoting research activities at Chemeron in Baringo, which were later re-located to Katumani Research Station. The research activities were started in the 1950s by ALDEV. Research in range management was upgraded when Kiboko National Range Station was established in 1970.
- c) Establishment of a mobile Extension Unit for Range Education among the nomadic communities.
- d) Feasibility studies on ASAL potential for cropping were undertaken in 1977 covering 5 districts, namely: Kitui, Machakos, Embu, Baringo and West Pokot. The findings of these studies were implemented by ASAL Unit (1977-78) of the Ministry of Agriculture. It is these studies that popularised the drylands.

2.5.2 Vegetation Transects

Permanent vegetation transects were established in the late 1950s in pastoral areas. The Range Management Division established other permanent range transects in the 1960s. DRSRS established other transects in 1970s. These transects are irregularly monitored due to lack of operational funds.

2.5.3 Kenya Livestock Development Programme (KLDP)

The Kenya Livestock Development Project (KLDP, 1968-82) of the Ministry of Agriculture was undertaken in two phases. Phase I developed grazing models. The group ranch development strategy was adopted in Kajiado and Narok districts, which to a large degree was a continuation of the controlled grazing scheme of the colonial period. The “Group Land Representative Act” of 1968 legalized group ranches. Some in favour of freehold individual ownership have since abandoned the group ranch strategy.

A grazing block project (1970-82) aimed to increase livestock production by improving infrastructure. This project suffered a number of setbacks including poor livestock sales due to quarantine measures, in security along trek routes, and poor maintenance of boreholes and dams upon withdrawal of external support. Three grazing blocks in North Eastern Province covering a total a 7430km² were fully developed in terms of water requirements (9 boreholes, 70 water pans) and access trackway-cum-firebreak of 1200km during Phase I of KLDP.

Phase II of the KLDP accelerated development of grazing blocks to cover about 47% of the whole of North Eastern Province. It also developed physical infrastructure such as livestock holding grounds, marketing stock routes and established diseases quarantine measures. Consequently, the livestock marketing system under the Livestock Marketing Division increased offtake from rangelands. The roads and trackways opened up formerly inaccessible

areas. Staff houses and offices were built, while meat processing plants and slaughterhouses were established. The Kenya Meat Commission was improved to handle a capacity of 600 heads of cattle per day while an additional 20 modern slaughterhouses were constructed.

2.5.4 Desertification Assessment and Mapping

In 1984 DRSRS in partnership with UNEP carried out a pilot study on desertification assessment and mapping in Baringo. The results of a follow-up study on National Land Degradation Assessment and Mapping Project were presented at a national workshop in November 1996. The project involved several institutions, including the University of Nairobi, DRSRS, NES, Kenya Soil Survey and Ministry of Land Reclamation, Regional and Water Development under the technical co-ordination of UNEP. Other institutions that have been active in monitoring land degradation include Kenya Soil Survey in KARI and the Soil Conservation Branch in the Ministry of Agriculture.

2.5.5 District Environmental Profiles

Fifteen District Environmental Profiles were published by NES between 1980 and 1987. Work slowed thereafter because of financial constraints. Consequently, some district profiles remain incomplete to date. The launching of a Regional SSO/ROSELT on long term ecological monitoring in 1996 will strengthen ecological monitoring activities in the country. Other significant efforts include natural resources surveys carried out in 1995.

2.6 Coordination

The ASAL development programmes were given heightened priority by the creation in 1989 of the Ministry of Reclamation and Development of Arid and Semi-Arid Areas and Wetlands (MRDASAW). In 1992, the Ministry launched a comprehensive development policy and an Environmental Action Plan for ASAL. This was followed by a number of studies used to produce a final report in January 1993 entitled "A Framework for the Management of District Integrated Development Programmes in ASAL". The ministry was merged with the Ministry of Water Developments in 1993, thus reducing MRDASAW into a department under the new Ministry of Land Reclamation, Regional and Water Development (MLRWD). Consequently, ASAL development was adversely affected following loss of capacity to handle ASAL related issues. In addition, ASAL activities were scattered in several departments and ministries, such as Department of Relief and Rehabilitation in the Office of the President, Ministry of Planning and National Development, and Ministry of Agriculture, Livestock Development and Marketing. This scenario has been complicated by inadequate co-ordination of various programmes in the different ministries. In 1997 the department was relocated to the Ministry of Agriculture and Rural Development. There is therefore an urgent need to establish a coordination mechanism to facilitate development of drylands.

2.7 Cooperation and Partnership

Over the years, the government has established strong cooperation mechanisms with development partners at multilateral and bilateral levels for development initiatives in drylands. Most development partners-funded projects operate independently. They lack a coordination mechanism. This may lead to conflict of interests and duplication of efforts.

2.8 Financial Arrangements

ASAL programmes have for many years received financial support from government as well as from bilateral and multilateral development partners. However, most programmes address only sectoral issues and lack a coordination mechanism. Consequently, it has been difficult to measure the impact of drylands programmes.

2.9 Constraints

In summary, the previous government efforts to combat desertification and mitigate the effects of drought have fallen short of desired expectations because of the following factors among others: sectoral approach, shift of mandate, low and uncoordinated funding, inadequate involvement of local communities, inadequate regulatory framework implementation, monitoring and evaluation.

- a) ***Sectoral Approach:*** Many projects have been sectoral in nature, with hardly any coordination between the actors. Consequently, it is very difficult to assess complementarities, duplication or conflicts. Relevant ministries and departments and donors often use different planning procedures. Furthermore, these efforts offer limited, if any, opportunity to sharing of experience among projects and programmes supported by different sponsors.
- b) ***Shift of Mandate:*** Drylands programmes and projects have been managed by various departments or ministries. Many have been shifted from ministry to ministry over very short periods. This has resulted in poor follow-up and coordination. In some cases projects have been abandoned because of the low importance attached to them by new institutions which were not involved in their formative and design stages. The frequent shift of mandate has caused concern to stakeholders who are interested in projects with sustainability.
- c) ***Low and Uncoordinated Funding:*** Some projects have been abandoned midway, particularly in situations where planning has not taken into account sustainability and the public sector cannot provide further funding. Additionally each funding agencies often use different planning procedures making coordination difficult. Some donors prefer to fund non-governmental organizations or community-based organizations directly. This has exacerbated the poor coordination mechanism and has reduced accountability.
- d) ***Inadequate Involvement of Local Communities:*** Low awareness and inadequate involvement of local communities has greatly reduced the sense of ownership of the projects by communities. This has resulted in abandonment of projects, which would otherwise have been sustainable.
- e) ***Inadequate Policies and Regulatory Framework:*** Some good policy and legal frameworks on drylands exist, but they lack supportive and or facilitative standards and regulatory frameworks to ensure enforcement. However some important policies have given low priority to development of drylands.
- f) ***Inadequate Capacity for Implementation, Monitoring and Evaluation:*** There is low capacity for implementing existing policy and legal frameworks in drylands. Some

programmes are often poorly managed, while others are abandoned due to inadequate knowledge and capacity to address local needs or failure to consult local communities. Additionally, capacity and infrastructure facilities for monitoring and evaluation are inadequate.

- g) *Inadequate access to production resources by local people:* The state has had overwhelming power over land resources. This was (firstly) through land alienation for European settlement, and later through the Swynerton plan, which declared drylands trust lands. Increasing human populations has complicated this situation.

3. NATIONAL ACTION PROGRAMME PROCESS

3.1 Background

This National Action Programme (NAP) was developed through a popular consultative process, using a bottom-up approach that culminated in the First National Forum. The process of formulating the NAP started in 1997 with a Memorandum of Understanding (MoU) between the Government of Kenya (GoK) and the United Nations Office to Combat Desertification (UNSO).

Wide stakeholder sensitization and consultations were carried out in a participatory manner throughout the country between July 1997 and August 1998. The consultative process included seven regional workshops held in different parts of the country. These regional/district workshops identified and defined:

- a) Issues and problems which affect various communities and stakeholders that should be addressed by the authorities and the First National Forum;
- b) Specific constraints that affect the various communities and stakeholders that should be addressed by the authorities and the First National Forum;
- c) Solutions to the constraints identified;
- d) Institutional arrangements and structures to enable the various communities and stakeholders to actively and meaningfully participate in the NAP process; and
- e) Roles, responsibilities and activities of the various stakeholders in the NAP process.

Concurrently, various thematic working groups and consultants were commissioned to research on various issues of the NAP process. The results of the regional/district consultations were taken up by the working groups for incorporation into their thematic area reports and subsequently discussed by the First National Forum held 21-23 October 1998. 186 representatives of the main stakeholders attended the forum. The forum discussed and established national consensus on the objectives, scope, content, and implementation modalities of the NAP.

In view of the complexity of the factors influencing desertification in Kenya as alluded to above, the 1st National Forum concluded that the NAP will:

- Need judicious planning and implementation.
- Identify factors causing desertification and implement practical measure to combat it and mitigate effects of drought.

- Use integrated measures encompassing institutional, legal, economic and technical actions.

3.2 Initial Activities in formulating NAP

Initial stakeholders consultation which started in 1996 provided a framework for the NAP process constituting the following three broad overlapping phases:

Phase I: The aim of this phase was to develop mechanisms and processes that enable all stakeholders to participate or contribute to the design of the action plan. Implementation started in November 1997 with support from UNDP/UNSO.

Phase II: The national, local area and community action plans were designed. Community Action Plans (CAPs) would be initiated and implemented on a pilot basis. The action plans at this phase form the building blocks for conceptualizing the local area and National Action plans.

Phase III: The third phase would involve the full implementation of the national and local area action plans, which like the CAPs should be flexible and iterative to allow for as many revisions as lessons and experiences gained. The strategy of all these phases would be to increase opportunities for stakeholders' contribution to the process using a bottom up approach.

UNSO provided catalytic support to Kenya to initiate phase I together with pilot CAPs. The three implementation phases were broad and overlapping. Many activities continued to be undertaken after the First National Forum either by the NCB or by relevant government arms. These included support to community initiatives, awareness raising, matters of the DCTF and legal reforms. These are activities, which could fall in any of the phases. The next major step however is to ensure that activities envisaged under phase II are completed.

The initial objectives aimed to:

- Initiate activities that would lead to the creation of an enabling environment for the establishment of the NAP process;
- Facilitate stakeholder participation in the design and implementation of the NAP; and
- Establish necessary arrangements for NAP implementation.

The following specific activities were carried out:

- a) Identifying priority programmes, roles and responsibilities of various stakeholders and establishing partnership arrangements;
- b) Strengthening of the government focal point to support the NAP process;
- c) Carrying out capacity needs assessment for NGOs/CBOs and formulate capacity building programmes for effective participation in the NAP process;
- d) Initiating the NAP consultative process;
- e) Defining roles and responsibilities of stakeholders;
- f) Raising public awareness;
- g) Building partnership among stakeholders;

- h) Defining financial resources and funding mechanisms; and
- i) Defining the elements and contents of NAP.

Subsequently the following achievements were realized:

- a) A multi-stakeholder national steering committee was established to spearhead the NAP process, which comprises government, civil society organizations, public universities and international organizations.
- b) The National Focal Point was strengthened to enable it coordinate the NAP.
- c) Raising public awareness and mobilizing and preparing main stakeholders to participate in the First National Forum through six regional workshops, specific contacts as well as using the print and electronic media.
- d) A preliminary stakeholder inventory was prepared; this needs continuous up dating. It was used to identify potential stakeholders for the sensitization and consultation process as well as being used to assess the NGO and CBO needs.
- e) Issues of concern were formulated and presented for discussion at the First National Forum.
- f) Local level participation in the NAP process was facilitated through attachment of volunteers whose main responsibility was to facilitate participation of local communities in the awareness/consultation workshops and general support to National Coordinator's Office.
- g) Community initiatives were supported to address environmental conservation and poverty alleviation. Seven CBOs were identified through a Participatory Rural Appraisal process. The CBOs received preliminary trainings before being given direct financial support to implement Community Action Plans (CAP). Additionally, a local NGO was always identified and given further training on backstopping, monitoring and evaluation of the CAPs. The CAPs varied from community to community. Three were for pastoral communities, while four focused on agro-pastoralism.
- h) The National NGO Coordinating Committee on Desertification (NCCD), an umbrella body of NGOs involved in desertification issues was supported in networking and in restructuring and strengthening its organizational structure.
- i) Capacity needs of NGOs and CBOs were assessed in terms of their effectiveness in participating and implementing the Convention. The report recommended and outlined a capacity building programme for NGOs and CBOs.
- j) The Desertification Community Trust Fund (DCTF) was recommended and subsequently created by the Government. A proposal for using DCTF to channel resources for activities at the local level was completed. The fund will be autonomous, and managed jointly by key stakeholders through a Board of Trustees (BOT); the government will be represented alongside NGOs, CBOs and private sector firms. Modalities for operationalizing the Trust Fund are at an advanced stage.

PART 11: PRIORITY AREAS

The NAP is based on the objectives of the CCD, which is stated as “to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification particularly in Africa”. This is to be achieved through effective action at all levels, supported by international co-operation arrangements, integrated approach which is consistent with Agenda 21, and the principles of sustainable development. The NAP priority goals aims at: reclaiming severely degraded areas, rehabilitating partly degraded areas, reducing further degradation of affected areas and conserving areas that are not yet degraded. These goals will be mainstreamed into the national objectives of sustainable development that focus on: poverty alleviation, enhancement of foods security and environmental conservation. The specific objectives of NAP include:

- a) Develop mechanisms for effective implementation of activities identified under NAP process in a flexible and iterative process.
- b) Mainstream the identified NAP priority areas into major national development initiatives, and frameworks.
- c) Facilitate active participation of all stakeholders, particularly the local communities in the NAP process.
- d) Establish a spirit of partnership among cooperating institutions.
- e) Strengthen coordination by putting in place relevant policy, legal and institutional frameworks.
- f) Ensure sufficient and sustainable financial resources and mechanisms.

The NAP priority concerns have been grouped into the following three broad areas; enabling environment, sectoral, and cross-sectoral programme areas. The NAP implementation matrix is shown in annex I. However, it should be noted that this being a framework programme, monitoring indicators couldn't be provided. They should be contained in the detailed programmes and projects. Further, the budget provided is only indicative for the next 15 years for each programme area.

4. ENABLING ENVIRONMENT

The main factors that contribute to an enabling environment include:

- a) Policy, legal and institutional frameworks
- b) Land use and tenure
- c) Information and enhancement of knowledge
- d) Public awareness
- e) Local level community initiatives
- f) Financial mechanisms
- g) Capacity building

4.1 Policy, Legal and Institutional Framework

4.1.1 SITUATION ANALYSIS

Some policies, legal instruments, and programmes for addressing issues of land degradation and mitigating the effects of drought were in place before the Convention came into force. They provided an inadequate enabling environment in terms of political and policy guidance and were inadequate with regard to support for existing institutions for combating desertification

The Convention calls for a “bottom up” approach in the preparation of NAP. Many previous policy development initiatives in drylands reflect little or no input from the affected populations. This can be attributed to the lack of structures and distinct legal measures to facilitate these processes. The Environment Management and Coordination Act of 1999 should facilitate involvement of local communities in combating desertification. The key issues and proposed actions in the policy, legal, and institutional framework have been identified.

4.1.2 Key Issues

- a) Lack of a policy on land use and tenure.
- b) Conflicting sectoral laws.
- c) Lack of a community involvement mechanism in policy development and use of their local natural resources.
- d) Inadequate coordination mechanism.
- e) Unclear roles and responsibilities of stakeholders.
- f) Inadequate financial resources.
- g) Inadequate human and institutional capacity.

4.1.3 Proposed Actions

- a) Formulate a comprehensive land use and tenure policy and reform programme to facilitate effective actions on combating desertification in drylands.
- b) Establish clear mechanisms to facilitate effective involvement of local communities in policy and decision making processes.
- c) Use structures under the Environment Management and Coordination Act of 1999 to involve all key stakeholders particularly local communities.
- d) Build and strengthen the capacities of the NCB and the NCCD.

4.2 Land Use and Tenure

4.2.1 Situation Analysis

In arid and semi-arid areas, land is being sub-divided into individual/private freehold property. Sub-division has reached levels where some parcels are un-economical.

Traditional methods of land use among the nomadic pastoral communities such as seasonal migration were ecologically viable strategies for land-use management. Seasonal migration in search of pasture reduces pressure on land resource. This flexibility of resource use and mobility promotes balance between environment and resource utilization. Communal land use in drylands ensured that all members had collective equal rights to water, grazing and fuel wood.

Individualization of land holdings in areas occupied by pastoral communities has restricted their movement and disrupted their traditional land management systems.

4.2.2 Key Issues

- a) Conflicts due to inadequate access to and right of use of different land resources,
- b) Lack of land use policy in the drylands
- c) Widespread poverty in the drylands

4.2.3 Proposed Actions

- a) Conduct a thorough study of the land tenure system in ASAL with a view to recommending a fair and workable system.
- b) Study land use conflicts and recommend appropriate policy and legislation instruments for promoting proper land use management.
- c) Establish early warning system to monitor spread of desertification.
- d) Change people's attitude of viewing land ownership as the best form of social security.
- e) Encourage communities to participate in activities, which reduce poverty.

4.3 Information and Enhancement of Knowledge

4.3.1 Situation Analysis

The national policy on Environment and Development and the National Environment Action Plan recognize the serious deficiencies in information collection, analysis, and dissemination. Additionally, both documents recognize that existing information centres are poorly managed and have inadequate network mechanisms and capacities. Furthermore, available information is not easily accessible and lack collection standards to facilitate comparative analysis, monitoring and evaluation.

Although data, computers and communication links are the most visible feature of any information system, the supporting institutions and their staff constitute the fundamental building blocks for any system to be functional.

4.3.2 Key Issues

- a) Inadequate information system.
- b) Lack of data/information exchange between different stakeholders.

4.3.3 Proposed Actions

- a) Develop an environmental information system.
- b) Network existing environmental information system
- c) Standardize data processing and access.
- d) Develop simplified indicators for monitoring desertification.

4.4 Public Awareness

4.4.1 Situation Analysis

Desertification is a multi-faceted phenomenon, involving environment, socio-economics, administrative strata, policy and law, and all levels of society. It is an issue that touches many groups with different concerns and roles in development.

It is important to clearly identify actors as they provide a basis for the production of specific sensitization materials and for identifying appropriate dissemination channels for each group. In this regard, five broad stakeholder groups have been identified: government, resource users, civil society organizations, development partners, and the private sector. However existing public awareness institutional frameworks, structures and programmes have inadequate capacities to effectively serve these groups. Furthermore, the structures and programmes often ignore to address the media used and potential perceptions within the different strata of the target groups and stakeholders.

4.4.2 Key Issues

- a) Lack of information on the target groups;
- b) Geographic distribution of the target groups;
- c) General perception and literacy levels of the majority in target groups;
- d) Inadequate information on the internal structure of institutions of the target groups through which they can be reached by various means;
- e) Bureaucracy and protocol required to reach certain target groups;
- f) Poverty levels; and
- g) Cultural biases and taboos.

4.4.3 Proposed Actions

- a) Identify and define target groups and their sensitization needs;
- b) Identify and elaborate on the contents, methodologies and communication media options for sensitizing the various target groups.
- c) Identify and describe resources needed for the campaign including financial estimates, resource persons, equipment/facilities, media costs, and identification of partners and sources of funds.
- d) Produce and disseminate sensitization packages, including preparation of materials for print media, radio and television; documentaries; bulletins; seminars/workshops; and pamphlets and brochures.

4.5 Support to Local Level Community Initiatives

4.5.1 Situation Analysis

CBOs are major stakeholders in the NAP process and have a large number of roles and responsibilities. They provide an organizational structure for interacting with local communities. The role of CBOs in assisting local communities implement the CCD should be one of sensitization, organization, mobilization, and project conceptualization, identification, formulation, implementation, and participatory monitoring and evaluation. They are also expected to assist in prioritization of issues, planning, mobilization of local and international resources, training, identification of capacity to implement and indigenous technical knowledge. The CBOs should also build consensus within local communities as well as change people's attitudes so as to diversify the economy of people living in drylands.

4.5.2 Key Issues

- a) Lack of awareness
- b) Political interference in CBO activities.
- c) Inadequate capacity for managing resources and projects.
- d) Undefined areas for which CBO support would lead to sustainable development.
- e) Lack of structures and governance to enable voice of CBOs to be heard at all levels
- f) Inadequate mechanisms for direct delivery of resources to affected local communities
- g) Increased insecurity and livestock rustling.
- h) Debilitating poverty and heightened economic marginalization.
- i) Inappropriate formal and informal education systems.
- j) Inadequate rights on land and natural resources in drylands.
- k) Accelerated breakdown of effective traditional management systems.
- l) Develop paradigms in form of top-down non-participatory approaches.

4.5.3 Proposed Actions

- a) Empower communities to fully participate in the decision-making and management processes.
- c) Build capacities of communities to manage their Community action Plans and their natural resources.
- d) Build and strengthen stakeholder partnerships for sustained and effective implementation of CAPs.
- e) Provide security and strengthened appropriate conflict resolution mechanism to affected communities
- f) Operationalize the DCTF for sustainable funding of projects at community level.

4.6 Financial Mechanisms

4.6.1 Situation Analysis

Existing and available financial resources at the national level are inadequate for implementation of NAP. Generally, the government allocates resources on sectoral basis, while development agencies and partners including NGOs operate independently.

Contributions by development partners often lack sustainability due to inadequate community consultations and involvement as well as phase out procedures.

The CCD recognizes the above constraints and advocates for the establishment of the national desertification financial mechanisms that would ensure efficiency and effectiveness in channeling resources to the local level.

4.6.2 Key Issues

- a) Inadequate resources;
- b) Poor coordination of funding activities in drylands;
- c) Unclear funding mechanisms for NAP activities at all levels; and
- d) Abandoned incomplete projects.

4.6.3 Proposed Actions

- a) Mainstream NAP into major national strategies and programmes;
- b) Develop a resource mobilization strategy for NAP;
- c) Prepare a profile of all donor agencies and NGOs working in drylands;
- d) Develop a coordination mechanism of all donor funded activities in various districts with a view to avoiding duplication of efforts; and
- e) Operationalize DCTF and
- f) Incorporate sustainability principles in planning and design to avoid abandonment of projects

4.7 Capacity Building

4.7.1 Situation analysis

Most projects that address desertification have a component on capacity building. However, many capacity building efforts have concentrated on awareness creation through workshops, an activity that is difficult to evaluate. In this regard capacity building has not been holistic and has made very little impact on targeted stakeholders. This has led to poor implementation of various programmes.

4.7.2 Key Issues

- a) Poor understanding of capacity building needs for projects and programmes.
- b) Inadequate funds for capacity building.
- c) Lack of indicators for capacity building.
- d) Lack of monitoring and evaluation mechanisms and methodologies for capacity building.

4.7.3 Proposed Actions

- a) Enhance understanding of the programme.
- b) Identify capacity building needs at institutional and stakeholder levels.
- c) Allocate adequate funds for identified capacity building activities.
- d) Establish indicators for capacity building.
- e) Monitor and evaluate the application of capacity built.
- f) Review capacity building methodologies to ensure their effectiveness.

5. SECTORAL PROGRAMME AREAS

5.1 Energy Sector

5.1.1 Situation Analysis

Energy is an essential resource for social and economic development. In Kenya, the major forms of energy are woodfuel, petroleum, electricity, coal and alternative energies. Two scenarios dominate the energy sector in Kenya: heavy dependence on imported petroleum fuels for the commercial sector needs and heavy reliance on wood fuel for the needs of rural and urban households and small-scale industries. Woodfuel accounts for 76% of the total energy consumed in the country, 36% of which is consumed in form of firewood, while 40% is used in form of charcoal. Most charcoal is consumed in urban areas and originates from drylands further contributing to devegetation. However, efficiency of charcoal kilns used to convert woodfuel to charcoal is low leading to high losses. Rural-urban migration continues to increase urban population, which in turn increases demand for charcoal. Trends have shown that use of woodfuel is unlikely to change in the near future.

The policy objective of energy development in Kenya is to ensure adequate and sustainable energy supplies at least cost, and in line with broad national development goals. Strategies employed by the GoK to achieve this objective include promotion of conservation technologies, domestic fuel substitution through promotion of alternative energy sources, intensified exploration efforts for fossil and geothermal energy sources, increasing on-farm and plantation woodfuel supplies, and improving the distribution network for all forms of energy. Whereas tree planting efforts have paid off in the high potential areas where most human settlements are found, the same cannot be said of the drylands where people lead a nomadic life that makes implementation of tree planting programmes rather difficult. The same can be said of the promotion of energy saving stoves. In drylands, people have been known to face acute energy shortages, which lead them to utilize cow dung as a source of energy. This in turn has contributed to a decrease in soil productivity since the manure that should be used to improve soil becomes unavailable.

Use of woodfuel from water catchment areas has also contributed to serious land degradation. Areas that were once of medium potential are slowly turning into marginal areas.

5.1.2 Key Issues

- a) Woodfuel is predominant as a source of energy in the domestic and rural industrial sectors that contributes to depletion of forest cover. The rising demand of charcoal for urban use exerts a lot of pressure on existing stocks of trees in drylands without matched tree planting efforts.

- b) Energy supply to communities living in the drylands is insufficient. This is exacerbated by frequent droughts that make tree-planting efforts almost futile.
- c) The low efficiency of charcoal conversion technologies currently in use contributes greatly to the degradation of drylands because more trees are cut down than would be the case if more efficient technologies were used.
- d) Most people living in drylands have limited access to alternative forms of energy.
- e) Weak planning, co-ordination, monitoring and evaluation capabilities due to insufficient allocation of financial resources and lack of integrated strategies.

5.1.3 Proposed Actions

- a) Improve energy supply – demand balance for households and rural industries through improved management of woody resources at the relevant level(s) and promote efficient conservation and conversion technologies.
- b) Diversify energy use in drylands through promotion of alternative energy sources.
- c) Improve distribution network of conventional energy sources (electricity and gas) and review pricing policies for these energy forms.
- d) Strengthen institutional planning, co-ordination and monitoring capabilities by instituting comprehensive and integrated strategies.
- e) Develop and promote biomass waste utilization technologies that are beneficial to drylands.

5.2 Vegetation Cover and Wildlife

5.2.1 Situation Analysis

The vegetation cover in Kenya has been changing rapidly in recent times. Forests and grasslands have been turned into croplands. Declining yields in crops and livestock per unit land area, fuel wood scarcity, acute water and pasture shortage indicate the changes.

The agriculture sector has addressed this problem through research on soil/crop management, promotion of agroforestry, encouragement of alternative income generating activities, and promoting dietary habits to food sources that do not cause undue pressure on the land.

Wildlife is a valuable asset to the country's economy. Over 70% of our country's national parks and game reserves are found in drylands, which also hold about 67% of all livestock. Wildlife is presently protected from hunting but they compete with livestock for forage and water. Livestock and wildlife co-exist in drylands, while livestock are excluded in the national parks and game reserves.

Kenya's wild fauna is a national heritage of unique value and the backbone of the tourist industry. In addition, the fauna is valuable scientifically for research into evolutionary and

ecological processes. The wildlife occurs in the national parks and game reserves, open communal ranges and on private ranches. Wildlife usually modifies the vegetation of an area. However, anthropogenic activities that contribute to ecological degradation are by far greater than that by wildlife. Domestic woodfuel needs, shelter and development of infrastructure in the parks and game reserves have been recognized for their destructive effects.

5.2.2 Key Issues

- a) Inappropriate application of soil conservation, water and other natural resource management technologies.
- b) Unreliable food production due to infertile soils and erratic rainfall patterns.
- c) Overstocking of livestock and uncontrolled wildlife management outside protected areas.
- d) Inadequate Information and data on vegetation depreciation.
- e) Lack of research findings on appropriate drylands agricultural and tree planting techniques.
- f) Lack of land use policy for drylands, leading to persistent human/wildlife conflicts.
- g) Lack of land tenure system and regulations to address environmental protection.
- h) Low adoption of research findings and appropriate technologies.

5.2.3 Proposed Actions

- a) Strengthen efforts in the inventory of vegetation resources and cover trends.
- b) Conduct research to identify options that efficiently contribute to development of drylands agriculture and tree planting technology.
- c) Formulate policies and strategies for sustainable use of drylands.
- d) Initiate deliberate policy interventions aimed at aggressively supporting fuelwood substitution and efficient end use.
- e) Conduct research on soil/crop and water management.
- f) Promote agroforestry as an alternative source of forest products.
- g) Initiate mini irrigation schemes to enhance food production along with alternative income generating activities.
- h) Promote change in dietary habits to foods that do not cause undue pressure on the land.
- i) Promote dissemination of research findings and adoption of appropriate technologies.

5.3 Forest Conservation

5.3.1 Situation Analysis

Woodlands in marginal areas are prone to drought and desertification. The fragile balance and system capacity are affected by overgrazing, inappropriate land use practices and population pressure on the natural systems for provision of energy, building materials, food and medicines all leading to accelerated ecological breakdown.

Woody vegetation is a renewable resource and its most important role in drylands is provision of forage for livestock and as soil cover. Forests and woodlands are also biologically important because of the diverse fauna and flora associated with them. They therefore contribute significantly to the livelihood and welfare of drylands inhabitants.

However, they are a fragile ecosystem under adverse climatic conditions. The dry zones are also facing increasing demands from expanding human and livestock populations.

In Kenya, forests are associated, to a large extent, with mountains that are also very fragile ecosystems. Mountain forests are associated with water catchments that supply areas regularly affected by drought and desertification including drylands.

5.3.2 Key Issues

- a) Inadequate mapping information on all forested areas.
- b) Declining supply of timber, woodfuel and other forest products.
- c) Inadequate financial resources to facilitate effective management of forest estate.
- d) Low adoption of efficient conversion and end use technologies that would translate to conservation gains.
- e) Encroachments on forests and woodlands.

5.3.3 Proposed Actions

- a) Promote agroforestry as an alternative source of forest products
- b) Promote efficient utilization of forestry resources for maximum sustainable benefits.
- c) Survey and map all forests at cadastral levels and establishment a central land information system.
- d) Reforest clear-felled and exposed lands and rehabilitate over-exploited areas;
- e) Protect forests and woodlands for their biological importance and for protection of fragile ecosystems.
- f) Develop and promote programmes for socio-economic benefits, improved wood supply and environmental conservation.
- g) Initiate deliberate policy interventions aimed at aggressively supporting fuel substitution and end use efficiency.
- h) Strengthen the institutional capacity for forestry management.
- i) Promote forestry extension services and public awareness campaigns via the mass media, community grassroot training in water management, soil conservation and reforestation.
- j) Implement the new forest policy, especially those aspects that address management of dryland forests for provision of a wide range of products such as dry-season browse, fruits, resins, etc. and to re-define roles and responsibilities of the community and other stakeholders in sustainable forest management and utilization of non-consumptive forest products.

5.4 Conservation of Biodiversity

5.4.1 Situation Analysis

Kenya has some of the most diverse forest eco-systems. Ideally, biodiversity should be considered at three levels: Genetic variability within species; number of species; and types of ecosystems with their interacting species and ecological processes.

The extinction of any species represents a loss to biodiversity often with further effects on the intricate web of an ecosystem life. If biodiversity is not to be diminished, it is important to maintain a representative sample of eco-systems.

Kenya has continued to loose some of her well-known biodiversity resources, often due to population increase; habitat destruction, over exploitation of species, drainage of wetlands, and introduction of alien species. The problem of invasive species is compounded by limited capacity and mechanism for monitoring and regulating the introduction into the country of alien invasive species, including genetically modified organisms (GMOs).

Another threat to biodiversity is illegal collection of genetic materials (biopiracy). The increased demand for genetic materials for use in biotechnology in developed countries is mainly responsible for illegal collection of genetic materials. This denies the country revenue from the use of such materials including its potential of developing her own biotechnology capacity and related industrial products.

Currently, there is no comprehensive policy on biotechnology and legislative framework to regulate access and exploitation of genetic resources. The country lacks a mechanism to monitor collection of genetic resources for industrial purposes.

The National Biodiversity Strategy and Action Plan has sets out the strategies and actions necessary for achieving conservation of biological diversity and its sustainable utilization including equitable benefit sharing.

5.4.2 Key issues

- a) Destruction of ecosystem and over exploitation of species
- b) Negative impact of invasive species.
- c) Loss occasioned by biopiracy.
- d) Lack of policy and legislative framework on biotechnology and bio-safety as well as GMOs.
- e) Lack of a management policy and regulatory mechanism for protecting biological resources against change of land use and destruction of ecosystems.
- f) Inadequate public awareness and information on loss of biodiversity, bio-safety and biotechnology.

5.4.3 Proposed Actions

- a) Develop new or strengthen existing strategies, plans or programmes of action for the conservation of biological diversity and the sustainable use of biological resources, taking into account education and training needs.
- b) Integrate strategies for the conservation of biological diversity and the sustainable use of biological and genetic resources into relevant sectoral or cross-sectoral plans, programmes and policies.
- c) Take effective economic, social and other appropriate incentive measures to encourage the conservation of biological diversity and the sustainable use of biological resources, including the promotion of sustainable production systems, such as traditional methods of agriculture, agroforestry, forestry, range and wildlife management, which use, but maintain or increase biodiversity.

- d) Subject to national legislation, take action to respect, record, protect and promote the wider application of knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles for the conservation of biological diversity and the sustainable use of biological resources, with a view to the fair and equitable sharing of the benefits arising, and promote mechanisms to involve those communities, including women, in the management and conservation of ecosystems.
- e) Undertake long-term research on the importance of biodiversity for the functioning of ecosystems and role of ecosystems in producing goods, environmental services and other values supporting sustainable development.
- f) Conserve biological diversity, whenever necessary through *in-situ* conservation of ecosystems and natural habitats.
- g) Promote the rehabilitation and restoration of damaged eco-systems and the recovery of threatened and endangered species.
- h) Develop policies to encourage the conservation of biodiversity and the sustainable use of biological and genetic resources on private lands.
- i) Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas.
- j) Promote, where appropriate, the establishment and strengthening of national inventory, regulation or management and control systems related to biological resources, at appropriate levels.
- k) Encourage a greater understanding and appreciation of the value of biological diversity, as manifested both in its component parts and in the ecosystem services provided.
- l) Build capacity, especially within government, business enterprises and bilateral and multi-lateral development agencies, for integrating biodiversity concerns, potential benefits and opportunity cost calculations into project design, implementation and evaluation processes, as well as for evaluating the impact on biological diversity of proposed development projects.

5.5 Agriculture and Pastoralism

5.5.1 Situation Analysis

About 88% of Kenya's land surface is arid, semi arid, and dry sub-humid lands. These drylands are characterized by their severe climatic conditions, which necessitate application of sensitive land management and land use planning methods. The soils are prone to severe erosion and proper conservation techniques are needed to minimize further degradation. Conflicts in resource use in drylands have resulted in lose of life and property.

Introduction of centralized services in drylands, such as animal water points and encroachment of dry grazing areas by farmers have added to degradation of the environment. Production of drought resistant crops and trees needs to be promoted in drylands.

Drylands are mainly used for livestock production such as pastoralism and ranching, normally by nomadic communities who keep large numbers of livestock. Environmental degradation is contributed by livestock activities. Overgrazing due to large livestock numbers makes the land prone to soil degradation calamities. The unplanned shift from pastoralism to arable agriculture as well as subdivision of land has resulted in widespread environmental degradation and blockage of the natural migration routes of both livestock and wildlife.

Besides loss of land due to encroachment and land alienation process, insecurity has also pushed pastoralists to drier and more marginal lands. Throughout much of north and north-eastern Kenya, insecurity has disrupted the lives of pastoralists and their economies. The pastoralists have not, in some cases, been able to return to their former areas even where pasture and water are available, for fear of cattle rustlers. Existing social, cultural, legal as well as the provincial administration should be used to resolve land and resource use conflicts and rustling.

5.5.2 Key Issues

- a) Increased alienation of land and displacement of pastoralists.
- b) Introduction of inappropriate land use practices.
- c) Insecurity and resource use conflicts.
- d) Inappropriate land tenure systems.
- e) Inadequate public awareness on research findings and alternative income generating activities that could ease pressure on natural resources.
- f) Low adoptions of drought and pest resistant as well as early maturing crops and trees in drylands.
- g) Unsustainable population of livestock in drylands.

5.5.3 Proposed Actions

- a) Formulate policies and enact legislation to provide for appropriate land use and tenure.
- b) Strengthen social and legal mechanisms for conflict resolution.
- c) Promote adoption of livestock, crops and trees in drylands e.g. drought and pest resistant, and early maturing crops and trees.
- d) Create public awareness on research findings on alternative income generating activities.
- e) Provide an enabling environment for trade in drylands products e.g. marketing of livestock and non-timber forest products.

5.6 Soil Management

5.6.1 Situation Analysis

Soil Management in drylands is increasingly becoming important as the fragile ecosystems are subjected to land use practices that are destructive and unsustainable. The situation is exacerbated by climate change and human activities that accelerate soil erosion, overgrazing, deforestation and encroachment into steep slopes and sensitive water catchment areas.

In the short and medium term, nation-wide efforts have been put in place to address the problems of soil and land degradation. These targeted individuals and groups of local communities at the grassroots, with varying degrees of success. Specific area-based projects were implemented by the government in Kitui, Embu, Machakos Isiolo and Kisumu districts. Programmes and projects aimed at combating land degradation and soil erosion have strived to use bottom-up approach, but more needs to be done. The participatory approach holds hope for the success of any future interventions. The land users ought to be involved at the local level in the formulation of strategies and approaches to enhance impact of extension services and improve ownership and adoption of conservation programmes and projects.

Gender issues are not fully catered for in anti-desertification activities and therefore require integration.

5.6.2 Key Issues

- a) Declining soil productivity due to lowering of soil water holding capacity and erosion of fertile soils.
- b) Declining soil fertility owing to mining of soil nutrients through crop and tree harvests and lack of replenishment of the lost nutrients through organic and inorganic fertilizers.
- c) Reduced vegetative cover and deterioration of the range ecology due to overgrazing, bush fires, charcoal burning, deforestation and other unsustainable land use practices.
- d) Use of inappropriate technologies in food production.

5.6.3 Proposed Actions

- a) Promote appropriate soil conservation technologies including agroforestry among local communities.
- b) Promote soil fertility management.
- c) Promote sustainable land use practices through participatory approaches.
- d) Enhance collaboration and networking among stakeholders, including local communities.
- e) Build capacity of extension staff and local communities.

5.7 Water Resources Management

5.7.1 Situation Analysis

There are over 30 institutions, both governmental and non-governmental, that play various roles in the water sector. These institutions lack policy guidelines, elaborate legal framework, human and fiscal capacity to effectively undertake their respective responsibilities. This situation has potential to manifest in duplication of efforts, conflicts, and non-accountability.

Water resources are governed by the Water Act (Cap. 372). The Water Resources Department is the overall authority charged with administering the Act, by ensuring proper and orderly water resources management including assessment, conservation, development and protection of the environment against degradation from water related activities. Other major players in the water sector are the Water Conservation and Pipeline Corporation (WCPC) regional development authorities, and the National Irrigation Board (NIB). Local authorities (municipalities, towns, and counties) and some NGOs are also involved in water management. The National Water Master Plan and water policy should guide all water management issues.

In order to quantify use and apportion available water the Water Resources Department has established water level gauging stations for hydrological and water quality variations and characteristics of springs, rivers and lakes. The department carries out data processing and interpretation. The data is utilised by the Water Apportionment Board in issuing permits for water use. The Water Apportionment Board by way of permits controls abstractions. Groundwater assessment is being done on demand basis, while monitoring is based on available information from operational boreholes.

Water is becoming increasingly scarce due the population of pressure, destruction of catchments areas. It becomes critical particularly during dry seasons and drought in drylands. The scarcity often results to large migration of pastoralists, conflicts due to limited water points, occasioning

land degradation around the source. It also leads to lowering of the reservoirs and reduced hydropower output.

The Water Apportionment Board has gazetted certain areas as groundwater conservation areas in order to prevent over-abstraction. In all cases, authorisation from the Board is required for sinking boreholes and abstraction of groundwater from deep and shallow aquifers.

Water is increasingly scarce because of increased population and destruction of catchments. It becomes particularly critical during dry seasons and drought periods in drylands. This scarcity often results in large migrations of pastoralists to limited water sources /points. Scarcity in dry periods has also lowered water levels in power dams and caused power outages.

5.7.2 Key Issues

- a) Water projects often do not give due consideration to catchment management/protection.
- b) Lack of inter-ministerial coordination in the development of water resources and water management strategies so as to maximize the use of the resource through an integrated approach.
- c) Low capacity and gender imbalance among the leaders representing the community in water user boards resulting to ineffectively participation.
- d) Lack of resources to utilize developed water resources by local communities.
- e) Lack of institutional framework for resources management at grassroots level because there is no emphasis on community ownership of the projects.
- f) Lack of a capacity building programme to empower communities to utilize water resources that are made available to them.
- g) Low adoption of appropriate water harvesting technologies

5.7.3 Proposed Actions

- a) Facilitate coordination between the Water Development Department and other partners in the water sector to ensure that catchment area management is treated as part of water project development.
- b) Develop partnerships among the communities and donors, government agencies, NGOs and the private sector in formulating development plans that utilize water to meet the needs of local populations.
- c) Train and empower communities to start projects using the water resources to create alternative livelihoods, including fisheries, growing of fodder for livestock and small-scale irrigation.
- d) Develop a capacity building programme to strengthen the role of various actors at community level including gender balance.
- e) Promote integrated approaches to watershed management for the sustainable utilization of water resources both upstream and downstream.
- f) Promote use of appropriate technology especially for water harvesting.
- g) Integrate use of appropriate indigenous water management technologies and systems.

6. CROSS SECTORAL PROGRAMME AREAS

6.1 Mainstreaming Gender

6.1.1 Situation Analysis

The concept of gender marks a fundamental axis of power relations in society and is used to define distinctions in activities, access and control of resources, most of which are fundamental to development and contribute to poverty, desertification and land degradation. In most Kenyan societies women are responsible for food production, caring for the young and animals, but do not have equal access with men to economic resources. As producers of household food women in fragile ecosystem face a host of problems as opposed to their counterparts in high potential areas. These are characterized by water, food and fuelwood scarcity. Women are usually given a secondary role when it comes to environmental management, and this amounts to relegation of their responsibility as food producers. In addition, the harsh environment under which they have to fulfill their duties makes gender mainstreaming one of the areas that needs to be addressed under NAP. Mainstreaming gender issues in NAP should lead to the recognition that women legitimately have the ability to participate in decision making processes that shape their lives and that of the entire society. There is need to make the people understand that gender roles can be interchanged for fair division of labor. It will therefore be worthwhile to make a deliberate effort to mainstream gender issues in the implementation of NAP.

6.1.2 Key Issues

- a) Mainstreaming gender concerns are limited by cultural taboos, traditional practices and structures.
- b) Poor co-ordination, unsupportive policies and laws, and inappropriate institutional frameworks for integration of gender issues in programmes
- c) Limited knowledge and understanding of gender and how it can be translated into concrete actions.
- d) Limited existence and use of gender disaggregated data

6.1.3 Proposed Actions

- a) Develop a gender mainstreaming kit specifying appropriate activities for women, men and children in consultation with the relevant communities. This will include development of indicators for monitoring gender balance in the management and utilization of natural resources.
- b) Promote institutionalization of gender perspective in all sectors and institutions. This will include sensitization of key players and use of affirmative action where appropriate.
- c) Formulate a gender strategy that can be used to address gender issues in existing programmes to combat desertification.

6.2 Science and Technology

6.2.1 Situation Analysis

Adverse impacts of desertification and drought appear to be increasing in the drylands of Kenya. The impacts are manifested by, among others, frequent crop failure, soil degradation,

diminishing water resources, loss of livestock, heavy dependence on wood for fuel and building and frequent droughts. These happen despite the fact that Kenya has many institutions with scientific and technological potential to solve the problems of desertification. The institutions include research institutes, universities, government ministries and departments, and private sector firms.

Desertification issues have not been priority concerns in most of these institutions. Additionally, researches on dryland issues have not been coordinated and findings arising from them are poorly disseminated. These have led to low adoption of research findings and technologies in the dry lands. The aforesaid have been exacerbated by lack of involvement of local communities and private sector and integration of indigenous knowledge in research and development of issues related to desertification.

6.2.2 Key Issues

- a) Lack of a comprehensive policy on application of science and technology that includes combating desertification.
- b) Lack of demand-driven, prioritized and coordinated research and technology on desertification.
- c) Low human and institutional capacity for application of current technologies for assessment, monitoring and mitigation of desertification.
- d) Inadequate involvement of local communities and private sector in matters related to desertification.
- e) Lack of indicators of technology transfer in projects and programmes
- f) Relatively low allocation of public funds for science and technology particularly in the field of desertification.
- g) Lack of recognition and integration of indigenous knowledge and technologies in programmes and projects for combating desertification.
- h) Low technological transfers in projects and programmes.

6.2.3 Proposed Actions

- a) Formulate a policy that integrates application of science and technology in combating desertification.
- b) Enhance institutional and human capacity for science and technology to address issues of desertification.
- c) Mobilise adequate financial resources for the application science and technology programmes in combating desertification.
- d) Strengthen mechanisms that promote prioritization and coordination of projects and programmes on desertification.
- e) Build capacities of local communities and private sector in the application of technologies to address desertification.
- f) Integrate traditional knowledge in project and programmes for combating desertification.
- g) Develop indicators to ensure effective screening and transfer of appropriate technologies in matters related to desertification.

6.3 Poverty and Environment

6.3.1 Situation Analysis

There has never been a comprehensive assessment on the relationship between poverty and environment in Kenya. However, poverty reduction has been a central goal of development and high on the agenda of policy makers. Recent development experiences indicate that rapid sustainable progress in alleviating poverty should not ignore environmental management and enhancement. This has been spelt out clearly in the Poverty Reduction Strategy Paper (PRSP) of June 2001, which outlines the priorities and measures necessary for poverty reduction and economic growth. The main aim of the strategy paper is to facilitate the implementation of the National Poverty Eradication Plan of 1997. The key principle is the link between policy, planning and resource allocation. The priority concerns of PRSP include:

- Facilitation of sustained and rapid economic growth.
- Increasing the ability of the poor to raise their income levels.
- Improving the quality of life of the poor.
- Improving equity and participation.

Economic growth could be indicated by increase in income and productivity, increased employment opportunities, economic diversification, a better quality of life, enhanced food security, improved status of women, improved environmental conservation and movement towards macro-economic balances.

Achieving a high rate of economic growth should therefore be balanced, structurally and ecologically. A growth rate, which runs ahead of the natural rate of resource regeneration, or depletes non-renewable resources, will soon decelerate growth itself and reduce the capacity to increase the productivity of the rural poor. Community Based Organisations (CBOs), women and youth groups have been identified by PRSP as key players in poverty alleviation and environmental management.

Any strategy should be clear and implicit that poverty alleviation initiatives should focus on local communities through provision of alternative sources of livelihood that are sustainable in the long run. According to the 8th National Development Plan (1997 - 2001), the major socio-economic characteristics of the poor, which form the basis for targeted intervention, include those of the arid and semi-arid lands (ASAL). Poverty in these regions is caused by lack of resources other than livestock, poor integration with the rest of the economy, drought and inappropriate technologies.

Production in drylands has fallen drastically due to overgrazing, depletion of water resources and fragmentation of land to uneconomic sizes. As a result, the communities have not had enough to feed themselves and surplus to sell. Consequently, their situation has worsened, accelerating level of poverty.

6.3.2 Key Issues

- a) Lack of a comprehensive assessment on the relationship between poverty and environment.
- b) Lack of recognition of indigenous knowledge, skills and adaptive strategies.

- c) Inadequate initiatives based on people's voluntary participation in poverty reduction activities.
- d) Inadequate information, education and awareness.
- e) Inadequate appreciation of the economic and intrinsic value of natural resources by communities.
- f) Inadequate capacity to initiate and manage alternative sources of livelihoods at all levels.

6.3.3 Proposed Actions

- a) Conduct a comprehensive assessment of relationship between poverty and environment.
- b) Promote indigenous knowledge and adaptive strategies.
- c) Empower communities in decision making and management of programmes, projects and natural resources.
- d) Promote transfer of appropriate technologies.
- e) Promote the establishment of micro-capital through subsidies and credits.
- f) Promote alternative sources of livelihoods.
- g) Provide an enabling environment for trade in drylands products e.g. livestock and non-timber forest products.

6.4 Early Warning Systems

6.4.1 Situation Analysis

Early Warning Systems (EWS) for drought and food security are closely related to those of desertification monitoring and assessment as parameters and methodologies used overlap extensively. The EWS in Kenya are scattered in various institutions. In government the EWS collaborate under loose structures which often change and shift from one ministry to another. They have neither a policy nor a legal framework under which they operate. However, they have worked fairly effectively and intermittently over the last 20 years.

Technologies for EWS for drought and food security and desertification have made tremendous advancements in the last 30 years. These advancements have for example been remarkable in the area of remote sensing where they have been used to monitor environmental degradation and indicators and in information transfer and communication. These technological gains have not brought about food security and an end to famines. This is because EWS have concentrated on generation of information used mainly to assess famine relief required. The main weakness is the packaging, dissemination, and use of the EWS information.

An EWS for drought and desertification should go beyond just assessing and monitoring of drought and desertification, to include vulnerability and risk assessments and maps. Such vulnerability and risk maps will be used to prepare all actors in the prevention, relief and rehabilitation of the affected communities. These will also be used to sensitize and prepare the communities at risk to prepare for the disasters. Communities at risk have always been left out of this process of informing and awareness thus making them just recipients of relief aid. This is also despite enormous improvement in technologies for data handling, transfer and communication. The EWS information thus should aim at preventing or mitigating disaster and not protecting communities from the impacts of disaster.

6.4.2 Key Issues

- a) Unclear conceptual frameworks and objectives of EWS.
- b) Inadequate data collection and analysis procedures.
- c) Inadequate human, technological and institutional capacities for information management, networking and coordination.
- d) Weak institutional framework for information management, networking and coordination.
- e) Lack of trust/credibility among stakeholders.
- f) Untimely release of EW results.
- g) Use of information for selfish ends.

6.4.3 Proposed Actions

- a) Link meteorological knowledge to local experience related to drought occurrence, frequency and duration.
- b) Evaluate, appraise and document the current capabilities of drought monitoring and early warning system.
- c) Increase public awareness on drought at the local level.
- d) Strengthen environment monitoring systems through expansion of national meteorological and hydrological networks and improve range resources monitoring systems.
- e) Build human, technological and institutional capacities for monitoring environmental degradation and indicators of desertification in drylands.
- f) Develop appropriate guidelines for the formulation of national drought preparedness.
- g) Develop indicators and benchmarks to monitor, assess and mitigate effects of desertification.
- h) Develop a common language and terminology in order to facilitate interaction.
- i) Facilitate access to and transfer of information.
- j) Make information more demand driven and develop adequate sub national nodes.
- k) Developing decision-making tools and mechanisms for early warning.
- l) Strengthen partnerships in order to establish an enabling institutional environment.

PART III: IMPLEMENTATION STRATEGY

7. COORDINATION ARRANGEMENTS

7.1 STRATEGIC APPROACH

Implementation of the NAP will be at four levels: sub-regional, national, district and community. The government will link NAP to the Intergovernmental Authority on Development (IGAD) Sub-regional Action Programme (SRAP) and the East Africa Community environment programmes in order to address common transboundary priority areas.

The National Coordinating Body (NCB) will be responsible for co-coordinating NAP implementation, including planning, monitoring and evaluation. NCB will, therefore, require support in terms of finance, human and physical resources.

At the district level, the District Environment Committees (DEC) will be responsible for coordination, monitoring and evaluation. This will be done in collaboration with other stakeholders at that level.

At the community level, communities and CBOs will collaborate with the DEC, NGOs and other stakeholders in identifying community problems and needs and in formulating Community Action Plans (CAPs) in a participatory manner. The communities and CBOs will then implement and monitor their CAPs.

7.2 Role of Various Actors

Actors in the implementation of NAP include:

- a) Government and its agencies at all levels;
- b) The affected people (communities and land users);
- c) Civil society organizations - international and national;
- d) Donors; and
- e) Private sector firms.

7.2.1 Government

At the macro level, the government will be responsible for policies for ensuring smooth implementation of NAP and proper utilisation of the funds. Thus, the government will need to know about all on-going initiatives in order to monitor the implementation, evaluate effectiveness, and report to the Conference of the Parties to the CCD (COP). The government will also be responsible for increasing the capacity for negotiating the needed resources as well as facilitating their flow to the communities.

The National Steering Committee (NSC) comprising representatives of all key stakeholders will ensure that the views of communities are incorporated. NSC will establish information

and consultative mechanisms through which NGOs and CBOs will present their projects and programmes.

The government will fulfill its role through elaborate structures that run through the national, provincial, district, division and locational levels. However, due to the weak co-ordination and collaborative linkages between government departments and agents there is need to review their structures and legal relationships in a way that eases implementation of NAP.

7.2.2 NGOs

NGOs will play a key role in the implementation of NAP by contributing to policy formulation, research, advocacy, capacity building and developing and implementing projects. At the grassroots, NGOs will function parallel to or in co-operation with CBOs and will play watchdog for the communities. NGO roles will include:

- a) Advice on on-going activities including those of NGOs to avoid duplication;
- b) Assess the nature and level of participation by the various stakeholders;
- c) Recommend regulatory measures or policy changes to create an enabling environment so as to improve efficiency;
- d) Collaborate with other NGOs outside national boundaries;
- e) Institute mechanisms to regulate and check their relationships with other players;
- f) Negotiate for resources with the government and donors, in addition to their traditional sources; and
- g) Implement agreed projects and programmes.

These roles will be effected under the guidance of the Kenya National NGO Co-ordinating Committee to Combat Desertification (NCCD).

7.2.3 Communities and CBOs

The CCD advocates for identification of projects and actions by the affected communities. This is one way of ensuring that the projects and programmes developed are demand driven. The identification process will be bottom-up, consultative and participatory. Active participation by communities will involve material, financial or in kind contribution as a way of cost sharing. The communities also have a responsibility in monitoring the implementation of projects and if they are dissatisfied voice their complaints through the provided channels.

Community based organizations (CBOs) and other locally based groupings will provide effective channels for knowledge sharing. There is need to restructure and empower these groups so that their views and aspirations can be heard at the national level.

7.2.4 Private Sector

The structure of the private sector comprises internal supporters, partners and corporate entities whose businesses benefit from well managed resources such as water, forests, wildlife and minerals. They could reap direct benefits from increased purchasing power of the communities living in drylands. However, sensitization in this sector is low and some persuasion is needed to interest them in efforts to combat desertification. This is because

desertification is an issue that the private sector may not directly associate with their businesses. One approach may be to create an umbrella association for them for this purpose

It is necessary for the government and the communities to provide an enabling environment for the private sector during the implementation of NAP. Communities could do this by being receptive and supportive of the private sector efforts, while the government could do it by offering tax rebates for private firms that plough some of their profits into conservation of natural resources. This should be done by closely involving the private sector in management of the resources they use and respect the polluter and user-pay principles.

7.2.5 Development Partners

This category includes bilateral and multi-lateral, international and intergovernmental organisations.

The role of donors in the implementation of NAP is to extend assistance to the affected and threatened populations. Assistance may be financial, technical, or material. The financial and material assistance may be in form of loans, grants or donations. Disbursement may be through the government financing mechanism, NGOs, CBOs and direct to communities.

There is need to review the co-ordination and co-operation arrangements of donors with the government and NGOs in Kenya. In this regard, a key component for donor co-operation and resource mobilization would address the formation of a standing committee on the CCD. Donors will be encouraged to establish a sub-committee comprising the development agencies and UN bodies to address implementation issues.

7.3 Partnership Building

Among the stated means of achieving the objectives of the CCD is through effective coordination efforts among and between key stakeholders, in a spirit of partnership. Consequently, there is need to recognize the comparative advantage of each partner and institute a mechanism that ensures coordinated and focused implementation strategies. The key stakeholders who need to build partnership include: relevant government ministries/departments, affected local communities, development partners, relevant United Nations agencies/organizations, civil society organizations, and the private sector. The following are some identified constraints to partnership building:

- a) Lack of a coordination mechanism for partnership building.
- b) Sectoral approaches to development of ASAL as opposed to an integrated approach.
- c) Unclear guidelines on priority areas for funding in ASAL and poor records of past investments in ASAL.

In order to overcome the above constraints the following actions are proposed:

- Establish a coordination mechanism of various partners and actors for NAP process.
- Develop an integrated mechanism for implementing the NAP.
- Define the roles and responsibilities of various partners that capitalize on complementing and supplementing each other.

- Take stock of previous investments by various partners working in ASAL and develop a framework on partnership arrangements.

7.4 Co-ordination

The key interest for all key stakeholders in co-ordination and collaboration should be to enhance synergy and consensus through a bottom-up approach to planning. Sharing of responsibilities will vary from one project to another but generally should address the following:

- a) Co-operation and co-ordination.
- b) Clear delineation of responsibilities.
- c) Promotion of mutual coexistence.
- d) Clear definition on sharing of benefits.

7.5 Assumptions and Risks

7.5.1. Assumptions

- a) Funds will be available.
- b) There will be political will and support at the district level.
- c) Genuine collaboration partnership and networking mechanisms will be in place.
- d) There will be mutual trust between the stakeholders.
- e) Good governance will prevail
- f) Security will be enhanced
- g) Infrastructure will be improved.

7.5.2. Risks

- a) Co-ordination may suffer if there is a change in the political set-up.
- b) Failure on the part of stakeholders to meet their obligations.
- c) Natural calamities.

8. FINANCING MECHANISMS

It is envisaged that NAP priorities would be mainstreamed into government programmes and budget systems so as to benefit from regular government exchequer and donor funds. It is generally recognized that the greatest disadvantaged stakeholders are the affected communities at the grassroots. These grassroot level communities normally receive inadequate resources; suffer from food insecurity and lack alternative sources of livelihoods. The First National Forum agreed that the NDF should focus on the community, and thus renamed NDF to DCTF. It was further agreed that funds for implementing action plans could be drawn from both regular government budgetary allocations as well as donor funds, and from the DCTF.

8.1 Resource Mobilization

The Government of Kenya is committed to improving the livelihoods of the inhabitants of the drylands. A large amount of funds is required to introduce appropriate technologies and proper land use techniques, which contribute to improved land productivity, as well as

countering the process of desertification. In line with the principles of CCD, the DCTF will mobilize resources on its own from government, private sector institutions, donors, voluntary organizations and local communities in cash or in kind. Similarly, mobilizing resources for the NAP process would involve, some or all of the following preparatory steps:

- a) Preparation of detailed strategies for fundraising involving different stakeholders including the private sector and general public.
- b) Identification of a United Nations agency to lead the fundraising campaigns among UN, multilateral and bilateral donor agencies.
- c) Preparation of a catalogue of programmes for use in attracting project-based funding.

Community projects will be initiated, planned, managed, and funded by communities. The communities will also be responsible for raising funds for project implementation with possible support of stakeholders and government. These are many ways through which communities could raise funds, including the following:

- a) Form co-operatives to:
 - i) Raise funds on regular basis (weekly, monthly, annually, etc);
 - ii) Organize income-generating projects to enable a build-up of funds;
 - iii) Mobilize savings among communities; and
 - iv) Seek counterpart funding for specific anti-desertification activities.
- b) Appeal to NGOs to popularize their programmes, solely to raise funds intended for desertification programmes.
- c) Request the government through DDCs, to avail funds through DCTF and co-operative banks.
- d) Initiate projects that are income generating and seek external support.
- e) Set up special charity programmes to which the general public may contribute through lotteries and individual donations.
- f) Encourage NGOs to seek funding for specific projects.
- g) Launch publicity campaigns to create awareness and mobilize finances for anti-desertification activities, including by appealing to donors for support.

8.2 Fundraising Strategies

The government will endeavour to create an enabling environment for getting funds by:

- a) Encouraging foundations, individuals, and large firms to establish decentralized local trusts to complement the DCTF;
- b) Setting aside a proportion of its total funding for environmental activities, for purposes of supporting the NAP;
- c) Issuing special bonds or initiating charities to raise funds from the general public;
- d) Encouraging firms heavily dependent on natural resources such as paper companies, logging and saw milling companies, ranching companies, construction companies, mining companies, cement industries, etc, to design their own social responsibility schemes within which they will finance social programmes within neighbouring communities;
- e) Carrying out publicity campaigns to create awareness among donors, private firms, and the general public about the ongoing initiatives to combat desertification in Kenya

- through all available channels of communication;
- f) Exploring the possibilities of granting tax rebates to businesses and individuals who make major contributions to community NAP initiatives;
 - g) Establishing special environmental levies for DCTF;
 - h) Appealing to private firms to design community support schemes;
 - i) Encouraging private firms to sub-contract some of their operations to local communities;
 - j) Developing a programme of action for fundraising;
 - k) Promoting charity programmes at national and district levels to complement formal fundraising initiatives; and
 - l) Establishing committees to be entirely responsible to fundraising for community initiatives.

8.3. Potential Funding Sources

Potential sources of funds for the NAP include DCTF, the Global Mechanism, Global Environment Facility (GEF), international financial institutions as well as bilateral and multilateral development agencies. NAP will be mainstreamed into programmes addressing biodiversity and climate change as they relate to combating desertification.

8.4 Funding Systems

Potential sources of funds have varying management and accessing procedure. Some of the existing potential funding systems include: DCTF, Joint Programme Funding, Parallel Financing, Project Funding, Social Responsibility Schemes, Miscellaneous Trusts, government funds, donor funds, voluntary agencies, and the private sector.

a) Desertification Community Trust Fund (DCTF): The government has approved establishment of DCTF as a semi-autonomous delivery mechanism for channeling funds to small-scale anti-desertification projects by eligible executing agencies or eligible communities. DCTF provides operational flexibility and ability to respond to the needs of communities that are often subject to emergency situations due to the harsh and variable conditions in the drylands. A Board of Trustees will operate the fund. In this regard DCTF could become a main platform for quick, timely, and efficient response to community needs.

b) Joint Programme Funding: Joint funding could entail funding of specific components of a project through sharing of costs between government, development partners' agencies, communities, and private firms for the implementation of specified components of a programme. The National Steering Committee will develop a comprehensive catalogue of programmes that are designed for joint funding.

c) Parallel Financing: Development partners may wish to finance some activities within the NAP framework without entering into any co-financing arrangements with either government or other agencies. They will fund certain components of the NAP activities using direct disbursement procedures.

d) Project Funding: A development partner may wish to collaborate with affected communities and other stakeholders in designing project(s) for its exclusive funding. Project funding is an option preferred by some bilateral and multilateral development partners who

have sufficient resources to fully fund projects. This makes it easier for them to account for their expenditures and associate project success with the source of funding.

e) Social Responsibility Schemes: The government will encourage commercial firms whose operations use or potentially degrade environmental resources, especially mining, tree felling, paper manufacturing, to set up and fund social assistance programmes within their areas of operation and within the NAP framework.

f) Miscellaneous Trusts: Some private firms and individuals may be interested in supporting decentralized local trusts to complement the DCTF. The local trusts should be managed in partnerships with local authorities, NGOs, CBOs, and religious organizations. The appeal for such trusts will be directed to foundations, private firms and individuals.

g) Government Funds: The government will continue to finance sectoral and cross-sectoral relevant programmes in drylands. There is potential for rationalizing some government resources already committed to these sectors and gradually shifting some resources to consolidating participatory processes within the NAP framework.

h) Donor Funds: It is expected that United Nations Agencies and bilateral and multilateral development partners will support NAP. Efforts have been made to mainstream NAP activities within the ongoing UNDP Country Co-operation Framework. Further, efforts should be made to mainstream NAP activities into programmes of other UN agencies such as Habitat, UNEP and FAO.

i) NGOs and Voluntary Agencies: NGOs that have been or are involved in the education sectors; in the school milk and feeding programmes; bursaries, subsidized health services, and credit services with limited or no collateral requirements, will be encouraged to expand their operations to cover community initiated anti-desertification activities.

j) Private Sector: Tax rebates should be granted to those who make major contributions to community initiatives; and fees be levied to recover some of the profits made by large resource-based companies. There is also scope for the private sector to contribute to the NAP process by employing labour intensive techniques of production, and developing some community support schemes.

8.5 Disbursement of Funds and Accountability

The financing arrangements should ensure that financial resources are utilized efficiently with the objective of reaching the targeted beneficiaries. Direct disbursement of funds to eligible communities is increasingly preferred to alternative channels with intermediaries. In this case development partners are encouraged to either open a NAP account or channel their funds through the DCTF and thereby would ensure transparency, efficiency, and accountability. Efforts will be made to accommodate the interests of development partners' agencies who have to account to their own constituencies at home and who require various accounting, procurement and disbursement procedures.

a) Appropriations in Aid (A-in-A): A-in-A development partners' funds are usually reflected in government annual budget estimates. Development partners are allowed direct

disbursement, subject to treasury approval. This A-in-A procedures apply only to development partner-funded projects undertaken through the public sector.

b) Direct Funding: Development partners could manage funds in-house, outside government budgetary process. In this regard, individual development partners are free to appoint their own project coordinators.

c) Pooling of Resources: Contributors who have no desire to get involved directly in project implementation could contribute to DCTF and other miscellaneous Trust funds. The fund will be operated as an autonomous entity with adequate representation of the key stakeholders on the Board of Management. The selection of projects to be funded under this option will have to be demand-driven or demand managed. It would be desirable to fix district ceilings and carry out routine pre-investment evaluation before any funds are released to any project.

Executing agencies would comprise of government, private firms, and civil society organizations with proven capacity to implement social projects. The implementing agencies will be required to consult and work with the intended beneficiaries at every stage of the project cycle. They would be required to collaborate with the NAP committees to ensure that project selection is in line with set criteria, anti-desertification priorities, and the bottom up approach.

Disbursement of funds to civil society organizations or private firms should be done strictly on basis of specific work plans, clear implementation and cost schedules, benchmarks of achievement, and specific monitoring guidelines.

d) Exchequer Funding: Projects eligible for government financing within the NAP framework will have to be identified by the communities and subjected to a participatory screening process within the district focus framework. Selected projects should reflect local priorities as a means of prioritization in the budgeting process.

8.6 General Guidelines for Prioritization of Resource Allocation

The National Steering Committee will outline broad categories of areas of intervention. This will require an inventory of the activities, which are taking place in drylands. Clear indication of the proportion of available resources that should go to the following sets of activities will be made.

- Credit programme;
- Sustainable livelihood programmes;
- Capacity building;
- Basic infrastructure and social services;
- Emergency interventions; and
- Special environmental conservation programmes.

Criteria for prioritizing will be established in terms of geographical areas, social groups, and types of NAP activities for funding. Resource allocation will then be made on basis of the following:

- a) High priority districts under immediate threats of further desertification and for which timely intervention may reverse the trend and provide tangible results.
- b) Within these areas, identify social groups whose livelihood is largely dependent on the immediate environment.
- c) Pay special attention to alternative livelihood programmes designed to provide complementary opportunities for earning a living, while conserving the environment.

9. MONITORING AND EVALUATION

9.1 Role of Environmental Information Systems (EIS)

9.1.1 Introduction

Land degradation is an insidious long-term process caused by various physical processes, as well as social, economic, cultural and policy actions. The symptoms may not be obvious immediately or locally. The effects could be enormous, devastating and costly to remedy. It is therefore important to develop a framework for monitoring and increasing knowledge on the causes, processes and effects of factors that contribute to desertification. It is also important to monitor the impacts of measures undertaken to combat desertification. EIS under the framework of NAP will therefore:

- a) Contribute to the achievement of sustainable development in the drylands by ensuring the collection, analysis, and exchange of information and knowledge.
- b) Ensure the use of existing information systems as a starting point, and building on these foundations.
- c) Ensure that capacity is build for the information systems (data, computers and communication links) human resource and institutions.
- d) Ensure use of the information so generated to measure impact of the NAP.

9.1.2 Objectives of EIS

- a) Develop and maintain a database.
- b) Strengthen institutional arrangements for sharing roles, responsibilities, information and networking.
- c) Standardize various elements of data and information to ensure compatibility and exchange.

9.3 Development of Indicators and Benchmarks

To measure change in the cause effects process in desertification (figure 2) there is need to develop robust procedures and methods that reduce the large number of observations that describe the state of the environment into a few indicators of change in land quality. In general and using standards of affected populations desertification indicators should be:

- a) Attributes that enable the grouping together of several underlying land characteristics or

- phenomena;
- Tools in decision-making process that deal with land degradation at local, regional and national levels;
 - Quantifiable, measurable and verifiable wherever possible;
 - Quantitative or qualitative values of change that indicate status and trends;
 - Used to measure change in the environment.

The monitoring and evaluation programme must have clearly identified indicators and benchmarks. Each recommended priority programme or project must develop its own benchmarks and indicators on which the evaluation will be based. Benchmarks and indicators should be developed at the time of carrying out needs assessment. This could be included in the log-frame when elaborating on the programmes.

The criteria for selection of benchmarks and indicators will be based on the simplicity with which they are derived, relevance to decision making, the degree to which they reflect community level needs and availability of data and information. It is important that these tools be quantifiable and verifiable.

The benchmarks of NAP are to be developed for each priority area when detailed projects and sub-programmes are developed, elaborated with specific objectives, activities, target outputs, results and timeframes. Monitoring of each programme area should be internalised by the implementing agency.

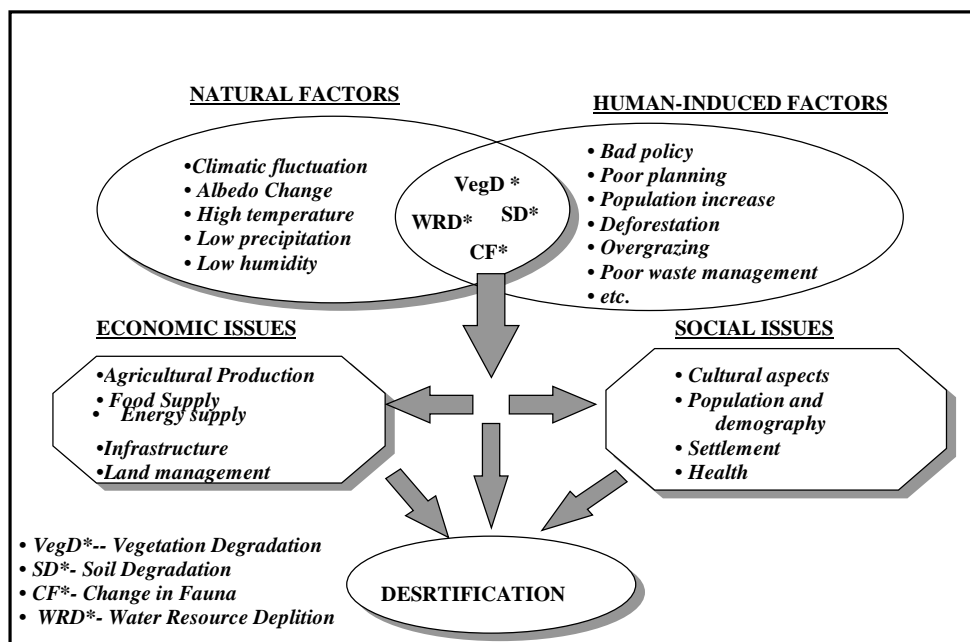


Figure 2: Conceptual model of the process of desertification

9.3 Role of Stakeholders

The NAP will require information comprising several data sets obtainable from various agencies on physical, biological and socio-economic parameters (figure 3). This may be

stored and processed in various systems in their home institutions. The networking partners will therefore need to:

- Define and share the data sets they will provide to the system;
- Strengthen networking modalities of the existing systems that will only require standardisation of data, processing and information exchange policy.
- Define indicator data sets to be collected, processed and analysed based on set standards and needs identified by stakeholders.

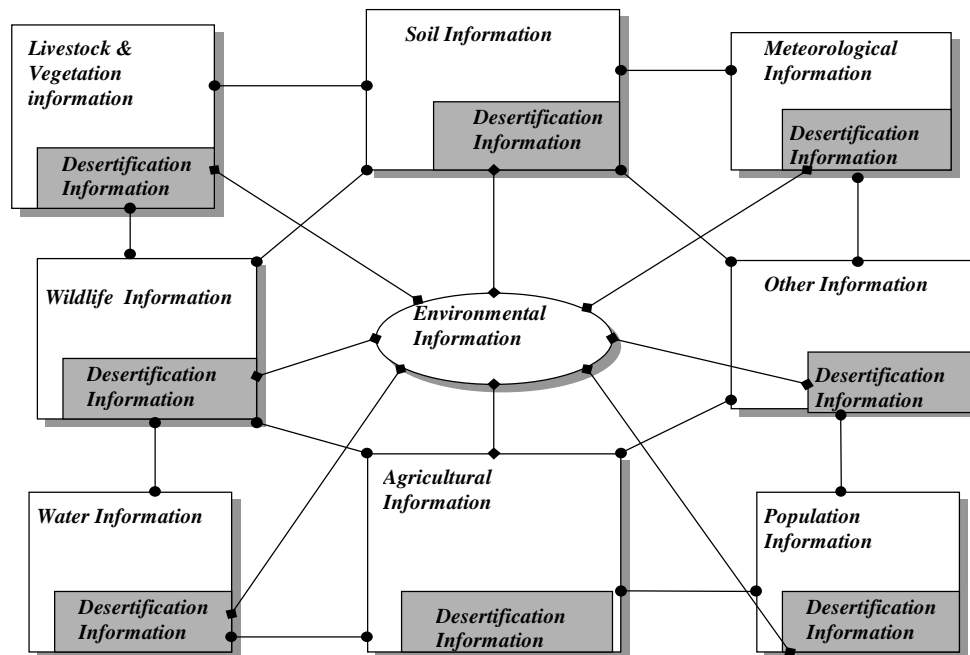


Figure 3: Conceptual Model of the National Information Infrastructure for combating Desertification

9.3 Feedback Strategies

The data needs for the EIS should be for both short-term monitoring of desertification factors and events such as droughts and for long-term trends, and measurement of land use changes, land productivity and socio-economic indicators. Thus, data collected in the EWS will become inputs to monitoring systems of desertification in the long run. The main aim of the system will be development of decision support systems for environmental management. The decision support system will bring out clearly lessons learnt in the process and will:

- Provide the GoK with harmonised baseline databases, which can be easily updated and used for long-term monitoring of land degradation processes.
- Strengthen the knowledge base on the causes, effects and possible remedies of desertification.
- Strengthen the collaborative efforts of various agencies in undertaking land degradation assessment and monitoring.
- Facilitate an iterative implementation of NAP to combat desertification through the formulation of more efficient and effective strategies for conservation of land resources.

- e) Assist the GoK in national and district level land degradation assessment and mapping efforts.
- f) Assist in developing practical methodologies for desertification assessment and mapping.

10. RECOMMENDATIONS AND WAY FORWARD

The National Stakeholders meeting at Kenya School of Monetary Studies on 28th February 2002 reviewed the National Action Programme (NAP) for Combating Desertification within the framework of the United Nations Convention to Combat Desertification (UNCCD), adopted the NAP and proposed the following recommendations as a way forward:

- a) The NAP document is circulated to as many stakeholders as possible.
- b) Appropriate mechanisms be developed to sensitize and mobilize stakeholders to develop as many viable programmes and projects as possible for implementation of NAP
- c) Mobilize resources from all possible sources for implementation of NAP
- d) In the implementation of NAP mechanisms be developed to ensure:
 - i. Transparency and accountability
 - ii. Bottom-up and participatory approach
 - iii. Equity in benefits sharing especially the affected local communities
- e) Enhance mechanisms for mainstreaming NAP in the national development process including budgeting.
- f) Integrate NAP into regional and sub-regional programmes.

Annexes
Annex 1. NAP Implementation Matrix

Priority Programme Area	Priority Actions	Time Frame	Actors	Budget Indicative (KSh)
1. Enabling environment				
1.1 Policy, Legal and Institutional framework	<ul style="list-style-type: none"> i) Formulating a comprehensive land-use/tenure policy ii) Establishment clear mechanism to involve local communities in decision-making process iii) Use structures under the EMCA (1999) to involve all stakeholders iv) Build & strengthen capacities of NCB & NCCD 	<ul style="list-style-type: none"> Short-term Short-term Medium Long-term 	MENR, O.P, NCB, DEC, Communities, AG, MOA, MLS	50,000,000
1.2 Land-use and tenure	<ul style="list-style-type: none"> i) Study land-use conflicts ii) Strengthen early warning system (see 6.4) iii) Change people's attitude viewing land ownership as best form of social-security iv) Encourage communities to participate in poverty reduction 	<ul style="list-style-type: none"> Short-term Short-term Long-term Short-term 	DRSRS, relevant government agencies, community, NCB, DEC, MOA, AG, MLS	30,000,000
1.3 Information Enhancement and knowledge	<ul style="list-style-type: none"> i) Develop and network environmental information systems ii) Standardize data processing and access iii) Develop simplified indicators for environmental change 	<ul style="list-style-type: none"> Short-term Medium Medium 	NCB, DEC, MENR, KMD, MOA, information providers and users	30,000,000
1.4 Public Awareness	<ul style="list-style-type: none"> i) Identify & define target groups and their needs ii) Identify and describe resources needed iii) Identify elaboration on methodologies and communication media options iv) Produce and disseminate sensitization packages materials 	<ul style="list-style-type: none"> Short-term Short-term Short-term Medium 	NCB, DEC, NGOs, CBOs and Communities	50,000,000
1.5 Support Local level communities	<ul style="list-style-type: none"> i) Empower Communities ii) Build capacities & partnerships iii) Provide appropriate conflict resolution iv) Operationalise the DCTF (see 1.6) 	<ul style="list-style-type: none"> Long-term Long-term Medium Short-term 	AG, O.P, NCB, DEC, NGOs CBOs, Communities, MF & P, MENR, MOA Donors	300,000,000
1.6 Financial Mechanisms	<ul style="list-style-type: none"> i) Mainstream NAP into the National Strategies ii) Develop resource mobilisation strategies iii) Prepare a profile of all donors iv) Operationalize DCTF 	<ul style="list-style-type: none"> Short-term Short-term Short-term Short-term 	NCB, NCCD, DEC, Donor Coordination Committee, AG, MF&P, MENR, MOA, GM, UN Agencies, (US\$5.8m)	200,000,000
1.7 Capacity-building	<ul style="list-style-type: none"> i) Identify the needs ii) Allocate adequate funds iii) Establish indicators for monitoring and evaluation 	<ul style="list-style-type: none"> Short-term Short to Long-t Short-term 	All stakeholders	400,000,000
2. Sectoral Programme Areas				
2.1 Energy	<ul style="list-style-type: none"> i) Improve supply-demand balance ii) Diversify energy use iii) Strengthen institutional planning 	<ul style="list-style-type: none"> Long-term Long-term Short-term 	NCB, DEC, MoE, Communities, NGOs, CBOs, KenGen, ERB, KPLC, IPP	500,000,000
2.2 Vegetation cover	<ul style="list-style-type: none"> i) Inventory & research on resources ii) Promote alternative sources of livelihoods iii) Promote appropriate technology 	<ul style="list-style-type: none"> Short-term Medium Long-term 	NCB, DEC, MoA, NGO MENR, Communities, CBOs, NCST, Research Institutes/centres	300,000,000

2.3 Forest conservation	<ul style="list-style-type: none"> i) Survey & mapping of resources ii) Improve management of forest resources iii) Appropriate policy intervention iv) Strengthen institutional capacity v) Conduct public awareness campaign 	Short-term Long-term Short-term Medium Medium	NCB, DEC, MENR, NGOs, CBOs, Communities, MOA, NCST, Research institutions	500,000,000
2.4 Conservation of Biodiversity	<ul style="list-style-type: none"> i) Develop appropriate strategies ii) Awareness creation iii) Undertake research on ecosystem iv) Develop appropriate policies v) Capacity building 	Short-term Medium Medium Short-term Long-term	NCB, DEC, MENR, NGOs, CBOs, Communities, MOA, Research Institutions, KWS, NMK	500,000,000
2.5 Agriculture and Pastoralism	<ul style="list-style-type: none"> i) Formulate policies and enact legislation on land use and tenure ii) Strengthen conflict resolution mechanisms iii) Create public awareness iv) Promote appropriate livestock crop & tree Spp 	Short-term Short-term Medium Long-term	NCB, DEC, MoA, NGOs, CBOs, Communities, NCST, Research Institutions	500,000,000
2.6 Soil Management	<ul style="list-style-type: none"> i) Promote appropriate soil management technologies ii) Promote sustainable land-use practices iii) Enhance collaboration and networking iv) Build capacity 	Medium/long t Medium Short Long-term	NCB, DEC, MoA, NGOs, CBOs, Communities, Research Institutions, NCST, MENR	400,000,000
2.7 Water Resource management	<ul style="list-style-type: none"> i) Facilitate coordination & partnership ii) Capacity building & empowerment iii) Promote appropriate management and technology iv) Facilitate assessment and developm. of potential water resources 	Short-term Long-term Medium Long-term	NCB, DEC, MENR, NGOs, CBOs, Communities NCST Research Institutions	700,000,000
3. Cross-Sectoral Programme Areas				
3.1 Mainstreaming Gender	<ul style="list-style-type: none"> i) Develop gender mainstreaming kits ii) Promote institutionalization of gender perspectives iii) Formulate gender strategies 	Short-term Medium Short-term	NCB, DEC, Social Services Dept, NGOs, Communities	200,000,000
3.2 Science and Technology	<ul style="list-style-type: none"> i) Formulating policies ii) Build capacities iii) Mobilisation of financial resources iv) Use of traditional knowledge 	Short-term Long-term Short to Long-t Long-term	NCB, NCST, MOA MENR, Research Institutions, NGOs, Universities, CBOs, ommunities,	400,000,000
3.3 Poverty and Environment	<ul style="list-style-type: none"> i) Assessment of poverty and environment ii) Promote indigenous knowledge iii) Empower communities iv) Technology transfer 	Short-term Medium Long-term Long-term	NCB, DEC, NGOs, MENR, NCST, CBos Communities Research Institutions, donors, MOA	300,000,000
3.4 Early warning systems	<ul style="list-style-type: none"> i) Create public awareness and use of remote sensing nformation ii) Strengthen environmental monitoring systems iii) Set up monitoring mechanism under NCB iv) Build human, technological & institutional capacity 	Short-term Medium Short-term Long-term	NCB, DEC, NCST DRSRs, KMD Communities, OP, Research Institutions, MENR	500,000,000

NB: Short-term = 2002-2007; Medium-term = 2002-2012; Long-term = 2002-2017.

Annex 2: National Action Programme Task Force Team

Name	Organisation
1. Benard O. K'omudho	National CCD Focal Point, National Environment Secretariat
2. Reuben K. Sinange	NAP Co-ordinator, Department of Resource Surveys and Remote Sensing
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5. Frank Msafiri	National NGO Coordinating Committee on Desertification in Kenya (NCCD-K)
6. Richard M. Mwangi	National NGO Coordinating Committee on Desertification in Kenya (NCCD-K)
7. Faith Odongo	Ministry of Energy
8. Gabriel M. Mailu	National Council for Science and Technology
9. Benard C. Muhang'u	Water Department, Ministry of Environment and Natural Resources
10. Antony Ochino	Forest Department, Ministry of Environment and Natural Resources
11. Henry Kinuthia	National Environment Secretariat
12. Julius Muinde	National Environment Secretariat
13. Joan Koilel	National Environment Secretariat