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It is hereby notified that the following document is hereby published for general information.

NATIONAL ACTION PROGRAMME COMBATING LAND DEGRADATION TO ALLEVIATE RURAL POVERTY, NOVEMBER 2004.

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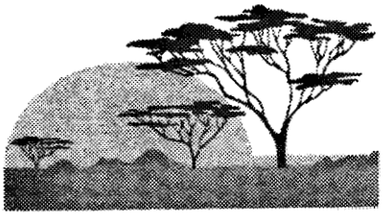
REPUBLIC OF SOUTH AFRICA

NATIONAL ACTION PROGRAMME
COMBATING LAND DEGRADATION TO ALLEVIATE RURAL POVERTY

NOVEMBER **2004**



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

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FOREWORD

Minister of Environmental Affairs and Tourism

The human community faces the biggest ever challenge in its history, ***"the struggle against poverty and environmental degradation".*** Every day the number of choices to save the planet diminishes as man continues to overexploit the global environment. It is the choices we make today that will determine the kind of world our children and grandchildren will live in. The legacy is largely ours to shape.

The World Summit on Sustainable Development held in Johannesburg once again confirmed that poverty remains a global problem of huge proportions, Further, it reaffirmed that efforts to combat natural resource degradation should be integrated into mainstream development frameworks.

Land degradation is ***not only*** about ***land, it is*** about ***the*** people, In South Africa millions of people are directly affected by natural resource degradation and many of them live below the poverty line. They depend on natural resources for survival. Yet the capacity of our country's land, water and biological resources to sustain its people is eroding. Tons of productive land are now lost and many once pristine conservation areas are denuded.

To address this challenge, our government and people are committed to the Millennium Development Goals, including the overarching goal of halving poverty by the year 2015. South Africa's political history ensured the exclusion of the poor people from the process of mainstream planning and decision-making, all environmental activities affecting their lives. Democratisation in 1994 however led to innovative ways of integrating issues of environment with community development needs. But so far, most of our efforts to combat land degradation and alleviate poverty still remain fragmented and inadequately concerted.

The United Nations Convention to Combat Desertification in those countries experiencing drought and/or desertification, particularly in Africa offers new hope in the struggle against poverty and land degradation. It calls upon each country affected by serious droughts and land degradation to develop a National Action Programme (NAP) as a key instrument to combat land degradation and poverty. Given that the NAP cuts across many sectors, this instrument provides a framework of partnerships that calls for all government structures, communities and their leaders, NGOs and the private sector to work together and for the international community to help provide the necessary knowledge base, capacity development and financial resources.

The Environmental Initiative of the New Partnership for African Development (NEPAD), Africa's revival plan, identifies urgent actions needed for better management of land, water, and biological resources as well as for the strengthening of environmental governance and financing. Based on the above, the collaboration between the UNCCD and NEPAD could be a determining factor for the success of Africa's efforts aimed at poverty eradication and promoting sustainable development in environmentally degraded areas.

Marthinus van Schalkwyk
Minister of Environmental Affairs and Tourism

LIST OF ACRONYMS

ARC	Agricultural Research Council
AGIS	Agricultural Geographic Information System
CAADP	NEPAD Comprehensive Africa Agriculture Development Programme
CAPE	Cape Action for People and the Environment
CARA	Conservation of Agricultural Resources Act, 1983
CBNRM	Community Based Natural Resource Management
CBD	Convention on Biodiversity
CBPWP	Community-Based Public Works Programme
CBO	Community Based Organisation
CEC	Committee for Environmental Co-ordination
CSIR	Council for Scientific and Industrial Research
CST	Committee for Science and Technology
CLD-ARP	Combating Land Degradation to Alleviate Rural Poverty
CMA	Catchment Management Agency
COP	Conference of the Parties
CPP	Community, Public Partnership
CPPP	Community, Public, Private Partnership
DBSA	Development Bank of Southern Africa
DEAT	Department of Environmental Affairs and Tourism
DLA	Department of Land Affairs
DMP	Desert Margins Programme
DPLG	Department of Provincial and Local Government
DoA	National Department of Agriculture
DRFN	Desert Research Foundation of Namibia
DWAF	Department of Water Affairs and Forestry
EDA	Environment and Develop Agency
FCCC	UN Framework Convention on Climate Change
FFA	Forest Fires Association
FIETA	Forest Industries Education and Training Authority
FSG	Farmer Support Group
GDP	Gross Domestic Product
GEAR	Growth, Employment and Redistribution Policy
GEF	Global Environment Facility
GM	Global Mechanism to increase the effectiveness and efficiency of existing financial mechanisms through promoting actions leading to the mobilisation and channelling of substantial financial resources for Convention implementation.
GTRC	Gobabeb Training and Research Centre
GTZ	German Technical Cooperation
IAP	Interested and Affected Party(ies)
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDP	Integrated Development Plan
IDT	Independent Development Trust
IPCC	Intergovernmental Panel on Climate Change
ISRDP	Integrated Sustainable Rural Development Programme
LRAD	Programme for Land Distribution and Agricultural Development
M&E	Monitoring and Evaluation
MinMec	Intergovernmental Relations Committee of Ministers and Members of Provincial Councils
MinTech	Ministers and Technical Managers Committee
MMSD	Mining, Minerals and Sustainable Development project

MSTCC	Multi-disciplinary Scientific and Technological Consultative Committee
MTEF	Medium term Expenditure Framework
NAP	National Action Programme
NBI	National Biodiversity Institute
NBSAP	National Biodiversity Strategy and Action Plan
NCB	National Coordinating Body
NDF	National Desertification Funds
NEMA	National Environmental Management Act, 1998
NEPAD	The New Partnership for Africa's Development
NGO	Non Governmental Organisation
NRF	National Research Foundation
NRM	Natural Resource Management
ODA	Overseas Development Assistance
PAETA	Primary Agriculture Education and Training Authority
PCC	President's Co-ordinating Council
PLAAS	Programme for Land and Agrarian Studies
PPP	Public, Private Partnership
RDP	Reconstruction and Development Programme
RIOD	Réseau Internationaldes ONG sur la Désertification
RISDP	Regional Indicative Strategic Development Plan
SADC	Southern African Development Community
SADC-ELMS	SADC-Environment and Land Management Sector
SDI	Strategic Development Initiative
SEA	Strategic Environmental Assessment
SKEP	Succulent Karoo Environment Programme
SMME	Small, Medium, Macro Enterprise
STEP	Subtropical Thicket Ecosystems Planning
UNCCD	The United Nations Convention to Combat Desertification in those countries experiencing serious drought and/or desertification, particularly in Africa (also known as The United Nations Convention to Combat Desertification)
UNCED	The United Nations Conference on Environment and Development
UNDP	The United Nations Development Programme
UNFF	The United Nations Forest Forum
UNEP	The United Nations Environment Programme
UWC	University of the Western Cape
WESSA	Wildlife and Environment Society of South Africa
WfW	Working for Water Programme
WfWet	Working for Wetlands Programme
WMA	Water Management Area
WSSD	World Summit on Sustainable Development (Johannesburg 2002)
WUA	Water User Association

LIST OF ACTS AND BILLS IN THE NAP DOCUMENT

Communal Land Rights Act, 2004 (Act No 11 of 2004)
Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983)
Disaster Management Act, 2002 (Act No 57 of 2002)
Genetically Modified Organisms Act, 1997 (Act No 15 of 1997)
Local Government Municipal Structures Act, 2000 (Act No 20 of 2000)
Local Government: Local Government: Municipal Systems Act, 2000 (Act No 32 of 2000)
Local Government Municipal Property Rates Act, 2004 (Act No. 6 of 2004)
Marketing of Agricultural Products Act, 1996 (Act No 47 of 1996)
Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
Mountain Catchment Areas Act, 1970 (Act No 63 of 1970)
National Environmental Management Act, 1998 (Act No 107 of 1998)
National Environmental Management: Protected Areas Act, 2003 (Act No 57 of 2003)
National Environmental Management: Biodiversity Act, 2004 (Act No 10 of 2004)
National Forests Act, 1998 (Act No 84 of 1998)
National Veld and Forest Fire Act, 1998 (Act No 101 of 1998)
National Water Act, 1998 (Act No 36 of 1998)
Restitution of Land Rights Act, 1994 (Act No 22 of 1994)
Water Services Act, 1997 (Act 108 of 1997)
Land Use Management Bill
Sustainable Use of Agricultural Resources Bill

PART A: INTRODUCTION

1. LAND AND POVERTY

Desertification is not about the spread of deserts, it is about impoverishment of the land in many ways, and is the main form of environmental degradation in rural areas. It is caused by human poverty, and causes human poverty, all in the constraints of natural resource availability and changing climate.

Desertification means land degradation in arid, semi-arid and dry sub-humid areas, resulting from various factors that include climatic variations and human activities. The arid, semi-arid and sub-humid climate zones cover 91% of South Africa.

Land degradation is the persistent decrease in the supply of ecosystem goods and services as a result of changes in soil or vegetation, and is used here to include deforestation and the effects of drought. Land, as defined in the Convention, means the terrestrial bio-productive system that comprises soil, vegetation, other biota, and the ecological and hydrological processes that operate within the system.

Ecosystem services include the supply of grazing, crops, water, wood, and medicinal plants, protection of water resources and biodiversity, as well as less tangible things such as aesthetic and spiritual qualities of landscapes. Sustainable land management is management that reverses land degradation, maintains or enhances the supply of ecosystem goods and services, alleviates poverty, and promotes development.

Sustainable land management is the object to be achieved in combating land degradation and the effects of drought; sustainable land management means the integrated process of improving land management while alleviating poverty, promoting local development, and sustaining the flow of ecosystem goods and services from the land. The National Action Programme will drive the integrated approach to sustainabili in rural development.

2. THE UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION, THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT, M E MILLENNIUM GOALS, SOUTH AFRICA AND NEPAD

In September 1997, South Africa ratified the United Nations Convention to Combat Desertification in those countries experiencing serious drought and/or desertification, particularly in Africa (the UNCCD). The UNCCD provides a framework for countries affected by desertification to address the problem of land degradation effectively on a national level. As a Party to the Convention, South Africa has committed herself to the development and implementation of a long-term strategy to address issues relating to desertification.

Both the UN Millennium Declaration and the Declaration of the World Summit on Sustainable Development (WSSD; see extract in Box 2.1) focus on development and poverty eradication together with protecting our common environment. They reaffirm support for the principles of sustainable development, including those set out in Agenda 21, with a commitment to press for the full implementation of the Convention on Biological Diversity, the Convention to Combat Desertification, and the proposals for action of the Intergovernmental Forum on Forests.

The Summit reaffirmed sustainable development as a central element of the international agenda and gave new impetus to global action to fight poverty and protect the environment. The understanding of sustainable development was broadened and strengthened as a result of the Summit, particularly the important linkages between poverty, the environment and the use of natural resources. Governments agreed to and reaffirmed a wide range of concrete commitments and targets for action to achieve more effective implementation of sustainable development objectives, including:

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- the international community to better focus efforts to address the development needs of Africa identified Africa and NEPAD for special attention and support.
- the concept of partnerships between governments, business and civil society was given a large boost by the Summit and the Plan of Implementation; over 220 partnerships (with $235 million in resources) were identified in advance of the Summit and around 60 partnerships were announced during the Summit by a variety of countries.

Box 2.1 The Key it and g in the **Johannesburg Plan of** ti fr the WSSD t are directly or **ely related** to the combating of d degradation.

- Poverty Eradication
  - Halve, by the year 2015, the proportion of the world's people whose income is less than $1 a day and the proportion of people who .suffer from hunger (reaffirmation of Millennium Development Goals).
  - Establish a world solidarity fund to eradicate poverty and to promote social and human development in the developing countries.
- Energy
  - Renewable energy: Diversify energy supply and substantially increase the global share of renewable energy sources in order to increase its contribution to total energy supply.
  - Access to Energy: Improve access to reliable, affordable, economically viable, and socially acceptable and environmentally sound energy services and resources, sufficient to achieve the Millennium Development Goals, including the goal of halving the proportion of people in poverty by 2015.
- Management of the natural resource base
  - Water: Develop integrated water resources management and water efficiency plans by 2005.
- Biodiversity
  - Achieve by 2010 a significant reduction in the current rate of loss of biological diversity.
  - Forests: Accelerate implementation of the IPF/IFF [Intergovernmental Forum on Forests] proposals for action by countries and by the Collaborative Partnership on Forests, and intensify efforts on reporting to the United Nations Forum on Forests, to contribute to an assessment of progress in 2005.
- Corporate responsibility
  - Actively promote corporate responsibility and accountability, including through the full development and effective implementation of intergovernmental agreements and measures, international initiatives and public-private partnerships, and appropriate national regulations.
- Sustainable development for Africa
  - Improve sustainable agricultural productivity and food security in accordance with the Millennium Development Goals, in particular to halve by 2015 the proportion of people who suffer from hunger.
  - Support African countries in developing and implementing food securii strategies by 2005.
- Institutional framework for sustainable development
  - Adopt new measures to strengthen institutional arrangements for sustainable development at international, regional and national levels.
  - Facilitate and promote the integration of the environmental, social and economic dimensions of sustainable development into the work programs UN regional commissions.
  - Take immediate steps to make progress in the formulation and elaboration of national r sustainable development and begin th ei g t y 2005.

The Key Commitments, Targets and Timetables in the Johannesburg Plan of Implementation that arose from WSSD included several directly or closely related to the combating of land degradation, as summarised in Box 2.1. South Africa is currently mobilising government departments and their partners to address this Plan of Implementation; the NAP is an integral part of this response.

The WSSD identified the Convention to Combat Desertification as one of the important instruments at the disposal of the international community for poverty eradication and food security in arid, semi-arid and sub-humid areas of our planet, of which South Africa is one.

Leading up to the WSSD, and afterwards, the role of the GEF, the UN's funding mechanism for sustainable development, was expanded to address the UNCCD. In December 2001, the GEF Council agreed to create a new focal area for land degradation. This process was completed at the 16-18 October 2002 GEF Assembly with approval of land degradation as a new focal area for GEF activities. Guidance to the GEF for this focal area will come from the UNCCD and the Global Mechanism.

NEPAD is a vision and programme of action for the redevelopment of the African continent, a commitment that African leaders are making to African people and to the international community, to place Africa on a path of sustainable growth and is the key mechanism for Africa-wide projects under the UNCCD. It is a comprehensive integrated development plan that has been conceived and developed by African leaders to address key social, economic and political prioriiies in a coherent and balanced manner. In addition, it is a commitment to accelerate the integration of the African continent into the global economy, a framework for a new partnership with the rest of the world, and a call to the rest of the world to partner Africa in her own development on the basis of her own agenda and programme of action. One of its three goals is to eradicate widespread and severe poverty. Agriculture is seen as the main vehicle for Africa's economic development

The NEPAD Comprehensive Africa Agriculture Development Programme (CAADP) was endorsed by the African Ministers of Agriculture and Rural Development at the "World Food Summit Five Years Later" in June 2002, as a blueprint for renewal and recovery of the continent's agricultural sector.

Through this NEPAD will act as a facilitator of regional and multi-country projects, leaving the project implementation to the respective national agencies. The member states will thus be the main actors and beneficiaries of NEPAD agricultural initiatives. NEPAD will carry out periodic monitoring and evaluation of the projects according to a standard format.

NEPAD will develop broad programmes under each of the four pillars identified in CAADP, i.e.:

- extending the area under sustainable land management and reliable water control systems;
- improving rural infrastructure and trade-related capacities for improved market access;
- increasing food supply and reducing hunger; and
- complementary to these first three, strengthening agricultural research and extension systems in Africa.

The Ouagadougou consultative meeting held in September 2002 marked the beginning of a new partnership between the UNCCD and NEPAD. UNCCD National Focal Points met, as part of a series of African meetings, to promote activities to combat desertification in the context of NEPAD. The need for collaboration between the two institutions was based on the common objectives of the process of NEPAD and that of the UNCCD with regard to combating desertification. This new partnership could be viewed as a determining factor for the success of Africa's efforts aimed at poverty eradication and promoting sustainable development in environmental degraded areas.

NEPAD has adopted a strategy for sustainable land use that includes goals directly or indirectly related to sustainable land management, i.e.:

- broader access for the small-scale agriculturalist to markets;
- the role of women as farmers; and
- the mobilising of resources for the eradication of poverty in general.

As Party to the UNCCD, South Africa is committed with Africa and the rest of the international community to pursue sustainable land management as a core element of its national strategy for reconstruction and development.

Box 22 Desertification clusters identified for Africa by NEPAD
Ouagadougou, *Burkina Faso*
16-18 September 2002

1. Integrated management of water resources including large river basins;
2. Rational management of transboundary rangelands and the development of fodder crops;
3. Restoration of degraded ecosystems and the improvement of soil fertility;
4. Promotion of sustainable agriculture in semi-arid zones;
5. Integrated management of natural resources through transboundary reforestation;
6. Promotion of energy sources, particularly renewable energy sources.

3. WHAT IT MEANS FOR SOUTH AFRICA TO BE A PARTY TO THE UNCCD

The objective of the Convention is "to combat desertification and mitigate the effects of drought ... through effective action at all levels, supported by international cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in affected areas."

Achieving this objective will involve long-term integrated strategies that focus simultaneously on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and water resources, leading to improved living conditions, in particular at the community level.

The Convention defines 'combating desertification' to include activities that are part of the integrated development of land in arid, semi-arid and dry sub-humid areas for sustainable development and which are aimed at:

- prevention and/or reduction of land degradation;
- rehabilitation of partly degraded land; and
- reclamation of desertified land.

Parties in general are obliged to:

- adopt an integrated approach addressing the physical, biological and socio-economic aspects of the processes of desertification and drought;
- give due attention, within the relevant international and regional bodies, to the situation of affected developing country Parties with regard to international trade, marketing arrangements and debt with a view to establishing an enabling international economic environment conducive to the promotion of sustainable development;
- integrate strategies for poverty eradication into efforts to combat desertification and mitigate the effects of drought;
- promote cooperation among affected country Parties in the fields of environmental protection and the conservation of land and water resources, as they relate to desertification and drought;
- strengthen sub-regional, regional and international cooperation;
- cooperate within relevant intergovernmental organisations;
- determine institutional mechanisms, if appropriate, keeping in mind the need to avoid duplication; and
- promote the use of existing bilateral and multilateral financial mechanisms and arrangements that mobilize and channel substantial financial resources to affected developing country Parties in combating desertification and mitigating the effects of drought.

The Convention places the following additional obligations on affected country Parties, i.e. countries whose lands include, in whole or in part, arid, semi-arid and/or dry sub humid areas affected or threatened by desertification:

- give due priority to combating desertification and mitigating the effects of drought, and allocate adequate resources in accordance with their circumstances and capabilities;
- establish strategies and prioriiies, within the framework of sustainable development plans and/or policies, to combat desertification and mitigate the effects of drought;
- address the underlying causes of desertification and pay special attention to the socio-economic factors contributing to desertification processes;
- promote awareness and facilitate the participation of local populations, particularly women and youth, with the support of nongovernmental organisations, in efforts to combat desertification and mitigate the effects of drought; and
- provide an enabling environment by strengthening, as appropriate, relevant existing legislation and, where they do not exist, enacting new laws and establishing long-term policies and action programmes.

a HOW SOUTH AFRICA DEVELOPED THE NATIONAL ACTION PROGRAMME FOR THE IMPLEMENTATION OF THE UNCCD

South Africa has made the necessary institutional arrangements to meet its commitments in terms of the UNCCD. The Department of Environmental Affairs and Tourism (DEAT) has been identified as the Focal Point for the Convention. A multi-stakeholder Steering Committee guides the role as Focal Point for the UNCCD. Figure 4.1 shows these entities and their relationships.

The SA-UNCCD Steering committee has been the principal coordinating mechanism since 1995, prior to South Africa's accession to the Convention. It has involved relevant national government departments, certain provincial departments and NGOs, but not yet the private sector. It has had the support of a permanent Secretariat, which from 2001 had input from a Process Management Group. It has drawn on advice as needed from the SA-UNCCD Scientific and Technical Committee.

A Reference Group served from 1995 to 1996 to give the Steering Committee oversight of the process involved in South Africa's development of the NAP.

This NAP has been overseen by the Steering Committee, which has widened its reach through the early advisory structures supporting it, and the six workshops involving provincial and local stakeholders, as well as the national workshop.

The chronology of the development of the NAP is reflected in Table 41.

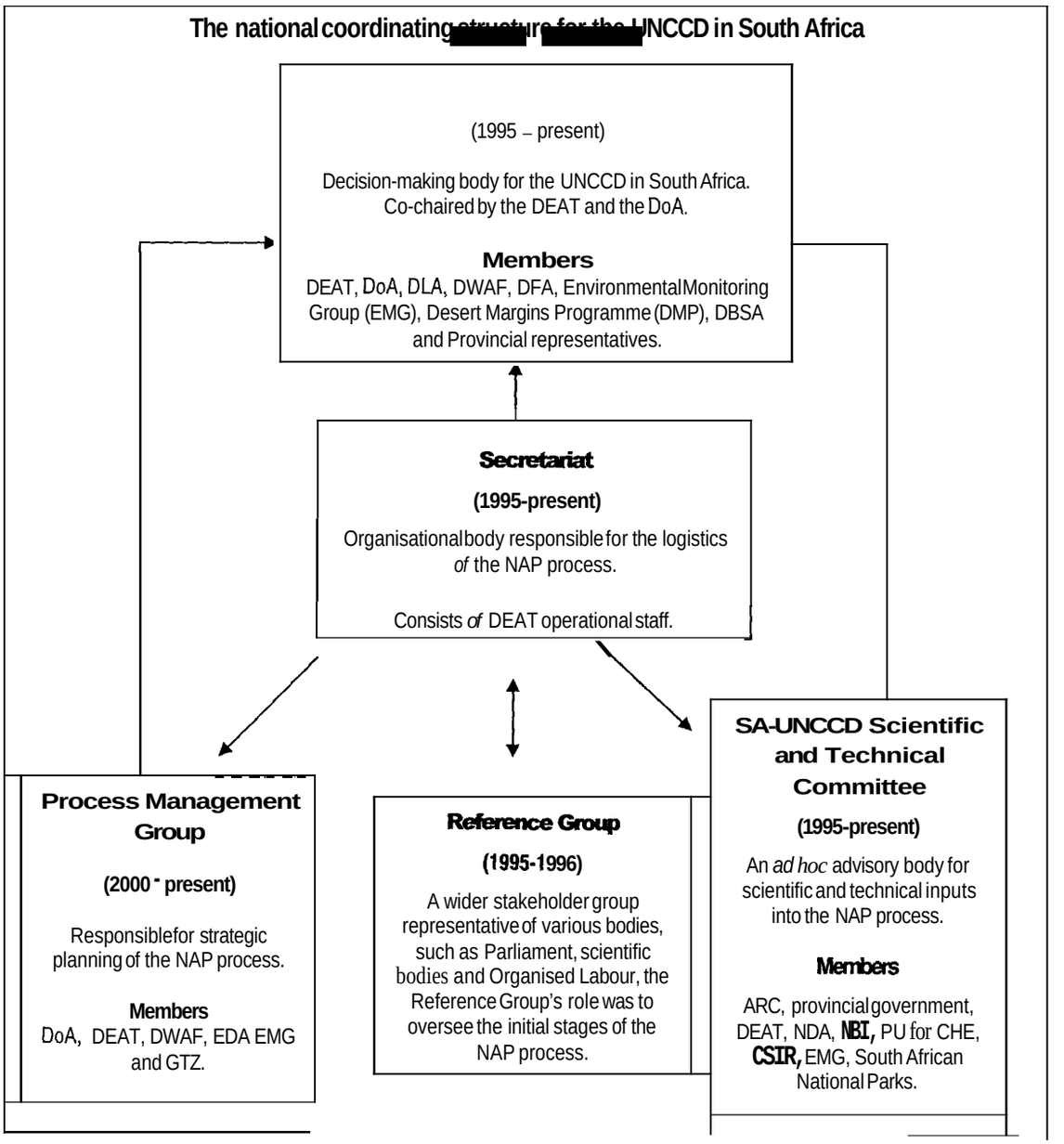

Figure 4.1 **Outline of the development of institutional arrangements in South Africa for the coordinated implementation of commitments under the UNCCD.**

Table 4.1 Chronology *of* the NAP process in South Africa.

	Date	Event or stage in the development of the NAP
Strategic planning of the NAP	1995	The national coordinating structure for the UNCCD in South Africa established to oversee the NAP process in South Africa
		1. **SA-UNCCD Reference Group** – a wider stakeholder group representative of various bodies - formed to oversee initial stages of NAP process
		2. **SA-UNCCD Secretariat,** comprising of DEAT operational staff, appointed as operational body responsible for logistics of the NAP process.
		3. **SA-UNCCD Steering Committee** appointed as a decision-making body for the UNCCD in South Africa
		4. **SA-UNCCD Scientific and Technical Committee** established – an *ad hoc* advisory body for scientific and technical inputs into the NAP process
	1996	SA-UNCCD Reference Group dissolves
	30 September 1997	South African ratifies the United Nations to Combat Desertification (UNCCD)
	1998 - 1999	Awareness Task Team (comprising DoA, DEAT, GTZ and EMG) runs NAP awareness campaign
	1999	Completion of the audit and report on land degradation in South Africa by the National Botanical Institute and partners, commissioned by DEAT
Phase 1	December 2001	Process Management Group appointed to support the process of developing the NAP
	March 2002	DEAT appoints CSIR, Fred Kruger Consulting and Manyaka Greyling Meyer as consultants for Phase 1 of the NAP development process.
	July 2002	Stakeholder consultation – workshops in Kimberley and Midrand
	November 2002	Draft NAP 1.0 finished and distributed
Phase 2	May 2003	Commencement of Phase 2 of the NAP – **CSIR** and Fred Kruger Consulting appointed as consultants
		Four provincial workshops held as part of the consultative process of Phase 2
	June 2003	Series of interviews with key stakeholders as second leg of the consultative process of Phase 2
	28 July 2003	Circulation of ***NAP*** 2.0 to wider stakeholder group
	08 August 2003	National workshop in Pretoria – finalising the Phase 2 consultative process. Substantial endorsements of process of NAP expected.
	22 August 2003	NAP 2.0 printed
	25 August 2003	COP 6 in Havana, Cuba.
	September 2004	NAP finalised
	September 2004	Minister submits NAP to Cabinet for approval
Future		NAP 2.0 as baseline
		Monitoring, evaluation, and reporting
		Revise NAP, and repeat the cycle

5. LAND DEGRADATION, RURAL LIVELIHOODS, DEVELOPMENT, AND THE PRINCIPLES OF THE NAP

Development is about enhancing the livelihoods of people, particularly the poor. A livelihood is the means of living that people in a household build through access to and use of the assets they need for this purpose. These livelihood assets are:

- human capital: skills, knowledge, abilii to work, good health
- social capital: networks, membership of groups, relationships of trust, access to the wider institutions
- natural capital: natural resource stocks – land, water, wildlife, biodiversity
- physical capital: basic infrastructure – transport, shelter, water services, energy, communications
- financial capital: savings, credit, remittances, pensions.

Land degradation is a threat especially to rural livelihoods. It sets off a vicious cycle that eventually undermines all the livelihood assets. However, land degradation is in the first place a hazard to the natural capital of the local community (as well as to the larger community) in that the natural resources available to households are degraded. It has costs to the nation at large because it depresses national capital regionally, and ripples through the whole economy.

Sustainable rural development is about the enhancement of rural livelihoods through the protection and enhancement of livelihood assets, promoting and securing access to these assets, and promoting diversification of the use of these assets. It includes creation of new livelihood opportunities off the land. Sustainable land management addresses sustainable development through, in the first place, the protection, enhancement and use of natural assets, thus breaking the vicious cycle of asset degradation.

The first principle of the NAP is that it is to be a prime contributor to sustainable rural development.

In addition, the NAP will:

- follow an integrated approach addressing simultaneously the natural and socio-economic aspects of the processes of land degradation and drought
- integrate strategies for poverty eradication into efforts to combat land degradation and mitigate the effects of drought
- use the synergy between the international conventions and "soft law", i.e. the UNCCD, the Convention on Biodiversity, the Framework Convention on Climate Change, and the proposals for action of the UN Forum on Forests, strengthen sub-regional, regional and international cooperation, and cooperate within relevant intergovernmental organisations
- determine institutional mechanisms, if appropriate, keeping in mind the need to avoid duplication
- promote the use of existing bilateral and multilateral financial mechanisms and arrangements that mobilize and channel substantial financial resources to affected developing country Parties in combating land degradation and mitigating the effects of drought.

PART B: THE SITUATION IN SOUTH AFRICA

6. DESERTIFICATION AND DROUGHT IN SOUTH *AFRICA:* THE PROBLEM OF LAND DEGRADATION AND DEFORESTATION

61 The nature of land degradation

Land degradation, as depicted in the UNCCD and in this document, takes many forms (Table 6.1). These may be simple symptoms or systemic ones. The main forms are:

- soil degradation
- veld degradation, including deforestation
- loss of biodiversity
- increased vulnerability to drought
- loss of livelihood opportunities
- feedback between climate and land.

Table6.1 The different forms of land degradation in South Africa. Summarised and adapted from Hoffman and Ashwell 2001.

Forms of land degradation
Soil degradation: water erosion Soil degradation: wind erosion Non-erosive soil degradation: salinisation, acidification, water-logging, loss of fertility
Veld degradation including: • loss of cover • bush encroachment • alien plant invasion • change in composition of plant species • deforestation and • clearing of veld
Loss of biodiversity
Increased social, economic and environmental vulnerability to drought
Loss of rural livelihood opportunities
Feedback between climate and land, which affects natural resources degradation including degradation of water resources

6.2 What causes land degradation?

The root causes of desertification are both social and climatic. Land degradation is caused by a combination of factors, including both climatic and human impacts, interacting with the natural and social environment in a region (Figure 6.1).

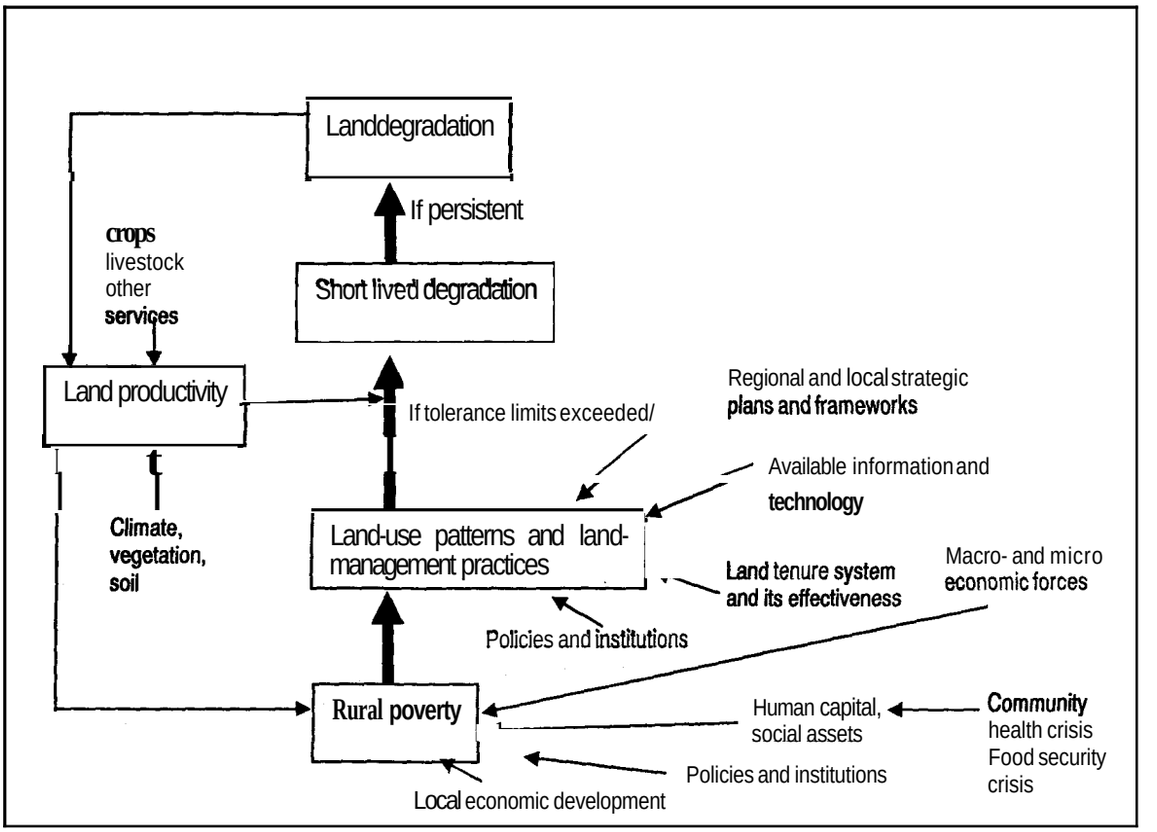

Figure 6.1 Outline of the relationships between desertification and Its causes in South Africa, especially rural poverty.

Box 6.1 Tenure regimes and desertification

In South Africa, the communal areas (i.e. the former "homelands") are in many instances suffering from land degradation. It is, however, incorrect to assume that it is communal tenure as such that leads to degradation. There are numerous examples of badly degraded land in private ownership and well-maintained land in communal tenure.

Security of tenure, rather than the type of tenure, is very important for sustainable management. Also important are the strength of the institutional structures within the communal area and the degree to which they are mandated to administer natural resource use.

The Communal Land Rights Bill (see section 8.4.1 below) is to address this concern.

In South Africa, over the past century, the underlying causes of land degradation have mostly originated in policy.

Land policy has driven land degradation in the former "homelands", by causing the historic concentration of poor people on limited land as well as dependency on linkages with the urban economies, which together have weakened the rural economy and reinforced the effects of poverty. Poor households rely on natural resources to supplement their livelihood needs, and in the homelands this has aggravated veld deterioration and deforestation.

Tenure regime in the former homelands has been largely communal; contrasting tenure regimes in the different parts of South Africa have played a fundamental role in determining the causes of land degradation in different areas (Box 6.1; Table 6.1).

In the remaining areas of the country, outside protected areas, past agriculture policy was an important driver of land degradation. Diverse subsidies, drought relief schemes, and market control all contributed. The consequences were many, including conversion of veld to crops in marginal areas, and subsequent land degradation at times when the crops were unsustainable, incorrect use of fertilisers, incorrect irrigation, and unsustainable stocking levels.

However, the overall state of the rural economy is an important driver of land degradation in all regions. Recent research by the Universities of Pretoria and Sussex has shown that South Africa has paid a very high price for historic land inequity. Very briefly, the consequence has been premature de-agriculturalisation" of the economy, i.e. the sector has shrunk more rapidly than would have been the case in any other country. This has been coupled with an excessively weak development of the non-farm rural economy, poverty in the majority of rural households, aggravated by dependence in rural households on remittances and social transfer to the rural economy, and rapid complex migration to towns, and then cities, and sometimes back again, with high social costs. The extensive urbanization has paradoxically been paralleled by overpopulation in the former homelands, and under-population in the rural parts of the former RSA. There are thus deep structural problems to address in promoting sustainable land management.

The influence of land use practices in the relatively distant past should not be underestimated.

For example, the heavy stocking pressures exerted on the privately-ownedfarms of the Karoo during the first half of the 20th century significantly affected vegetation cover, composition and water run-off. These practices have generally been discontinued as a result of intensive interventions, but some of the consequences persist.

Land degradation also occurs within protected areas. For example, large ungulates, such as elephants, often cause deforestation. These causes are difficult to manage, because of among others, ethical conflict.

Since 1994, land degradation has continued in many areas, as reported by members of communities from across the country. The causes are diverse, and include:

- undermining of traditional as well as legal tenure arrangements for land and resources, resulting in transgression by interlopers from outside the local community as well as illegal land occupation, which causes people to cease investment in land management or simply to abandon use of the land
- new infrastructure and other development projects, often not compliant with sustainability standards, that occupy prime agricultural land, cause erosion and have other detrimental effects
- diverse other causes, such as the development of cemeteries, sanitation works and waste disposal sites.

The causes of land degradation are complex, and often difficult to reveal. A useful way is to follow the so-called DPSIR model used in the national reporting on the state of the environment. This analyses the state of a given aspect of the environment in terms of the driving force (D) for change, the pressure that arises from the force, the state of the environmental aspect that arises from the pressure (S), the indicator of that state (I), and the presence, absence or quality of the institutional or policy response to the state (R).

In this scheme, we may analyse the causal relationships regarding the state of land in the former homelands as follows:

- D: inequity in land distribution (ultimately caused by land policies dating to 1913 and before)
- P: local population density, poverty, weakness in social assets, and an atrophied rural economy (in turn reinforced by the driver of apartheid policy)
- S: eroded landscapes and topsoil loss
- I: silt loads in streams; declining crop production

- R: support to small-farm development; local market development; land restoration projects.

Rural community health is directly linked with land degradation

Poor rural communities chronically suffer from poor health, because of water-borne diseases, and HIVIAIDS. HIV/AIDS profoundly undermines human and social capital, because of the loss of skilled people in their working lives, its morbidity effects on workers, and the loss of inter-generational learning. Weakened land management follows inevitably. Rural South Africa suffers, in common with Southern African societies as a whole.

These linkages between community health and land degradation need to be identified and managed according to the condition and requirements of each area locally.

Future uncertain

The future holds great uncertainties and risks, because of the now evident effects of global change on the climate and ecosystems of South Africa, the continued weakening of rural society through HIV/AIDS and other community health challenges, the yet unknown course of events in national and global trade policy, and the policies for new production technologies, including genetically modified organisms. All of these will require inputs into the policy debate, in favour of sustainable rural development, as well as innovative ways of managing the risk to the rural economy and the state of the land.

6.3 What is the State of Land Degradation in South Africa?

Land degradation occurs throughout South Africa. The former "homelands" incorporated land that was mostly communally owned, and is now held in Trust by the Minister of Land Affairs or the Ingonyama Trust. Though some of this land was set aside for forest or wildlife protection, most was occupied or used by households. In the rest of the country, the "former RSA", almost all land was held in private title, by individuals, corporations or the State. Land degradation is most severe in the former homelands, but also a problem on the historically private lands (Table **6.2).**

The audit completed in 1999 (Hoffman et al. 1999; Hoffman and Ashwell **2001)** provides the first national synthesis of the state of land degradation in South Africa. This drew on the expertise of more than 450 agricultural extension officers and resource conservation technicians to develop consensus maps of their perceptions of land degradation in the then **367** magisterial districts of South Africa. It differs fundamentally from previous assessments, which highlighted the eastern Karoo as the region most in need of attention. In the expert opinion of those consulted, degradation is principally a problem in the former homeland areas of the northern and eastern parts of South Africa (Figure **6.2).** The results derived from the 34 workshops are in good correspondence with mapping from aerial photographs and satellite images.

Erosion by water is the most important soil degradation problem facing the country.

Sheet and gully ***(donga)*** erosion, especially in the rangelands but also in croplands, is the main mechanism of land degradation. The national audit indicates that the average soil degradation index for former homeland areas was nearly three times greater than that for privately-owned farming areas.

Table 6.2 **A comparison between private land and land in the former homelands. These are generalizations and many exceptions occur.**

generalizations and many exceptions occur.

	Former RSA	Former homeland
Demographics of ownership	Mostly white though land reform is starting to change this.	Almost exclusively blacks
Area of South Africa	87%	13%
Population density	Low	High
Farm size and area of arable land per household	Large – up to many thousands of hectares	Normally less than 2 hectares, but sometimes less than ½ hectares
Number of farming units	About 150 000	About 943 000
Main reason for cropping	Production for markets	Production for home consumption with marketing of surplus
Type of tenure	Private ownership with full title	Generally communal but complex, varied and currently under review. A PTO gives permission to occupy for homesteads and crop fields Grazing areas are usually managed as commonage. A mix of private and community tenure.
Access to loan capital	Relatively easy	Almost impossible to use land as collateral
Security of tenure	Very secure	Less secure
Legal regime	Statutory and common law	Customary law prevalent. Subject to some degree to statutory and common law.
Decision making authority of the land owner	High autonomy subject to national and provincial legislation	Low autonomy, traditional leaders and the community having control of many of the farming activities. Less subject to legislation, due to problems of enforcement.
Main reason for keeping livestock	Production for market: either meat, milk, or hides and wool	For a multitude of reasons including : Draught power Home consumption of milk As an investment For traditional ceremonies For sale in times of need
Level of fertilizer and agrochemical inputs	High	Low
Access to mechanization	High	Low
Use of labour	Historically a large labour force, though there is a trend to increased mechanisation and reduced dependency on labour	Often provided by family members, though labour may be hired

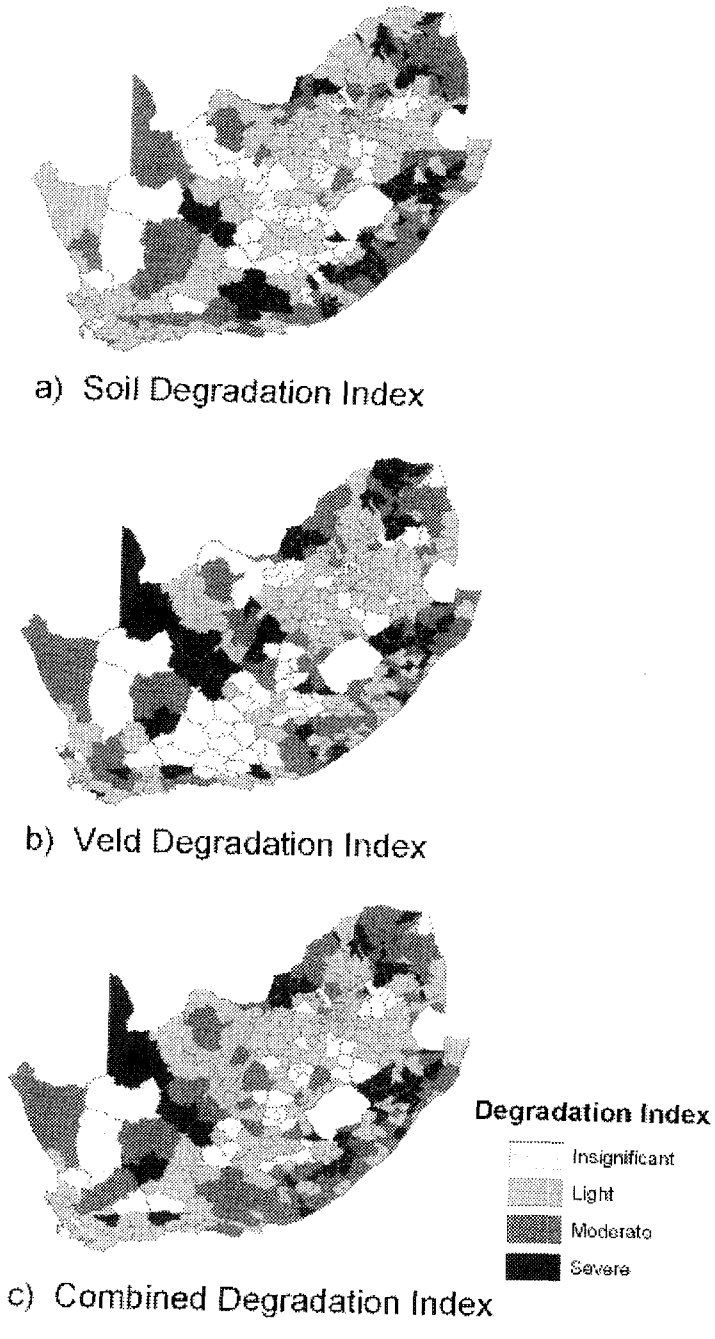

Figure 6.2 **Map showing the intensity of land degradation in the different magisterial districts of South Africa (from Hoffman and Ashwell 2001; magisterial districts as they were during their survey).**

Experts perceive soil degradation to be greatest in the former homelands and self-governing territories in KwaZulu-Natal, Limpopo and the Eastern Cape and smallest in the Free State, the Western Cape and the Northern Cape. Waterlogging and salinisation are problems locally on irrigated lands. They do not perceive acidification of the soil to be a widespread problem.

Loss of vegetation cover and change in species composition are the main forms of vegetation degradation in South Africa.

Domestic livestock grazing practices cause loss of vegetation cover and changes in plant species composition. Bush encroachment and alien plant invasions are significant forms of veld degradation in a smaller number of magisterial districts, and are largely associated with privately-owned or state-managed land.

Experts now regard alien invasive plants to be the greatest hazard to land resources. However, there is now clear scientific evidence of accelerated bush encroachment owing to elevated atmospheric carbon dioxide, a trend highly dependent on how veld fires are managed (see also section 6.4, below).

Deforestation is a significant form of vegetation degradation in several districts of Limpopo province, in KwaZulu Natal, and in the Eastern Cape. Deforestation results from the clearing of trees for cultivation, settlement or the use of wood and non-wood forest products. Large areas of woodland (estimated to be at least 1,2 million hectares) have been converted to fields and settlement sites. Deforestation of closed forests is less extensive in absolute terms (because there was much less of it to start with), but is a particular threat to some forest types, and to community natural assets. There is evidence that the rate of deforestation is increasing in some areas.

The average veld degradation index in the former homelands is twice the value for the former RSA.

Limpopo is the province with the highest level of combined soil and vegetation degradation, followed closely by KwaZulu-Natal and then by the Eastern Cape.

The three provinces with the lowest combined degradation index are (in decreasing order) the Western Cape, Gauteng and the Free State.

Mining is an important cause of desertification.

Mining causes extensive desertification in some provinces, such as Gauteng, Mpumalanga, Limpopo, the North West and the Northern Cape.

The impacts are firstly through the extensive mine waste sites. A second impact is through loss of soil productivity because of:

a) subsidence above shallow coal mines, which makes the use of land hazardous
b) loss of soil quality in open-cast mine areas
c) loss of soil fertility and water resource quality through acid mine drainage
d) lowered water tables.

Table 6.3 summarises the main forms or 'stresses' of land degradation.

6.3 Drought in South Africa

Because most rural households in South Africa are poor, they are especially vulnerable to drought. Drought is a period during which the water availability to plants and people is less than expected under normal climatic conditions. Although droughts can vary in their length and severity, it is only the droughts that last for the major part of a growing season or more, and involve a reduction in grazing, food or water greater than about half of the norm

Table 6.3 **Forms of land degradation and the priorities for and the types of intervention or management needed to address each form of degradation. These types of intervention will form elements of the national sustainable land management framework (see also section 15.1.7).**

Forms of land degradation – the elements of degradation to be prevented, reversed or mitigated	Types of intervention or management required
• Soil degradation: water erosion • Soil degradation: wind erosion • Non-erosive soil degradation: salinisation, acidification, water-logging • Mining waste and pollution • (and elements addressed through sustainable vegetation management)	Integrated catchment management
• Veld degradation including: o loss of cover o bush encroachment o alien plant invasions o change in composition of plant species o deforestation and clearing of veld	Sustainable vegetation management
• Increased social, economic and environmental vulnerability to drought	Drought management
• Veld degradation including: o loss of cover o bush encroachment o deforestation and veld clearing	Renewable and alternative energy resources
• Loss of biodiversity	Biodiversity protection
• Mining waste and pollution	Mine waste and pollution management
• Loss of rural livelihood opportunities	Sustainable livelihoods and local economic development Integrated sustainable rural development
• Feedback between climate and land that affects natural resources degradation	Climate change mitigation

that attract policy attention: shorter and less severe droughts are handled by the coping mechanisms of the individual organisms, families, communities or enterprises.

Climate varies naturally. On average, half the years in any given period will receive below-average rainfall. Climate variation is especially high in semi-arid subtropical regions such as South Africa. Natural variation is measured by the coefficient of variation, which is the average percentage by which the climate deviates from its mean value. The annual coefficient of variation of rainfall in South Africa varies from 20% in the more humid eastern parts of the country, to more than 40% in the arid west. This high variability is in part due to the influence of the El Niño Southern Oscillation (ENSO) phenomenon, a quasi-periodic fluctuation in the climate of the entire world, which brings alternating droughts and wet periods to southern Africa. Prolonged (>2 years), severe, region-wide droughts (>50% of the country affected) have been experienced in South Africa approximately once every 20 years over the historical record. The droughts associated with ENSO events can be predicted, with fair success, about six months in advance.

Drought is therefore expected in South Africa, rather than being an unusual event. Persistent "emergency" drought relief to certain areas is an indication of demands being placed on the natural resources beyond their capacity to supply them, which may either be a symptom or a cause of land degradation. Land degradation in South Africa is frequently episodic, with the episodes coinciding with periods of prolonged drought. The long-term solution is to bring the land use and resource demands in drought-prone areas into balance with the realities of the environment.

In the short and medium-term, communities may be either unable to make these adjustments, or require a helping hand over an unlucky run of dry events that exceeds their coping capacity. It is important that such interventions do not inadvertently serve to maintain an unsustainable situation, degrade the vegetation and soil resources, and thus increase vulnerability to drought in the long term.

vulnerability to drought, and the resilience of coping mechanisms, depend on a large number of factors, including the availability of reserves (of fodder, land, food, water and savings), alternate livelihoods and income streams, advance warning and the ability to react to it, and the integrity and delivery capacity of social structures from the family up to the national government. In general, vulnerability increases with poverty. Drought management requires improved early warning systems (especially to link outlooks to management responses), a strengthening of coping mechanisms, as well as relief, when and where a drought is so severe that the community or the region cannot cope.

6.4 The response to land degradation and drought in future

Will the degradation of soil and veld in South Africa continue at its historical rate and location, or will it accelerate or perhaps reach a limit? To address these questions the following factors need to be considered:

- trends, in the foreseeable future, in the underlying drivers of the degradation processes, such as:
  - rural poverty, institutions and population
  - land-use practices
  - regional climate
- the response of society, at all levels from the individual land user to the international community, to the perception of degradation.

It is prudent to plan for an increase in the intensity of the climatic drivers of desertification in the future.

There is general scientific consensus that the global climate is changing as a result of human actions (IPCC 2001), and will continue to do so throughout the 21st century. The impacts of climate change in South Africa are discussed in the First National Communication by South Africa to the UN Framework Convention on Climate Change (NCCC 2002). The mean air temperature near the ground is likely to increase by 1.4 to 5.8 °C by 2100. The degree of change will depend mostly on the choices the global community makes with respect to future energy systems and consumption patterns. Temperature increases will be greater in the inland areas than at the coast. There is much less consensus regarding future rainfall in southern Africa. It is likely that the year-to-year variation in rainfall will increase – in other words, the severii and frequency of both droughts and floods will increase, to an unknown degree. Most, but not all, climate model projections suggest less rainfall in the eastern and northern parts of South Africa where degradation is currently most severe. The rising temperature will lead to greater evaporation, which will result in drier soils, even if rainfall does not decrease. This effect will partly be offset by increased water-use efficiency by plants due to the higher atmospheric concentration of carbon dioxide.

There is clear scientific evidence of the impacts of global change on South African ecosystems. Elevated atmospheric carbon dioxide concentrations have strong differential effects on tree and grass growth. There is a major risk associated with the acceleration of bush encroachment predicted to come from this, a predication supported by experimental findings and observations in nature.

Climate change is predicted to profoundly affect the ecosystems of the western half of the country, with massive loss of biodiversity. Scientists have detected early signals of these impacts.

In the absence of policy interventions, land degradation in South Africa will continue, at a declining rate in some cases.

Degradation is sometimes self-limiting at a given location – once the soil is lost or the vegetation is changed, further change is slow. The historical extent of degraded areas is fairly distinct. In many instances the degradation

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occurred decades in the past, and the land has remained in that state. The trend in key drivers such as rural poverty and land tenure is towards improvement, albeit slowly. Major acceleration of degradation would therefore require new areas to become degraded.

Future spread of degradation beyond its current extent would require a geographical shift in its underlying causes. Policy change, not necessarily directed at combating desertification, could have the unintended consequence of initiating degradation in areas of relative current stability. For example, removal of incentives to prevent soil erosion, relaxation of restrictions on maximum animal stocking rates or reduction of extension support to the commercial sector could have this effect.

Active policies designed to prevent further degradation and rehabilitate areas of existing degradation could, over a period of several decades, result in significant social, economic and environmental benefits.

The technical solutions to the degradation processes identified here are well established. The cost of applying them is known, and the benefits that will result can be estimated. A well-designed and implemented investment in avoiding further degradation, and in selected cases, rehabilitating existing degradation, can yield total economic benefits greater than the costs incurred, and have co-benefits for poverty relief, human health, water yield and quality, the preservation of biodiversity and the reduction of climate change. The social conditions required for such interventions to be effective are sufficiently understood to avoid the known pitfalls, though capacity training in these issues is required. Lack of complete scientific certainty on the outstanding issues is not a sufficient reason to delay action.

The types of interventions or management needed to address land degradation are outlined in Table **6.3.**

6.5 The costs of land degradation and the risk of business-as-usual

Land degradation undermines the productive potential of land and water resources. Thus it directly impacts on human welfare and the protection of biodiversity. Roughly 80% of South African land is used for agriculture and subsistence livelihoods. Drought occurs frequently in South Africa and land degradation amplifies the impact of drought. Disastrous floods occur periodically throughout the country, and they are intensified by the hydrological consequences of land degradation. Although land degradation affects all people in the country, it is the rural poor that are most impacted, as these are the people most reliant on natural resources simply to exist. Failure to combat land degradation has severe consequences for this group.

The true costs of land degradation are poorly understood and quantified, both globally and in South Africa. One estimate indicated that the net agricultural income for South Africa is overstated by about 35% because the annual environmental costs are not currently included in our accounts. But clearly it costs the country billions of rands per year, and much of this cost is born by the poorest sectors of society. *Box* 6.2 summarises some of the costs of land degradation.

In South Africa, about 16 million people – 40% of our population – live in rural areas. Of these, about 8 million, i.e. 20% of our population, live on the land. About 70% of South Africa's poor are rural. The poorest provinces – Limpopo and the Eastern Cape – have the most rural people, but all provinces, except Gauteng, have large rural populations, most of whom are poor.

85% of rural South Africans live in the former homelands, and the rest on private farms and in small towns. Women form the majority of the rural population and female-headed households are particularly disadvantaged. Three-quarters of the children in the rural areas live in households with incomes below the minimum subsistence level. The poorest households also have low levels of literacy and education, difficult and time-consuming access to water, energy and other services, and few opportunities of gainful employment. This results in high levels of under-nutrition and malnutrition, morbidity and mortality of children (Government of South Africa 2000).

Box 6.2 Outline of the costs of land degradation in South Africa

- **Loss of soil.** Water erosion is prevalent in most of the country, and the soil lost in one year from bad land management can take centuries to be replaced. The cost of soil erosion in 1992 was estimated at **R2** billion per year, including off-site costs such as water purification and siltation of dams. Soil loss is in part responsible for farmers abandoning the land in many areas, especially those in the former homelands.
- Loss **of soil fertility.** Over **R2** billion are Spent each year in the commercial farming sector on fertilizers. The subsistence farming sector in many instances cannot afford this cost, and operates with inadequate fertilization. In both cases improved land management practices would result in reduced fertility **loss** and more effective use of natural soil fertility. Nutrient loss from soil in South Africa has been estimated as having a worth of **R** 1.5 billion per year (Hoffman and Ashwell 2001).
- **Loss of pasture.** About 10 million ha is moderately to severely encroached by bush, resulting in reduced grazing potential.
- **Reduced agricultural production.** loss of productive topsoil through erosion and mining increases the cost of agricultural production or makes farming unviable. In many of the communal areas agricultural production has almost ceased, in part due to declines in productive potential.
- Loss **of water.** Alien plant invasion and poor farming and forestry practices result in reduced stream flow. Alien plants are estimated to reduce our water by 7%. This reduction will double in 15 years if no action is taken.
- **Poor water quality.** This is a consequence of a number of factors including high silt and nutrient load from accelerated erosion, nutrient load from excessive fertilisation, pollution from mining and industry and poorly maintained sanitation systems.
- **Siltation of reservoirs.** This reduces the volume and lifespan of reservoirs and results in increased evaporation due to changes in the volume to surface area ratio. Costs to substitute their capacity are many fold higher than that of the original reserve.
- **Loss** of **wood fuel and other non-timber products.** Despite electrification drives, fuel wood is still the main source of energy to an estimated 75% of rural families. In addition, the rural poor as well as urban households use a wide array of woodland products, including medicines, with estimated value of R5 500 per household per annum. Access to these resources is declining as a consequence of land degradation. The impact of this is most severe for the poorest of the poor. A 1% decline in access to this resource would represent R150 million losses per year.
- **Health costs associated with poor water.** Poor rural communities, whose health is already vulnerable, are often forced to use unpuriied water.
- **Increased malnutrition.** Low plant productivity results directly in malnutrition of those dependent on the natural resources and subsistence farming.
- **Reduced access to natural resource products.**
- **Reduction in biodiversity and in carbon sequestration.**
- **Reduced rural productivity** as a consequence of more time being needed to access resources such as fuel and water. This prevents people from being able to enter other productive sectors of society.
- **Reduced mobility.** Large dongas (gullies) make movement for people, livestock and vehicles difficult or impossible and increase the costs of road construction and maintenance.
- **Severity of flooding** is often linked directly to desertification, through its effect on the amount of water that is shed off the surface rather than seeping into the soil.
- **Degraded** landscape quality lends to loss of tourism potential.

Dependency on natural resources within the rural areas is high. The commercial farming sector, including an emerging small-farmer sector, is directly dependent on agricultural production for their livelihoods. This sector contributes directly about 3.5% to the national GDP and is responsible for about one million jobs. Forward and backward linkages to this sector increase its national value about two-fold; for example, drought conditions in

South Africa are often the direct cause of poor economic performance at the national level. Millions of rural dwellers who are involved in subsistence and near-subsistence farming activities also rely heavily on natural resources for parts of their livelihood. This sector is particularly vulnerable to the consequences of desertification and drought.

The agrarian sector in South Africa – agriculture, forestry, ecotourism, and subsistence livelihoods – is vitally important to rural livelihoods and the national economy. Combating land degradation is vital for our agrarian sector. And the total agro-industrial complex contributes between 14% and 20% of GDP, contributing significantly to employment. In addition, there are resources whose contributions are not included in official statistics. For example, the contributions of woodlands (often directly to rural households) is put at R3.6 billion of value added (1998 values) and fynbos, R1 billion per year (mainly through honey production and orchard pollination). This entire asset is vulnerable to the risks of land degradation.

Locking up carbon in forests and woodlands, and protecting biodiversity, are endeavours with their own value, and are dependent on combating desertification. Markets for these services are emerging globally. Fixed carbon can be worth $5 per ton.

The cost of land degradation to our country cannot be tolerated any longer. They include:

- loss of rural livelihood options and persistence of poverty
- loss of land productivity, for agriculture and forestry
- loss of water resources
- diminished ecosystem functions, such as biodiversity protection
- loss of landscape value, with knock-on effects to recreation and tourism
- loss of cultural heritage.

The risk of inaction is very high, since without effective intervention, these losses will continue, profoundly affecting our economic, social and environmental assets.

The benefits of an effective programme will therefore be felt in improved environments, greater livelihood options, and enhanced economic assets.

PART C: CURRENT POLICIES, ROLES, RESPONSIBILITIES AND INITIATIVES

7. OVERVIEW OF GOVERNMENT FINANCE

The current estimated expenditure of government amounts to about R280 billion per year in 2003/2004, rising to R333 billion in 2005/2006 (Table 7.1). Most funds go to provinces, followed by national government. Only about 4% goes to local government.

Table 7.1 Estimates of government expenditures for the three years starting 2003/2004, by sphere of government. From National Treasury, Fiscal Review.

Sphere of government	Estimate of expenditure, millions of rands per year		
	2003/2004	2004/2005	2005/2006
National	108 983	117 549	126 323
Provincial	158 995	175 468	191 590
Local	12 001	13 249	14 624
Total	279 979	306 266	332 536

It is difficult to determine how much of this expenditure goes to the joint area of land management and poverty alleviation (see Section 8 below for the national picture).

In a sense, most of the budget goes for poverty alleviation and for reconstruction and development For example, social grants amount to R24 billion per year, and departments as diverse as Water Affairs and Forestry, Provincial and Local Government, and Public Works would argue justifiably that virtually all of their expenditures are relevant in this respect.

The Poverty Relief Fund, roundly amounting to R1.5 billion per year, was an additional lever for programmes by line Departments directly focused on poverty alleviation. However, it was not a separate fund, but rather the sum of earmarked amounts in the budgets of line departments, allocated according to criteria relevant to the alleviation of poverty. Somewhere around R500 million per annum of this is employed in Working for Water, LandCare and other programmes relevant to sustainable land management. These initiatives are now part of the Extended Public Works Programme.

There are special problems arising from the allocation of responsibility to spheres of government in the Constitution. Currently, departments with exclusive competency, such as in water, are able to closely determine how national priorities are pursued at provincial and local level. Where competency is shared, such as in agriculture, there are substantial difficulties in realising national objectives in these spheres. The current initiative in the Department of Provincial and Local Government to develop the Intergovernmental Planning Framework will address this problem, as will the Comprehensive Agricultural Support Programme of the DoA.

In local government, the metropoles are able to raise large revenues, and provide most services needed by their citizens, but most rural Districts and Municipalities raise few revenues, and are poorly resourced to serve their areas. The Local Government Municipal Property Rates Act is to redress this situation, by making all property rateable. However, there are major concerns about the possible unintended consequences of the provisions in this Act, for example, that they will drive marginal land into production, with consequent land degradation and loss of currently protected habitats. On the other hand, rebates for biodiversity protection and, possibly, for sustainable

land management could be powerful incentives for the combating of land degradation. Such rebates would, however, need to be made good by transfers from the fiscus.

Very little or none of the transfers to local government provides for actions related to land management. Transfers in the Equitable Share for fire services would make a limited contribution, through support to Fire Protection Associations. Poverty Relief Fund expenditures are largely local, though often made through the budgets of national departments.

8. THE ROLES AND RESPONSIBILITIES IN THE NATIONAL SPHERE OF GOVERNMENT

Tables 8.1 and 8.2 summarise programmes within national departments that have a primary or a supporting role within the National Action Programme. These programmes all contain elements that constitute important components of the NAP. Sections 8.2 onward summarise the notes of the seven national departments listed in Table 8.1, and which are key role players in the NAP.

8.1 Macro- and micro-economic policy fields

Table 8.3 summarises relevant overarching policy fields relevant to sustainable land management. These are important because of their indirect role, as well as direct role in the combating of land degradation.

GEAR (Growth, Employment and Redistribution Policy) has set out a macro-economic stabilisation programme, providing the economic structure for micro-economic reform. Within this, the Micro-economic Reform Strategy and the Integrated Manufacturing Strategy of the Department of Trade and Industry focus on selected economic sectors to promote trade, growth and employment, and of these, four are important for combating desertification, i.e.:

- agriculture (including food production)
- tourism
- cultural industries, and the
- agro-processing export sector.

Micro-economic reform targets several sectors that are important elements of rural development. It provides the framework for improved agrarian incomes, as well as opportunities for rural employment off the land. Its relationship with new agriculture policy and with the ISRDP (see below) is vital in this respect. The Geographic Spread Programme of the Department of Trade and Industry aims to address the inequity in economically depressed regions, using as a guide the areas with growth potential outlined in the Integrated Manufacturing Strategy. This programme, aligned with land reform and other rural development initiatives, must work to create the economic environment for sustainable land management.

These policy fields include trade policy, which has a profound effect on rural development and land management. Progress in reaching agreement on the farm and trade policies of the developed world, and the managed transition of the rural sector into global markets, must be aligned with rural development strategies.

8.2 Environment

The principal relevant instruments of environmental policy, administered by the Department of Environmental Affairs and Tourism, are the National Environmental Management Act, 1998 (NEMA), the National Environmental Management: Biodiversity Act, 2003 (NEMBA) and the National Environmental Management: Protected Areas Act, 2003 (NEMPA), set within the policies contained in their respective White Papers.

NEMA has the purpose of promoting sustainable development in South Africa (sections 2(2) and (3)). Provisions in NEMA that have strong linkages with sustainable land management are:

- the principles to be applied by organs of state in decision-making (section 2)
- the Committee for Environmental Co-ordination, which exists to promote the integration and co-ordination of environmental functions by the relevant organs of state
- procedures for co-operative governance, including the requirements for environmental implementation plans and environmental management plans from national line departments whose functions may affect the environment
- integrated environmental management
- environmental management co-operation agreements.

The current process of developing new regulations for integrated environmental management is important for the NAP. The apparent gap in provisions for strategic environmental assessment needs to be addressed.

The National Environmental Management: Biodiversity and Protected Areas Acts are important through the following draft provisions:

- the establishment of a South African National Biodiversity Institute (SANBI)
- requirements for national biodiversity planning, including:
  - a National Biodiversity Framework
  - bioregional conservation plans
  - other conservation plans
- national, provincial and municipal protected areas
- restricted activities involving alien and indigenous species.

However, the National Environmental Management: Protected Areas Act, 2003 does not provide for collective, private protected areas, such as conservancies.

The way these Acts are enacted and administered will play a key role in land management, including through the provisions on alien invasive species and on the introduction of genetically modified organisms.

8.3 The Integrated Sustainable Rural Development Strategy

The initial rural development strategy for South Africa was formulated within the general framework of the Reconstruction and Development Programme (RDP). The foundation for a sound rural strategy is also grounded in a stable macroeconomic framework provided by GEAR. The land reform programme and agricultural policy reforms are also important components of rural development. Land reform is a central prerequisite, which when conducted in an appropriate manner, will lead to increases in economic, financial, social and environmental efficiency, equity and sustainabilii.

The strategic intent of the ISRDP is to transform rural South Africa into an economically viable and socially stable and harmonious sector that makes a significant contribution to the nation's GDP. The strategy will benefit the rural poor generally, but particular efforts will be made to target women, the youth, and the disabled.

Table 8.1 Programmes in national departments that are primary to the NAP.

Department	Programmes relevant to the promotion of sustainable land management	Purpose	Estimates of expenditure, 2003/04 (thousands of Rands)	Comments
Agriculture	Farmer support and development	Promote stability, competitiveness, growth and transformation on the agricultural sector by developing policies governing farmer settlement, food security, rural development, co-operative registration, and agricultural risk and disaster management.	146 349	Programme provides farmer support to promote sustainable land management directly, and economic and market development to sustain adequate on-farm incomes.
	Agricultural Trade and Business Development	Develop policies governing access to national and international markets, and promote black empowerment in the sector.	34 948	Promotes market access, which is needed to sustain adequate on-farm incomes.
	Agricultural Production	Promote productivity and sustainability in agriculture.	5 577	Programme serves to increase farm incomes.
	Sustainable Resource Management and Use	Develop, implement and monitor policies for the management and use of land and water resources in agriculture.	441 337	The LandCare Programme is financed here, but the Programmes as a whole is a component of the NAP.
	Communication and information management	Manage and co-ordinate communication, education and international relations.	75 934	Programme contributes to awareness and knowledge about sustainable land management.
	Agricultural Research and Economic Analysis	Provide the necessary for developing and monitoring the agricultural sector.	23 725	Research on land management contributes directly to the NAP.
Environmental Affairs and Tourism	Environmental Planning and Co-ordination	Provide information to support effective environmental management and public participation in environmental governance; assess the follow-up of the World Summit on Sustainable Development agreements; help build capacity in the sector; and manage the reform of environmental law.	35 540	Primary programme, potentially contributing to awareness and knowledge about sustainable land management as well as to monitoring and evaluation of the NAP. The current initiative to develop principles of sustainability is relevant.
	Biodiversity and Conservation	Promote and conserve South Africa's biological diversity, and ensure sustainable utilisation of its resources for the benefit of all.	220 881	Primary programme: see text

Department	Programmes relevant to the promotion of sustainable land management	Purpose	Estimates of expenditure, 2003/04 (thousands of Rands)	Comments
Land Affairs	Restitution	Take responsibility for the settlement of land restitution claims in accordance with the provisions of the Restitution of Land Rights Act, 1994, and provide post-settlement support to beneficiaries	854 914	Primary programme: see text
	Land Reform	Take responsibility for the provision of sustainable land redistribution programmes, tenure security for all occupiers of land in South Africa, public information, and the management of state land	430 452	Primary Programme: see text
	Spatial Planning and Information	Provides for land use management systems, spatial plans and spatial information	17 841	Provides information relevant to land management, and LRAD guidelines.
Minerals and Energy	Mineral Development	Promote sustainable development through mineral resources for the benefit of all South Africans	114 883	Primary programme, insofar as the elements regarding mine rehabilitation contribute to sustainable land management.
	Energy Management	Take responsibility for the national policy on the development of energy resources and their optimal use to maximise their contribution to economic growth and development.	1 154 354	Primary Programme, insofar as the elements regarding energy supply and renewable energy alleviate pressure on natural resources and thus contribute to sustainable land management.
Provincial and Local Government	Governance and Development	Support the development and monitoring of the principles and practices of intergovernmental relations, co-operative governance, integrated planning and service delivery systems and strategic direction of the Urban Renewal Programme and the Integrated Sustainable Rural Development Programme	2 504 089	Primary Programme, with respect to the elements on integrated planning and strategic direction of the Urban Renewal Programme and the Integrated Sustainable Rural Development Programme
	Institutional Reform and Support	Provide for capacity building and support programmes for provincial and local government, a national disaster management centre, and direct fiscal transfers to the local government.	6 799 734	Primary Programme, with respect to capacity building in the local sphere.
Science and Technology	Science and Technology for Competitiveness	Develop the technology missions, human capital and national science activities in support of the national system of innovation.	745 123	Primary programme: the Mission on poverty alleviation could potentially contribute to sustainable land management.

Department	Programmes relevant to the promotion of sustainable land management	Purpose	Estimates of expenditure, 2003/04 (thousands of Rands)	Comments
Water Affairs and Forestry	Water resource management	Ensures that the country's water resources are protected, used, developed, conserved, managed and controlled, in a sustainable and equitable manner for the benefit of all people.	1 056 113	Programme potentially linked to sustainable land management through catchment management. The Working for Water Programme is also financed here.
	Forestry	Promote the preservation, commercial and community uses of plantation and indigenous forests to achieve optimal social and economic benefit, and promote rural development through policy development, regulation, facilitation, and monitoring and evaluation.	353 637	Programme elements dealing with forest protection and reforestation contribute directly to sustainable land management. The Working on Fire Programme is financed here (in part).
Total			**R 14 900 548**	

Table 8.2 Programmes in national departments that support the NAP.

Department	Programmes relevant to the promotion of sustainable land management	Purpose	Estimates of expenditure, 2003/04 (thousands of Rands)	Comments
Environmental Affairs and Tourism	Tourism	Develop policy for the tourism industry and its marketing, and implementation programmes linked to the regulation, transformation, growth and development of the tourism industry.	318 642	Supporting programme, with regard to tourism contribution to rural development.
	Environmental Quality and Protection	Protect the environment and the health and welfare of the people of South Africa, by minimising pollution and environmental degradation.	116 136	-
Housing	Housing Policy Planning and Research	Ensure the development of sustainable human settlements, determine national housing policy, and draft regulation.	16 448	Interacts with land use and management, and rural migration.
	Programme Management	Manage national housing programmes	122 104	-
	Housing Sector Performance	Monitor and assess the impact of housing delivery	304 871	-
Land Affairs	Cadastral Surveys	Provides cadastral information services	81 539	Supporting programme.
Provincial and Local Government	Auxiliary and Associated Services	Provide for communication and for services associated with the aims of the Department, such as the activities of the Municipal Demarcation Board and the National House of Traditional Leaders.	44 474	-

Department	Programmes relevant to the promotion of sustainable land management	Purpose	Estimates of expenditure, 2003/04 (thousands of Rands)	Comments
Science and Technology	Technology for Development	Improve the quality of life through access to and the spread of technology, and by creating capacity and skills for the innovation and the use of indigenous knowledge.	196 937	Supporting programme: some funding would contribute to research on aspects of sustainable land management
	International Co-operation and Resources	Take responsibility for the development of bilateral and multilateral co-operation in science and technology to strengthen in the national system of innovation, and for a coherent strategic programme to access overseas development assistance for science and technology in South Africa and on the African continent.	42 714	Supporting programme: some funding would contribute to international exchange in fields relevant to sustainable land management
	Government Science and Technology System	Provide strategic direction, funding and support for the development and growth of the science and technology institutions of Government	14 948	-
Transport	Land Transport Management	Develop and maintain an overall transport infrastructure strategic plan (rail, road and pipelines), and provide land transport regulation through the provision of national standards and guidelines	1 459 249	Supporting programme, providing infrastructure for rural development.
Public Works	Provision of Land and Accommodation	Provide for the accommodation, housing, land and infrastructure needs of national departments	3 851 075	-
	National Public Works Programme	Promote transformation in the construction industry, and contribute to meeting community infrastructure needs through labour-based projects.	321 874	Supporting programme, creating off-farm rural employment.
Total			6 891 011	

Table 8.3 Relationships between national overarching policies and forms of desertification.

Elements	Overarching policies			
	"Presidential"	Finance ("GEAR")	Local government	Environment
Aspects relevant to sustainable land management	National policy co-ordination	Coordinated financing of programmes	Basic services; local economic development.	Overall environmental management; biodiversity protection
Statutes		Various	Local Government: Local Government: Municipal Systems Act, 2000, Local Government: Municipal Structures Act, 2000; Integrated Development Plans; others	National Environmental Management Act, 1998; National Environmental Management: Biodiversity Act, 2004; National Environmental Management: Protected Areas Act, 2003
Strategies or other instruments		Medium-term expenditure framework	Integrated Sustainable Rural Development Strategy	Various, especially sustainable development principles, environmental implementation plans, Integrated environmental management; Bioregional conservation plans
Institutional arrangements	Interdepartmental clusters: Social Sector, Economic Sector, Investment and Employment Sectors		Through provincial and local government; office of the IDP Manager in local government	Committee for Environmental Co-ordination

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The ISDRS intends to build on existing programmes, for example:

- the Local Economic Development Fund
- community water supply and sanitation
- food securii
- rural housing
- the technopreneur programme
- Khula-start
- Spatial Development Initiatives, local Business Service Centres, SMME incubators
- agricultural marketing
- farming development
- assistance to the development of skills for industry and employment,
- creation of self-sustaining villages
- establishment of IT centres, distance learning centres, web-internet laboratories
- awareness programmes for secondary schools
- waste management programmes
- Phambili Nombane, and others.

The ISDRS is the responsibility of the Department of Provincial and Local Government. The Independent Development Trust (IDT) manages the Strategy under contract to the Department, and IDT is currently formulating a programme for implementation.

The strategy will be to replicate such programmes in local development nodes where appropriate, to maximise the multiplier effect and facilitate service delivery, to avoid identified weaknesses, and to find new and innovative delivery mechanisms.

The process of selecting the services and programmes at the local level will be the chief instrument for integration, and the Integrated Development Planning (IDP) process will play an important role in this.

Complementary measures include:

- human resource development and capacity building
- land reform: implement revised programme
- community based income generation projects
- social assistance and safety-nets
- rural finance.

8.4 Sectoral policies and instruments

Table 8.4 summarises relevant sectoral policy fields relevant to sustainable land management.

Table 8.4 Relationships between national sectoral policies and sustainable land management.

	Land	Agriculture	Water	Forests	Energy	Minerals and Mining
Forms of desertification addressed	Prerequisite for sustainable land use and rural development in general	Erosive soil degradation, veld degradation: loss of cover, change in composition of plant species, bush encroachment, alien plant invasions, clearing of veld	Implicitly: erosive soil degradation, non-erosive soil degradation (salinisation), veld degradation	Deforestation; veld degradation (veldfire management)	Rural electrification; renewable energy; biomass energy management	Impacts of mine waste sites; loss of land in open-cast mines (rehabilitation)
Poverty alleviation and local development	As above	Through promoting agriculture resource management, agricultural production systems and agro-industry	Through water services and working for water.	Through promotion of sustainable forest management and community-based forest management and Working on Fire	Improved energy supply to homes and businesses vital	Rural employment promotion; mine rehabilitation
Statutes	Restitution of Land Rights Act and other relevant land reform statutes: see text.	Conservation of Agricultural Resources Act (CARA), to be replaced by Sustainable Use of Agricultural Resources Bill; Marketing of Agricultural Products Act, 1996; Genetically Modified Organisms Act, 1997.	Water Services Act, 1983; National Water Act, 1998	National Forests Act, 1998; National Veld and Forest Fire Act, 1998	-	-
Regulated (enforceable) minimum standards	-	CARA regulations on ploughing virgin soil, veld burning, weeds	Resource-directed measures (Reserve etc); regulation of water use; pollution prevention measures	Special measures to protect forests and trees; protected areas etc; measures to control and remedy deforestation; licensing of activities in State Forests; minimum requirements for firebreaks, fire protection	-	-

	Land	Agriculture	Water	Forests	Energy	Minerals and Mining
Market-based instruments	-	Subsidies, tariffs mostly removed; 'sunrise' financing and technical support through CASP.	Water charges (and in future, trade in use entitlements)	Provides for forest certification	-	-
Information	-	Strong emphasis on agricultural extension and information and knowledge management, e.g. through AGIS.	National Water Resource Strategy; Catchment Management Strategies	Periodic State of the Forests Report; forestry extension services	-	-
Institutional arrangements	See text	Soil Conservation Committees; Land Care Committees	Catchment Management Agencies; Water User Associations, etc	Community forestry agreements; Fire Protection Associations	-	-

8.4.1 Land

The land reform program is central to rural development and is presented in the White Paper on South *African* Land *Policy* issued by the Department of Land Affairs in 1997. A successful land reform programme is a prerequisite for progress in sustainable land management, leading to improvement in the sustainable utilisation of natural resources, sound agricultural practices, and overall improvement in land management. It will also contribute to lower costs of sustainable livelihoods.

Recent revisions to the programme are presented in the Ministry for Agriculture and Land Affairs' document land *Redistribution for Agricultural Development* in *2000.*

The Communal Land Rights Act (2004) secures tenure on communal land and will have a central effect on natural resources management in communal areas in future.

The Act provides among other things for Land Administration Committees for each communal property, which will exercise the power necessary for the proper ownership and administration of land owned by a community including the allocation of tenure rights within the communal land. The Act requires these Committees to continuously liaise with their municipality, their Land Rights Board (see below) and other institutions concerning the provision of services and the planning and development of the community's land, thus coordinating communal land development. It will introduce Land Rights Boards, which will among other things play a role in after-care to land reform projects. These Boards will among other things advise and assist Communities on compliance with any provision of any law, and on the administration and development of communal and adjacent land. They will also liaise with all spheres of government and civil and other institutions on matters affecting communities and communal land. These functions will thus contribute to co-ordinated and informed land-use planning and management. Once enacted, the Act will bring the role of traditional authoriiies into an acceptable legislative regime, thus addressing a major current conflict.

Stakeholders have a major concern about risks to the sustainability of land reform projects, especially at the point where Land Affairs signs a project off. There is uncertainty about the adequacy of accountability at this stage. In addition, extension and other support services are weak and fragmented. In at least one province

authorities have responded by organising unitary extension services, focusing not only on agriculture, but all aspects of land management practices.

Although there has been rapid progress recently in land restitution, the overall success of land reform depends strongly on progress in land redistribution, which has been slow. Land redistribution that leads to sustainable, financially viable agrarian enterprises will play a vital role in relieving the pressure on land in communal areas, and enhancing the flow of benefits from what is currently often under-utilised land, thus enhancing rural livelihoods. The NAP can further enhance the prospects of land reform by bringing new financial mechanisms to ensure that land owners benefit from the public goods and services that they deliver, such as through carbon and biodiversity markets.

The DLA *Guidelines for the integration of environmental planning* info *land reform and land development* bring the sustainable livelihoods approach, participatory land use planning, community-based natural resource management, and gender-responsive planning to the sustainabili leg of the land reform programme. These guidelines have as yet not been widely deployed.

The Land Use Management Bill will guide spatial planning, land use management and land development, provide for national and regional land use frameworks, and provincial and municipal spatial development frameworks. It deals with the allocation of land uses through spatial development frameworks, cascaded through national, provincial and local frameworks. It requires government to strengthen the capacity of local government to manage land use.

8.4.2 Agriculture

Agricultural Policy in South Africa, a discussion paper issued by the Ministry for Agriculture and Land Affairs in 1998, articulates options for policy reforms. The Strategic Plan for South African Agriculture followed on this (2002), as an outcome of wide consultation among stakeholders in agriculture. This plan is the fruit of agreement between the Presidency, relevant Ministries and MECs, the national Department of Agriculture and organised agriculture.

It adopts the vision of a united and prosperous agriculture, to be pursued through the following core strategies:

- equitable access and participation strategy, including black empowerment
- global competitiveness and profitability
- sustainable resource management.

Complemented by:

- good governance
- integrated and sustainable rural development
- knowledge and innovation
- international cooperation
- safety and security.

The third core strategy addresses one of the principal challenges identified in the Plan, i.e. poor and unsustainable management of natural resources, including the problem of land degradation on both good and marginal land. It also identifies among others the challenge of inadequate infrastructure and services to support sustainable land use.

There has been substantial reform in agriculture throughout the 1990s. This has improved sectoral competitiveness in a newly open economy, and removed biased support programmes that favoured the

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traditional commercial producers over new entrants. South Africa reduced export subsidies, reduced domestic support and import tariffs, and increased market access in a general move toward greater openness and reduced intervention in the agricultural sector. Drought relief was replaced by improved incentives and information for producers to manage and reduce risk. Credit subsidies and special tax breaks for capital investments were removed, as were single-commodity-channel marketing boards that administered support programs in the past. These changes have produced a significant adjustment without a decline in aggregate agricultural output. Agricultural growth throughout the adjustment period has been positive, as non-traditional exports expanded to replace area taken out of grains and staples.

The Conservation of Agricultural Resources Act, **1983,** to be replaced by the Sustainable Use of Agricultural Resources Bill, is a central statute in land management, providing for regulation of land management to secure sustainabilii, institutionalised through Soil Conservation Committees (to be replaced by Land Care Committees). There are linkages and overlaps with the Land Use Management Bill and the Communal Land Rights Act **(2004).** The regulations regarding weeds and invader plants overlap with the Biodiversity Act **(2004).**

The administration **of** the Genetic Resources Act **(1997)** by the national Department of Agriculture will play a key role in rural development in future. An important recent development is the formulation of the Farmer's Charter, a document that captures the commitments that role players in South Africa would make toward the achievement of sustainable utilisation of natural resources. The Charter was launched at the World Summit on Sustainable Development.

The recently announced Comprehensive Agricultural Support Programme (CASP) focuses on the poor, the hungry, the beneficiaries of the Programme for Land Redistribution and Agricultural Development (LRAD), and the public insofar as its members enter the sectors linked to agriculture. It provides substantial funding for "sunrise" financing and technical support. The Programme is due to receive **R1.l** billion in the current Medium-Term Expenditure Framework. It is intended among other things to assure sustainable outcomes from LRAD. In addition, the emerging National Grazing Strategy will be a vital element of sustainable land management.

The Department of Agriculture contributes to the National Disaster Management Framework through its lead role in the Working Group on drought, and its disaster management unit. It manages the LandCare Programme (see Appendix A).

8.4.3 Water

The national water policy, given effect through the National Water Act, **1998,** has many important provisions that affect sustainable land management, including:

- water management strategies: the National Water Resource Strategy and Catchment Management Strategies
- regulation of the use of water through declaration of water uses and the registration and authorisation of water uses, including abstraction and use of water for irrigation, and stream flow reduction activities; water use licences and the conditions attached to licences are important here
- water use charges
- catchment management agencies for each water management area
- water user associations, and
- advisory committees.

The First Edition National Water Resource Strategy, currently being revised after public comment, is a key development with respect to the combating of land degradation in South Africa. It includes activities of:

- water policy, water law, and water resource management
- South Africa's water situation and strategies to balance supply and demand
- strategies for water resources management
- complementary strategies
- national planning and co-ordination, and international co-operation in water management

Table 8.5 summarises key linkages in between the draft National Water Resource Strategy and the combating of land degradation.

Table 8.5 Linkages between elements of the draft National Water Resource Strategy and the combating of land degradation.

Element in the National Water Resource Strategy	Relationship with the combating of land degradation
• Strategies for Water Resource Management	
o Protection of Water Resources	Resource-directed measures and resource quality objectives exclude aspects of combating land degradation, e.g. erosion, though this is a vital element of integrated water resource management.
o Water Use	Administration of water use, e.g. licences, will contribute with regard to streamflow reduction activities and irrigation impacts on land and water.
o Water Conservation and Demand Management	The National Water Conservation and Demand Management Strategy will contribute to improved land management in dryland and irrigated agriculture and forestry. It also addressed the control of invasive alien vegetation.
o Water Pricing and Financial Assistance	Charges for funding water resources management may potentially finance key elements of land management
o Water Management Institutions	Provides and institutional framework that includes Water Management Areas (WMAs), Catchment Management Agencies (CMAs), and Water User Associations (WUAs).
o Monitoring and Information	Proposes information systems for monitoring surface water hydrology, water quality and groundwater, which would support the NAP.
o Public Safety	Provides for elements in the National Disaster Management Framework concerning drought and floods: DWAF contributes to the National Disaster Management Framework through its lead role in the Working Group on Floods.
o Anticipated Programme of Implementation Activities	Among other things, proposes a schedule for the establishment of CMAs.
• National Planning and Co-ordination, and International Co-operation in Water Management	Proposes several important linkages, e.g. periodic State of Water Resources Reports (compliant with NEMA), commitment to Disaster Management institutions, interventions in the ISDRS including rural development in Catchment Management Strategies and Water Services, linkages with IDPs (but no linkage between Catchment Management Strategies and IDPs).

A statute that is important in land management is the Mountain Catchment Areas Act, 1970. This has been employed to declare Mountain Catchment Areas in the provinces of Western Cape, Eastern Cape, and KwaZulu-Natal. Proper management of these areas is vital in the combating of land degradation. The National Environmental Management: Protected Areas Act, 2003 upholds the status of Mountain Catchment Areas.

However, the Minister for Environmental Affairs and Tourism has assigned the administration of this statute to provinces, and it appears that it has been deployed no further than it had been by the 1980's.

The water services policy has the following important objectives that relate to sustainable rural livelihoods:

- create a developmental regulatory framework within which water services (water supply and sanitation) and access to water services can be provided
- ensure effective, sustainable, professional and equitable access to water services for all
- implement schemes in the rural areas as well as operation and maintenance of approximately 400 large schemes inheriied from the former homelands.

The Strategic Framework for Water Services Support provides a framework within which the water services support function of DWAF would be carried out, promoting co-operative governance and effective service delivery. Water Service Development Plans are strategic plans prepared at local government level addressing the provision of water services.

In partnership with the Department of Environmental Affairs and Tourism, Water Affairs manages the Working for Water Programme (see Appendix A), which disburses about R400 million annually and has been highly successful in reaching rural communities and contributing to local livelihoods, while addressing a key element of land degradation, alien plant invasion.

8.4.4 Forests

The Department of Water Affairs and Forestry seeks to guide the development of all forest resources toward sustainabili through the policy contained in the White Paper on Sustainable Forest Development in South Africa and the consequent policy instruments, including the National Forests Act, 1998 and the National Veld and Forest Fire Act, 1998 and the National Forestry Action Programme.

Forest sector development is recognised as an essential element of rural development, both through the protection and rehabilitation of natural resources (which include both closed forests and woodlands) and the careful maintenance and development of forest plantations.

The National Forests Act, 1998 promotes and regulates:

- sustainable forest management in all types of forest (through national and local assessment based upon the criteria, indicators and standards of sustainable forest management)
- forest protection
- forest rehabilitation and
- community-based forest management.

Generally, the Act is to enable sustainable forest management. This includes plantation forests.

The National Veld and Forest Fire Act, 1998 contain important provisions for land management, i.e.:

- The requirements for firebreaks and minimum standards of preparedness in areas with a risk of veldfires, applicable to every owner of land, including state and communal
- The enabling provision for the formation of Fire Protection Associations, local organisations of land owners for collective management of veldfires
- Introduction of a national fire danger system, an early warning system for planning, preparedness and response to forecast conditions of fire danger.

Large numbers of communities, in excess of 100, are now organising to form and register Fire Protection Associations.

The Department of Water Affairs and Forestry contributes to the National Disaster Management Framework through its lead role in the Working Group on Veldfires.

In partnership with DPLG, the Department has initiated the Working on Fire Programme, which has two principal aims (a) improved protection of community assets though enhanced aerial veldfire response and rapid response teams and (b) piloting Fire Protection Associations.

8.4.5 Energy, Mining and Minerals

Energy policy affects desertification through its interaction with rural livelihood creation as well as the effect of energy provision on natural resources, especially biomass energy. Minerals policy affects the opportunities for minerals-based livelihoods, as well as environmental protection.

The Ministry of Minerals and Energy has issued a document *"Towards Implementing an Integrated Rural Development Programme"* which articulates the ministerial priorities for the next five years. It covers both mining and energy issues.

On mining, the strategic intent is to create integrated and sustainable development in labour and mining areas through the combined and co-ordinated application of the resources and skills of the social partners, being representative of government in all spheres, labour and the mining industry. The results will be measurable reduction in poverty and measurable increases in sustainable job opportunities in affected rural communities. Mining and minerals development reaches deep into the rural areas and can contribute substantially to local economic development, especially through black economic empowerment as captured in the Mining Charter. The land degradation outcome of mining currently and historically is being addressed through the Mine Waste Management Strategy and the programme of rehabilitation of abandoned mines.

The strategy will target communities affected by retrenchments with inclusive programmes; target poverty pockets in labour sending and mining areas; cluster delivery into nodes and corridors of sustainable economic development; build on existing rural development work of role players; pursue land rights as a key ingredient for agricultural and other economic development in rural areas and promote the linkages between small-scale mining and tourism. In this way, the strategy is a key element of rural development.

On energy, the objective is to increase access to affordable energy services by rural households by 2010. In addition, the White Paper identifies the management of the use of biomass energy as an important priority.

Table 8.6 summarises elements of mining and minerals policy in relation to key elements of the combating of land degradation.

Implementation of these policies will assist in mitigating the impacts of mining on land, and is regarded as a component of the NAP. The DME has several relevant programmes, including:

- Small-scale mining with good land management
- Rehabilitation of abandoned mines (with DWAF).

In addition, South Africa has participated in a major way in the international Mining Minerals, and Sustainable Development project (MMSD) – see also 13.2 below.

Table 8.6 Instruments of mining and minerals policy relevant to environmental and land management.

Instruments of mines and minerals policy	Linkages with the combating of land degradation
Minerals and Petroleum Resources Development Act (2002) i) Environmental Management Principles, Integrated Environmental Management, Environmental Management Programmes and Environmental Management Plans. ii) Requirements with respect to historically disadvantaged persons	The requirement for Environmental Impact Assessment and Environmental Management Programmes or Plans with the requirements of financial provision for remediation of environmental damage, closure certificates etc provide assurance of reasonable land rehabilitation during and after mining. These have the potential to accelerate rural development
Rehabilitation of derelict and ownerless mines	DME policy will contribute to land rehabilitation
DWAF Operational Guidelines No. M3, M4 and M6 regarding mine waste water and the protection of water resources	Will impact on important aspects of water resources protection

8.4.6 Disaster Management

The Disaster Management Act, 2002, administered by the Department of Provincial and Local Government, provides for a new disaster management system in South Africa, which shifts the emphasis from reaction to preparedness and prevention. It establishes:

- a cooperative governance system for the development and implementation of disaster management frameworks at national, provincial and local levels established by the Cabinet-level Intergovernmental Committee on Disaster Management, advised by the multi-stakeholder National Disaster Management Advisory Forum (in turn advised by sectoral Working Groups, currently operational).
- the system for management, consisting of the National Disaster Management Centre and provincial and local centres; local centres will develop and implement local disaster management plans for different sectors in a coordinated system, within the disaster management framework.

Sectors relevant to land degradation and rural poverty alleviation include:

- floods
- droughts
- veldfires
- food securii.

The Department is now developing the National Disaster Management Framework, which will cascade to provincial and local spheres to guide disaster management planning in all spheres. It is to be supported by the national Risk and Vulnerability Atlas, currently being developed.

9. COORDINATION AND INTEGRATION OF PLANNING AND DEVELOPMENT FRAMEWORKS AND PROGRAMMES

9.1 National and Provincial

The national departments discussed in section 8 all have policy instruments, in the form of frameworks, strategies, or action programmes, which have an important bearing on the NAP. Table 9.1 summarises the main instruments.

Provincial government Departments also have several relevant instruments, mostly framed within the requirements of national instruments. There is similar development in the sphere of local government, most of which is to be integrated through the IDP (Table 9.1).

It is this system of policy instruments that needs to be coordinated and integrated through current initiatives and the NAP. The Department of Provincial and Local Government has initiated an important project in this regard, i.e. the Intergovernmental Integrated Planning project, which includes the Intergovernmental Relations Framework and the Intergovernmental Development Perspectives initiatives.

Added to this is the creation of a public service echelon of multi-skilled community development workers, their proper training, and the establishment of multi-purpose Community Centres, all of which will facilitate integrated local planning. The coordinated and integrated framework for sustainable land management to be developed in the NAP (see section 15.1.7 below), will be the primary guide and information source for individuals, communities or institutions engaging in sustainable land management.

9.2 Relevant current programmes of intervention projects

Within South Africa a number of existing programmes of intervention projects currently focus directly on combating land degradation. The objective of the NAP is to coordinate and strengthen these existing programmes rather than attempt to create new programmes as set out in section 15.8 below. Details of programs that have been identified as having relevance to the NAP are given in Appendix A and summarised in the table below (Table 9.2). In addition, there are a number of NGO-led and private-sector interventions that have important impacts (see section 12 below).

Table 9.1 Indicative summary of frameworks, programmes and plans that would need to be integrated into frameworks for combating land degradation by sphere of government. Beneficiaries relate to these through the proposed local integrated land management planning package (see section 152.2 below).

National Frameworks	Land Redistribution for Agricultural Development
	Strategic Plan for South African Agriculture
	National Water Resource Strategy
	National Waste Management Strategy
	National Biodiversity Framework/Biodiversity Strategic Action Programme (CBD)
	Integrated Sustainable Rural Development Strategy
	Environmental Implementation and Environmental Management Plans
	Action Programmes arising from FCCC
	Wetlands Initiatives arising from RAMSAR
	National Forestry Action Programme
	Working for Water and related programmes
	LandCare Programme
	National Integrated Land Management Framework
Provincial or regional frameworks	Provincial Environmental Conservation Plan Provincial Growth and Development Strategy
	Provincial Bidodiversity Framework and Bioregional Plans for the Management of Biodiversity (including CAPE, SKEP, and STEP)
	Strategic Development Initiative (SDI)
	Provincial Disaster Management Framework
	Catchment Management Strategies
	Strategic Environmental Assessments (and similar)
	Provincial Integrated Land Management Framework
Local frameworks and development instruments	Environmental Management Frameworks
	Municipal Environmental Conservation Plan
	LandCare Projects
	Disaster Management Plans
	Veldfire Management Strategies
	Integrated General Waste Management Plans
	Integrated Development Plans (IDPs)
	Local Integrated Land Management Framework
	Community-Based Natural Resource Management
Beneficiaries' role and initiative	Participation in framework development
	Project proposals and implementation
	Sustainable management of land

Table 9.2 Programmes of intervention projects relevant to the NAP in South Africa. Column 3 contains best estimate of current expenditure. Asterisks in the column indicate cases where no direct estimate was available. In these cases, the expenditures form part of the programmes summarised in Table 8.1 above, except for that of NGOs.

Name of programme	Key implementing department	Current expenditure in R million 2003/2004
Working for Water	Department of Water Affairs and Forestry	400
LandCare	Department of Agriculture	40
Community forestry	Department of Water Affairs and Forestry	*
Desert Margins Programme	Department of Agriculture	5
Working on Fires	Department of Water Affairs and Forestry and Department of Provincial and Local Government	20
Working for Wetlands	Department of Environmental Affairs and Tourism	30
CoastCare	Department of Environmental Affairs and Tourism	*
Community-Based Natural Resource Management	Department of Environmental Affairs and Tourism	5
Food Security Programme	Department of Agriculture, Social Cluster	*
Disaster Management	Department of Provincial and Local Government	*
Land reform including LRAD	Department of Land Affairs	*
Environmental guidelines for land reform	Department of Land Affairs	*

10. LOCAL GOVERNMENT, LOCAL PLANNING FRAMEWORKS AND DEVELOPMENT INSTRUMENTS

10.1 Local government as the focus for development

Under the Constitution, municipalities have major developmental responsibilities to ensure that the quality of life for its citizens is improved. The new role for local government includes provision of basic services, creation of jobs, promoting democracy and accountability, and eradication of poverty.

The Local Government: Municipal Systems Act, 32 of 2000 requires all municipalities (i.e. Metropoles, District Municipalities and Local Municipalities) to undertake an integrated development planning process to produce integrated development plans (IDPs). As the IDP is a legislative requirement it has a legal status and it supersedes all other plans that guide development at local government level. The IDP thus enables the municipality to manage the process of fulfilling its developmental responsibilities. The Act requires participation of stakeholders in the planning process.

The developmental roles for the different spheres of government are as outlined in Table 10.1.

Table 10.1 Roles of the different spheres of government in local integrated development.

SPHERE OF GOVERNMENT AND ITS ROLE AND RESPONSIBILITIES				
LOCAL	PROVINCIAL		NATIONAL	
Local and District municipalities and Metropoles	**a) Department of Local Government**	**b) Sector Departments**	**a) Department of Provincial and Local Government**	**b) Sector Departments**
• Prepare an IDP • Adopt an IDP • District municipalities to provide support to poorly capacitated local municipalities and to facilitate the compilation of a framework which will ensure co-ordination and alignment between local municipalities and the district	• Coordinate training • Provide financial support • Provide general IDP guidance • Monitor the process in the province • Facilitate co-ordination and alignment between district municipalities • Facilitate resolution of disputes between municipalities • Facilitate alignment of IDPs with sector department policies and programmes • Assess IDPs	• Provide relevant information on sector department's policies, programmes and budgets • Contribute sector expertise and technical knowledge to the formulation of municipal policies and strategies • Be guided by municipal IDPs in the allocation of resources at the local level	• Issue legislation and policy in support of IDPs • Issue Integrated Development Planning Guidelines • Provide financial assistance • Provide a national training framework • Establish a Planning and Implementation Management Support System	• Provide relevant information on sector department's policies, programmes and budgets • Contribute sector expertise and technical knowledge to the formulation of municipal policies and strategies • Be guided by municipal IDPs in the allocation of resources at the local level

The IDPs require provincial assessment. Within 10 days of adopting its IDP, a municipality must submit a copy to the MEC of the province for assessment. The Local Government: Municipal Systems Act, 2000 does not require the MEC to approve the IDP, only to assess that the IDP complies with the requirements of the Act and also that it is not in conflict with IDPs and strategies of other municipalities and organs of state.

Each IDP contains certain elements directly related to the combating of desertification. These include:

- In the situation analysis:
  - priority issues from a municipal perspective
  - spatial analysis: patterns and trends
  - social analysis: poverty situation and gender-specific issues
  - economic analysis: major patterns and trends
  - environmental analysis: major risks and trends
  - institutional analysis: strengths and weaknesses of the municipal administration.
- Development Strategies:
  - objectives and strategies for each priority issue
  - financial strategy.
- Operational Strategies:
  - Capital Investment Programme
  - Integrated Spatial Development Framework
  - Integrated Social, Economic, Environmental and Institutional Programmes
  - Disaster Management Plan
  - Monitoring and Information Flow System.

The Department of Environmental Affairs and Tourism issued a national Framework Document, ***Strengthening Sustainability*** in ***the Integrated Development Planning Process,*** in 2001. Nevertheless, a sample survey of IDPs indicated that environmental risks are hardly addressed in any of them. Furthermore, except where there has been a direct intervention to achieve this, land degradation is addressed not at all.

10.2 Local development planning

There is a great variety of local planning and development instruments, current or intended, each often linked with a different institutional arrangement.

These include:

- the **IDP** (DPLG, Local Government: Municipal Systems **Act,** 2000)
- the disaster management plan (DPLG; Disaster Management Act, 2002)
- the land use framework (DLA; Land Use Management Bill)
- the Community-Based Planning Process (DPLG)
- Local Area Planning (IDT for **DPLG)**
- Conservancy Management Plans
- Veldfire management strategies of Fire Protection Associations (DWAF)
- Mountain catchment management plans (Mountain Catchment Areas Act 1998; Provincial authorities)
- Veld fire management strategies for FFAs (DWAF; National Veld and Forest Fire **Act,** 1998).

These instruments are designed mostly for the scale of the District, or the Local Municipality. However, sustainable land management requires work at about the scale of the ward. Some initiatives and instruments operate at that scale: Fire Protection Associations are an example.

The Local Area Plan of the IDT is designed for development planning at about ward scale. It will feed ward-level plans into the IDP.

Land use plans, and the work of Land Administration Committees, deal with the allocation of land uses.

The Sustainable Use of Agricultural Resources Bill would introduce standards for the management of agricultural land.

There is no acceptable instrument for dealing with land management across all rural sectors, which would guide individuals and communities to implement best practice for sustainable land management.

This array of institutions and instruments needs substantial co-ordination and integration, as provided for in Section 15.2 below.

11. LINKAGES AND SYNERGIES BETWEEN UN CONVENTIONS

As signatory to the UNCCD as well as the CBD, the FCCC and the Ramsar Convention, and as a member of the UN Forest Forum (UNFF), South Africa faces the task of achieving the coordinated and synergistic implementation of its commitments under all three, as well as commitment agreed in the UNFF.

Land degradation includes degradation of soil and water resources and reduced bioactivity of flora and fauna. Changes in land cover and vegetation status contribute to climatic change, alter biodiversity and modify hydrological cycles; these changes all feed back in the ecosystem to further influence land condition and land-use systems.

South Africa acceded to the Cartagena Protocol on Biosafety, a supplementary agreement to the CBD in August 2003. This agreement seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from biotechnology. South Africa's future compliance and mutual alignment with provisions and regulations under relevant national statutes (see section 9 above), will reverberate through land management in future.

For the reason of these strong linkages, the implementation of the UNCCD must, in a major way, become the driver for implementation of key aspects of the other commitments and a precondition for progress in aspects of their implementation.

The elements of the framework for land management under UNCCD and their linkages with the other conventions are summarised in the Table 11.1.

Table 111 Linkages and synergies between **UNCCD** and the **CBD, FCCC** or **UNFF.** See also Table 63 above, and section 15.1.7 regarding the national sustainable land management framework.

Components of the National Sustainable Land Management Framework	Linkage or synergy with CBD, FCCC or UNFF
Integrated catchment management	• Strong linkage with progress in the implementation of the FCCC by reason of the feedback mechanism between land degradation, the hydrological cycle, and climate change. • Strong linkage with Ramsar, regarding catchment management and wetland protection. • Strong linkage with contents of National Forestry Action Programme, as compliant with UNFF.
Sustainable vegetation management	• Strong linkage with biodiversity management and the implementation of the National Biodiversity Framework and bioregional conservation plans, and hence the NBSAP • Possibility of implementation projects leading to carbon credits • Strong linkage with contents of National Forestry Action Programme, as compliant with UNFF.
Drought management	• Strong linkage with progress in the implementation of the FCCC by reason of the feedback mechanism between land degradation, the hydrological cycle, and climate change.
Renewable and alternative energy resources	• Possibility of implementation projects leading to carbon credits • Strong linkage with contents of National Forestry Action Programme, as compliant with UNFF.
Biodiversity	• Need full integration with the implementation of the National Biodiversity Framework and Bioregional Conservation Plans, and hence the NBSAP
Mine waste and pollution management	• None direct
Sustainable livelihoods and local economic development	• Strong, under the hat of the WSSD Johannesburg Plan of Implementation • Strong linkage with contents of National Forestry Action Programme, as compliant with UNFF.
Climate change mitigation	• FCCC: feedback between climate and land that affects land degradation: climate change will be a driver of land degradation and for this reason implementation of the FCCC by the global community is vital

12 PARTNERSHIPS AND SUPPORT: PRIVATE SECTOR, CIVIL SOCIETY, AND NGOS

121 Development finance institutions

National programmes, provincial or regional programmes, and local development projects and the frameworks within which they operate will often require financing sources other than government. This is where the development finance institutions play a role.

The Development Bank of Southern Africa is a prime example. DBSA has developed its business to include a focus on technical and financial support relevant to the combating of land degradation, including training, the development of IDPs, project preparation, and funds administration.

The Land Bank is a key rural development finance institution with a strong commitment to sustainabilii. It offers itself as tool to empower farmers financially, but has expanded to occupy a role in rural finance generally. It provides finance to (a) support rural livelihoods and (b) promote responsible resource use. It adopts a holistic approach to financing to promote "other accesses": land, markets and technology. It supports relevant training of borrowers, for example, where an individual or community is not in compliance with sustainabilii (financial included) requirements, it will help to develop skills to achieve this. It plays a role in policy development, such as in The *Strategic* Plan *for South Africa* Agriculture, and takes a holistic approach to development The Land Bank has innovative incentives in its lending schemes, such as the Social Accountability Product, which offers rebates if social accountability standards are met

The development finance sector will need to be properly analysed and understood and brought into the framework as an important part of the NAP.

12.2 The private sector

Farmers, small and large firms, and corporations in the private sector are key in this NAP, because they will be the investors in most of the development needed. Sectors that reach deep into rural areas and their villages and towns include:

- mining and minerals development
- agriculture and forestry
- ecotourism

Miming houses individually and jointly have progressively improved their positive role in rural development though, for example:

- black economic empowerment through affirmative procurement policies, thus reinforcing local economic development
- targeted social investment programmes, with local, regional and national reach
- the transformation of TEBA, formerly the recruitment agency, into a rural development agency
- tripartite programmes for enterprise and employment creation, and
- local projects for managing the environmental impacts of mining, in partnership with government, business and community-based organisations.

Agriculture, through individual farmers or through the organisations like AgriSA, makes frequent active contributions through diverse local or sectoral partnerships (see section 14.5 below). The sugar producers are an example, where thousands of small emergent sugar farmers have been brought into the main stream of the sector.

Forestry corporations and organisations such as the S A Wattle Growers' Association also play an important part in extending rural development beyond their businesses, such as through small grower schemes, through which about 14 000 emergent farmers have been brought into mainstream forestry. These growers are supported in improving standards of sustainabilii, among other things.

Eskom is also by nature a corporation with extended rural reach and is well positioned to partner appropriate initiatives. Sasol, with a programme of several tens of billions of Rands of investment in rural towns, is equally important. Ecotourism businesses such as ConsCorp and Wilderness SA fund local community development

programmes and bring members of local communities into mainstream tourism and protected area management.

In the mining and minerals sector, the Chamber of Mines provides a coordinated approach to the role of this sector in rural development.

12.3 The role of research organisations in combating desertification

Research organisations have, and should continue to, play a number of important roles in the combating of desertification. South Africa is the regional leader in agricultural technology and natural resource management research. Though this has historically focused on commercial farms and protected areas, communal resource management issues, subsistence agricultural practices and the strong social linkages have now gained prominence in research projects.

Historically, research has typically focused on uni-disciplinary aspects of desertification and resource problems. A recent trend is that institutions have moved into multi-disciplinary and interdisciplinary research. Changes in university structure from department and faculties to 'schools' have helped facilitate this change. A number of research institutes associated with universities have also assisted in research.

A number of research councils including the Agricultural Research Council (ARC), Human Sciences Research Council and CSIR also conduct research and development related to desertification. Both universities and research councils have moved from observational and experimental research to research methodologies that necessitate greater social involvement with communities such as participatory research and action research methodology. This has tended to link research and implementation and forced closer relationships between research, implementing agencies and communities.

The role of research should include the following:

- development of knowledge related to land degradation and sustainable resource management
- development of new technologies
- tracing trends elsewhere in the world and accessing appropriate technologies for South Africa
- providing relevant information for the formulation of policy
- monitoring and evaluation
- providing training and relevant technology to practitioners
- ensuring that there is a sound scientific basis underpinning recommendations and practices
- developing a predictive understanding of the cause-effect relationships in land degradation
- policy impact analysis and evaluation of alternative land planning and management scenarios
- bridging international science and technology into South Africa.

Universities play a key role in education and capacity building.

12.4 The role of NGOs in combating desertification

South Africa has a rich heriiage of action among NGOs in rural areas. Many are active in the fields of rural development and the creation of sustainable livelihoods, and already play a role in the combating of land degradation. NGOs will in future play an essential role in the implementation of projects as partners with government and communities, particularly as they frequently have close working relationships with land users in areas where government has limited reach. NGOs are generally sympathetic with the innovative trans-disciplinary and participatory processes required to address desertification in a sustainable manner. Many

have staff with a sound understanding of the local issues and dynamics that must be considered in project planning. However there are many rural areas with weak NGO networks.

Since 1994 most NGOs have worked closely with government agencies advisory and service provision roles, and collaborate effectively with them. Their more flexible and adaptable management styles enable them to be more responsive to local issues than government agencies.

The NGO sector is very diverse and plays a number of roles related to desertification that range from project implementation in rural areas to a watchdog role in monitoring policy and organs of state. NGOs typically are values-driven organisations, and their agendas may be political, religious, environmental or social in nature. Strong grass-roots links, a long history of project involvement and a trust relationship between the NGO and communities enable NGOs to play a more effective local role than some organs of state.

Despite the increased abilii of state organs to provide the necessary services to rural communities there are still a large number of important roles in combating desertification that can most effectively and efficiently be filled by the NGO sector.

NGOs can often provide an important link to communities because of their long-term involvement. As such, they can play an important role in assisting and delivering project implementation. It is, however, their advocacy, awareness raising and role as a watchdog that also remains as important in terms of their long-term contribution to combating desertification. NGOs also play a vital role in research and monitoring and evaluation.

12.5 At grass roots: the user of the land and linked actors

At grassroots the key actors are the users of land, including

- farmers either on communal or on freehold land
- households, who often draw on the resources of the land for their food, health, energy, recreational, or spiritual needs
- management agencies, of protected areas
- firms who own and manage land, such as in forestry.

These users are influenced and supported by a diversity of agencies and policy forces. In the new dispensation these influences are focused in the first instance by:

- the municipal IDP
- regulated standards
- markets and market instruments (e.g. certification for sustainable management in forestry), and
- investors in rural enterprises that offer employment off the land, e.g. agro-industries, local manufacturing, or tourism.

There are important support resources that will influence the combating of desertification, including:

- information and extension from national and provincial government and from commercial firms, and
- NGOs.

Finally, there are important economic linkages that (a) create the commercial environment within which the users of land find their livelihoods and (b) create opportunities for employment off the land. These linkages tend to be those that serve agriculture or buy and add value to agricultural commodities, such as various

branches of the agro-processing industry. However, linkages do extend beyond this such as those into tourism and the hospitality industries.

12.6 Partnerships

There are already several examples in South Africa of important partnerships to address land degradation (see also Box 12.1.)

Partnerships between government, mining firms and local communities are useful examples. Two such are:

- the Upper Olifants Forum: the environmental problems associated with the coal mines in the Upper Olifants catchment and adjacent regions led to the formation of the Upper Olifants Forum, an institution that represents the mining industry, government, and interested parties, with the purpose of establishing open communication about the management of mine water in the catchment, and as a basis for the joint management of land rehabilitation and mine water releases
- the Gauteng Mining Pollution Forum: Government concern has led to a co-operative approach to the holistic management of the environmental and development problems of the Witwatersrand gold mines; the forum is a multi-stakeholder grouping, which includes community-based organisations, non-governmental organisations, research institutions, academics, consultants, government departments, the mining industry and councillors. The goal is an overall strategy and plan to address environmental problems prioritised by agreed criteria, supported by a funding strategy (based in the first place on current funds), education and communication.

Other examples include:

- Ukuvuka, a government-private sector partnership whose business it is to contribute to poverty alleviation and veldfire management on the Cape Peninsula
- Working for Water, Working for Wetlands, and Working on Fire each have partnerships at national and local levels
- Diverse forms of public-private partnerships, and community-public, or community-private partnerships (see also 12.2 above).

13. INTERNATIONAL RELATIONS

13.1 The Global Mechanism and other institutional roles

The UNCCD does not establish a centralized financial instrument to administer funds for UNCCD-related projects and activities.

Instead, it emphasizes the need to mobilize substantial funding from existing sources and to rationalize and strengthen their management.

Box 12.1 A partnership using a community trust approach to sustainable land management - The Mnweni Valley

The Mnweni community of the Amangwane Traditional Authority Area is situated in an isolated valley that extends from near the Woodstock dam in KwaZulu-Natal to the top of the Drakensberg. As in many communal areas, high population density and poverty have resulted in adverse impacts on the environment that have manifested in reduced vegetation cover and sheet and gully erosion. A project initiated by Bergwatch and the Wildlife and Environmental Society of South Africa (WESSA) in conjunction with Rand Water has initiated a novel and potentially sustainable approach to community resource restoration.

Rand Water granted R2 million for a community environmental trust. Rand Water, Bergwatch, WESSA and seven representatives from various sectors of the community comprise the trustees. Interest from the trust is used to fund conservation projects as identified by the community members. A large portion of interest is committed to paid labour on a donga reclamation project that employs over 100 people on a 6-month rotation basis, thus giving direct financial benefits to the needy in the community. Technical training has been provided by the School of Applied Environmental Sciences (University of Natal). Technical support has been provided by a number of organisations. Additional money has been provided by Rand Water to establish a tourism centre to enhance the tourism potential of the area.

In another project conceived by community development committees with Bergwatch and the Wildlife and Environment Society of South Africa, a Visitor Centre has been established in the Mnweni Valley with funding from the Poverty Relief Fund of the Department of Environmental Affairs and Tourism and the KZN Tourism Authority. Community members have been trained to run the centre and provide other tourism services such as guides and porters. It is envisaged that the labour intensive donga reclamation project, together with nature-based and cultural tourism, will help boost the income of the community as well as providing tangible benefits from resource restoration.

Rand Water will benefit from better quality water delivered to the Woodstock dam, which is part of an interbasin water transfer scheme that sends water to Gauteng.

Community members are paid from the trust to undertake conservation work. This includes contour bunds, vetiver and grass planting, and the stabilization of gullies. This project potentially has greater inbuilt long-term sustainability than other land management projects in the area because there will be income after the initial project has been completed. The close link between resource improvement and the valuable goods and services commodities of improved water to Woodstock and improved tourism are also hoped to provide long-term stability. NGO involvement and support has been critical in the project, and only succeeded after many years of gaining the trust of communities. Hikers in the area have been astonished to find construction teams working on erosion problems in areas far from any habitation. At present, 187 dongas are either under reclamation or have been reclaimed. A selected 50 dongas are being monitored by Donga Indunas on a regular basis to establish the rate of reclamation.

The Donga Reclamation and Centre Project have also been used as vehicles to raise levels of environmental awareness. In response to requests from the Donga Reclamation Committee a number of school teachers and the Donga Indunas attended an Environmental Educator's course which provided resource material for environmental clubs to be formed in local schools.

To this effect, Article 21 of the UNCCD provides for the establishment of a Global Mechanism (GM) 'to increase the effectiveness and efficiency of existing financial mechanisms [and]... to promote actions leading to the mobilization and channelling of substantial financial resources... to affected developing country Parties'.

The GM was duly established and acts as a hub for a dynamic network of partners, committed to focusing their energies, resources and knowledge on combating desertification, to promote actions leading to the mobilisation and channelling of substantial financial resources, including for the transfer of technology, on a grant basis, and/or on concessional or other terms, to affected developing country parties.

The overall objective of the GM is to increase the effectiveness and efficiency of existing financial mechanisms through promoting actions leading to the mobilisation and channelling of substantial financial resources for Convention implementation.

The Global Mechanism will intervene to support initiatives in three broad entry points:

a) support for action programming at national, sub-regional and regional levels;
b) support for enabling activities in relation to capacity building and policy improvements; and
c) support for strategic initiatives with the aim of mobilising additional resources.

The GM applies the following concepts in following its mandate, which are embodied in the text of the Convention and in the decisions of the Parties:

- Mainstreaming: the issue of desertification and land degradation must become a political priority both on the part of the affected developing countries and on the part of the development co-operation agencies of the developed countries.
- Partnership Building: governments, development cooperation partners, the civil society and the private sector must come together and develop a common understanding to invest resources in addressing the land degradation problem.
- Multiplier Effect: On the basis of these *two* principles, the GM invests it own resources to foster partnerships and synergies and thereby leverages the resources of its partners for implementation of the Convention. Such catalytic investments mobilise greater resource flows, leading to a considerable multiplier effect on GM investments.

An important role of the GM is that of exploring how to access new and innovative sources of funds and make them available for Convention implementation, as well as to its partnership and bridge building roles, such as accessing GEF funds, providing assistance by setting up National Desertification Funds (NDF) and, possibly, by strategic activities such as facilitating debt swaps and putting the Convention high on the agenda in relation to debt relief. The option of investing in Carbon Sequestration is currently under development and will be closely followed as a potential large, additional source of funds for Convention implementation.

The UNDP, through GEF but also through its direct role, is another important support to the UNCCD. Examples are its Capacity Development Initiative with respect to Focal Points for Conventions, and its project funding role on Southern Africa.

13.2 The SADC

In Southern Africa, SADC provides the main avenue through which sub-regional initiatives under the UNCCD have been started.

SADC has recently adopted its Regional Indicative Strategic Development Plan (RISDP), which provides a clear direction for SADC policies and programmes over the long term. Its purpose is to deepen regional integration in SADC. It establishes the following priority intervention areas for SADC:

1. poverty eradication
2. combating of the HIV/AIDS pandemic
3. gender equality and development
4. trade, economic liberalisation, and development
5. infrastructure support for regional integration and poverty eradication
6. sustainable food security

7. human and social development
8. science and technology, statistics and private sector development.

There are both direct and indirect links between the RISDP and the combating of land degradation, especially given the relative importance of the rural sector in the region. Activities within SADC to promote the implementation of the Convention on sub-regional basis should be effectively co-ordinated, where possible, with the relevant provisions of the RISDP, especially the role of the newly-established Directorate of Food, Agriculture and Natural Resources, as well as the work of over-arching mechanisms to promote the role of women in development. The co-ordinating function of the RISDP in this regard should also be to assist with the implementation of the UNCCD at SADC and national levels with regard to mobilizing resources (funding, technology and capacity-building).

Several meetings and sub-regional projects have resulted from this. These initiatives are supported by the existence in force of the Protocols on Energy and on Shared Watercourse Systems (as revised), and the Protocol on Forests, which is being signed by Member States. However, there is as yet no agreed framework for sub-regional co-operation in implementing the UNCCD.

On the SADC level a number of relationships have already been put into place and South Africa should actively take part in these to guarantee that important and innovative approaches developed elsewhere can also be integrated into the development of the South African NAP, and that good practices from South Africa could be feeding into other SADC initiatives.

A number of SADC-wide and level activities are already in place and should be integrated into the NAP:

- ***Networking project – exchange of best practices***

The Desert Research Foundation of Namibia (DRFN) based in Windhoek, Namibia, is the implementing agency for a UNEP funded networking project of SADC-Environment and Land Management Sector (SADC-ELMS). A largely virtual network has been established through the initial holding of sub-regional workshops, focusing on the sharing of UNCCD related best practices and on the establishment of an information exchange platform, National Governments and NGOs Focal Points are the contact persons and they ought to establish the national networks to allow for all-level participation in the SADC-wide network.

- ***Multi-disciplinary Scientific and Technological Consultative Committee (MSTCC)***

The MSTCC was designed by members from all SADC countries during 1997198, in fulfilment of the call of the Committee of Science and Technology (CST) of the UNCCD to establish sub-regional structures that would foster sub-regional exchange of information and know-how in the fight against desertification. Funding for the MSTCC could not be secured through SADC-ELMS, however the above networking project is taking care of certain components of a MSTCC. Recently the SADC regional office has considered the idea of a MSTCC as part of their Scientific and Technological Sector.

- ***Cenfres of Excellence***

Gobabeb Training and Research Centre (GTRC), Namibia

SADC-ELMS has supported the development of Centres of Excellence in various fields relevant to the combating of desertification in various SADC states. These Centres of Excellence are meant to develop cutting-edge approaches and solutions to the desertification problematic in southern Africa, which should then be communicated throughout the sub-region. The GTRC is responsible for desertification research, training and information sharing. DRFN is one of the trustees of GTRC and as such implements the SADC networking programme above. A number of other Centres of Excellence have been appointed (e.g. for appropriate

technology, range management, environmental education). South Africa could also play an important role by nominating and further developing already existing capacities in a UNCCD context.

Farmer Support Group

The Farmer Support Group (FSG) of the University of Natal is the designated SADC Centre of Excellence for Community Participation, Indigenous Knowledge and Appropriate Technology. This role was allocated to the FSG by SADC-ELMS in early 2002, and provides a source of expertise that can potentially be mobilised for the South African NAP. The FSG combines practical experience in supporting sustainable land use in the communal areas of KwaZulu Natal (including implementation of LandCare projects with rural communities) with sound theoretical understanding of participatory approaches.

Other centres of excellence are:

- UNISA – Environmental Law
- University of Zimbabwe – Rangeland Management

- ***SADC NGO network***

The international network of NGOs on desertification, Reseau International des ONG sur la Desertification or RIOD is organised on a sub-regional basis in line with inter-governmental political organisation. The SADC chapter of RIOD has been active in supporting NGO and civil society engagement in NAP processes, and it has engaged in various inter-governmental processes at SADC level. A 'Type 2" partnership has been established between SADC RIOD, the Global Mechanism, SADC ELMS and a number of other agencies. This partnership supported the Legislator's Conference on the UNCCD held in Windhoek, Nanibia in July 2002. The Community Exchange and Training Programme (supported by the Global Mechanism) has been launched at a SADC level by the RIOD network, and is developing practical approaches to community mobilisation in the struggle the combat desertification. The network promotes synergies in NAP development and implementation, and through its engagement with the CRIC process, it also promotes sharing of lessons learned in the SADC region.

- ***SADC group preparations for negotiations***

Good preparations for international negotiations are needed. On a national level, it is important that the implementing agencies, e.g. the Department of Environmental Affairs and Tourism (DEAT), are able to inform their counterpart, the Department of Foreign Affairs, which is largely responsible for such negotiation processes. A techno/political dialogue should be established to feed important information into the international processes. South Africa could play a leading role in forming a caucus for the SADC region in relation to UNCCD issues and should help facilitate early group preparations e.g. before the Conference of the Parties (COP). Currently SADC preparations only really happen at the COPs and little effective lobbying and developing of a SADC position can be achieved at such ad hoc fora. In the past the SADC region has not always been seen as a coherent group. It would be a logical linkage to define South Africa's role in the context of the evolution of NEPAD.

- ***Donor negotiation SADC level – Natural Resource sector in conjunction with sustainable livelihoods***

Although partially related to the matter of SADC group preparations, the coherent strategising of donor interaction in the SADC region is an essential issue. Donor priorities are largely set at a SADC level and based on sub-regional negotiations. If - as happened during the latest donor negations at the SADC level – countries do not table the Natural Resources/Environmental sectors as their development priorities, then little or no funding will be made available for such sectors. The donor community (at least the bilateral one) has committed themselves to adhere to the priorities set by the countries, in this case represented through SADC.

It is therefore important that it is a strategic aim of the South African NAP to keep desertification on the national development agenda – if it is a pressing development and environment issue.

Cleary, in Africa in general and Southern Africa in particular, there is now a sound foundation for a strategic approach to the implementation of the UNCCD but a strong need to move forward to agree upon a strategic framework for implementation and appropriate regional and sub-regional implementation projects.

Another important development in SADC is the completion of the Mining, Minerals and Sustainable Development process (MMSD), which has laid the foundations for a regional strategy to move mining and minerals development to greater sustainability.

13.3 Bilateral assistance

South Africa has major partners in overseas development assistance **(ODA),** from all developed countries. These partners provide finance and technical advice in several relevant fields, including:

- policy analysis and development in natural resources management
- agriculture development
- forest development
- integrated water resources management.

The role of these ODA partners will need to be documented in detail and **fully** engaged in implementing the NAP. The government will emphasise the priority it has places on the NAP, among the members of the ODA **community** in South Africa.

PART D: THE ACTION PROGRAMME

14. THE CHALLENGES IN THE PATH TO SUSTAINABLE LAND MANAGEMENT, THE OVERALL VISION AND STRATEGY FOR THE NAP AND ITS AREAS OF PRIORITY

14.1 Challenges

The overall picture of land degradation that emerges is one of a complex constellation of major risks to rural development in South Africa. The risks cut both ways: first, the continuing, pervasive land degradation is a profound hazard to the process of rural upliftment at the heart of which lies the land reform programme, and, second, because of the inherent hazards to the sustainability of the rural sector that are posed by the uncertainties and indeterminacies that arise as South Africa proceeds with the simultaneous implementation of a wide array of policies and programmes centred on and supporting rural development.

Land degradation ranks with rural health, especially the HIV/AIDS pandemic, which puts rural social and human assets at profound risk, as the greatest threat to sustainable rural development in South Africa, if not greater. This is because of:

- the pervasive loss of land productivity, with respect to both commodities and ecosystem services in general, affecting the land owner as well as the nation at large through off-site effects
- the hazard posed to the key elements of rural development, especially land reform, and thus to the entire body politic
- the close causal links to the recurrent, costly disasters faced in rural South Africa: floods, drought, and veldfires, and
- the urgent necessity to adapt ecosystem management to the evident and growing effects of global change.

The main building blocks required for an effective national strategy and programme for achieving sustainable land management are available, in government policies and programmes, and through diverse current partnerships active in rural development. But there are several gaps and deficiencies that constitute the substantial obstacles that the programme needs to overcome. These are:

- Lack of adequate co-ordination and integration between organs of state in the national and provincial spheres of government
- Part C outlines several aspects of this challenge
- Lack of adequate capacity and competence in government and among civil society locally in rural areas:
  - The generally disproportionately weak rural economy, associated with premature-de-agriculturalisation
  - Underdeveloped capacity in local government and other local institutions, often undermined by recruitment to the centre
  - The limited reach of government, so that it has a weak presence in many wards
  - Weak human resources and social assets among civil society in many districts, municipalities and wards, as a result of the effects of emigration, HIV/AIDS and other diseases, excessive dependence on social grants and remittances, and the risks and uncertainties attending democratic change
  - Lawlessness in certain areas, and weak land and resource tenure
  - A weak resource of local service providers.
- Inadequate financial and other resources for sustainable land management:
  - While many government programmes touch on land management, the amounts available for direct action are unknown

- Many land management benefits are public, but the provider of such benefits seldom gets anything for it, and there are no or few mechanisms available to compensate these providers for current or future services
- The markets for public benefits such as catchment, landscape and biodiversity protection and carbon sequestration do not exist or operate in South Africa
- Although local government is the sphere in which most intervention is needed for sustainable land management, little or nothing of the R10 bn per year transferred to this sphere is available for land management purposes.

- Poor delivery of information and knowledge for local sustainable land management, inadequate recognition for and mobilisation of local indigenous knowledge, as well as poor awareness at all levels of the nature, causes, consequences of and remedies for land degradation:
  - information bases maintained by diverse information providers, mainly in the national sphere, while containing data vital to land management, are often poorly organised to deliver locally- and policy-relevant information
  - Few local communities can quickly and efficiently access information relevant to their management needs
  - Research in relevant fields has become weak in South Africa, and the bridge between research and policy is weak
  - Local indigenous knowledge is often poorly mobilised, especially for land management and planning
  - Inadequate and poorly organised extension services
  - Generally, but especially in the local sphere, people lack adequate insight into the nature and consequences of land degradation, and the means available to them for addressing the problem.
- National and provincial policies that in their nature or in their delivery risk contributing to land degradation or hindering sustainable land management:
  - While South Africa has a sound foundation of new policy, there is an inherent risk of unexpected or perverse outcomes involved in the nature and implementation of these new policies; an early sign of such possible problems lies in the reports of degradation arising from infrastructure projects, and of failed land reform projects; the outcomes of trade and genetic resources policies as well as labour policies contain many new risks.
- There is no clarii about how to intervene locally everywhere in the absence of consistent land management plans and consistent prioritisation of local needs:
  - Such financial resources as are directed to local land management are not only inadequate but also not linked to a agreed set of priorities aligned with consistent local assessments of risks to local, regional and national assets, and consistent plans to address these risks.
- Mobilising women in development:
  - Women work most of the land in communal areas (and in some private areas) but have tenure to only about 1% of the total, and do not yet play their full and appropriate role in land management.

14.2 Strategy

The vision of the NAP is of:

prosperous and healthy South Africans living in an environment restored and maintained through universal improvement in land management to its beautiful landscapes and productive ecosystems that sustain livelihoods and ecosystem services, for the benefit of current and future generations.

This vision is to be approached through the goal of the NAP, which is:

to promote sustainable land management throughout South Africa, through achieving the following within three years:

- effective and efficient new institutional arrangements in the national, provincial, local and community spheres, that will ensure the co-ordination and integration of land-related policies and policy instruments that are needed for sustainable rural development and
- the establishment of effective and efficient partnerships between government departments, the private sector, overseas development assistance partners, civil society, and the owners and managers of land
- within a coherent system for diagnosing and responding to land degradation and drought at national, provincial and local levels,
- so that poverty is alleviated, sustainable livelihoods promoted, and sustainable land management enhanced.

The strategy to achieve this goal is built on eight areas of priority, aimed at addressing current gaps or deficiencies in the framework for sustainable land management, each with distinct but complementary areas of action. These are:

1. strengthened governance in the national and provincial spheres for the integrated and coordinated thrust in sustainable land management
2. strengthened local institutions and instruments for sustainable land management and projects that contribute to substantial eradication of rural poverty, coupled with appropriate interventions to promote community health and thus protect social assets
3. effective and adequate financing and resource mobilisation, involving current and new mechanisms
4. effective mobilisation, generation and delivery of the knowledge and information required to support sustainable land management
5. assessment of and improvement to policies that impact on land management
6. assurance of sustainable outcomes from the Land Reform Programme
7. monitoring, evaluation and continuous improvement of the Programme, and
8. a programmatic strategy for local implementation projects.

These eight areas of priority each encompass several activities, as set out below.

The NAP sets prerequisites that cut across these eight areas of priority, i.e.:

- sustainable land management and poverty eradication
- gender guidelines for the NAP, and
- partnerships for sustainable land management.

14.3 Sustainable land management and poverty eradication

The NAP will make both direct and indirect contributions to the eradication of rural poverty.

Direct contributions will include:

- short- and medium-term employment in programmes related to land management, through the maintenance of current programmes and inception of new ones coupled with skills development and social programmes that empower employees and others engaged in the programmes to enter the mainstream economy
- affirmative procurement of local service providers in government-funded work, such as local consultants, both private and in NGOs, and land management contractors, and reinforcement of affirmative procurement in mining, forestry and other firms

- enhanced demands on the local suppliers of inputs
- local partnerships with protected areas, both those private and those managed by organs of state
- linking projects to rural tourism clients and the Tourism Enterprise Project, thus spinning off tourism jobs, and
- potentially, employment from provider-gets payments to land owners who supply public goods and services.

Indirect contributions will come from:

- diversified and increased subsistence production for household consumption and increased food security
- raised farm incomes through increased and maintained primary production and quality of crops and livestock: improved livelihoods
- increased rural employment through progressive strengthening of local linkages:
  - off-farm opportunities, through the multipliers
  - general strengthening of the rural economy.

14.4 Gender and youth guidelines for the NAP

Gender and youth issues must be resolved for progress to be attained in combating land degradation. Specifically, women and the young must assume an effective role in the programme.

In general, in rural South Africa most households are headed by women, and otherwise include the elderly and the young. Collectively, women and young people make up the most important human resource to drive the development needed to combat land degradation. Women have the motivation, knowledge and enterprise needed for success. If they are not effectively mobilised in the programme, it will not achieve its objective of institutionalising sustainable land management throughout the country.

The "Gender Policy Framework" developed by the Office on the Status of Women sets principles and strategies for making gender an integral part of the NAP, and are largely applicable to mobilising the youth.

The NAP must have as an outcome the strengthening of institutions that will embody these principles and strategies, following the sustainable livelihoods approach. The process involving the following elements would be an appropriate point of departure:

- gender balance in the National Coordinating Body (see section **15.1** below)
- gender standards in participatory assessment and analysis at the community level and
- monitoring and evaluation.

These elements are outlined in Tables **14.1** and **14.2.**

The overriding concern is that the NAP should create greater gender equality by taking into account women and men's interests in project design, facilitating their participation, collecting gender-specific data and assessing the implications of the projects for women in terms of workload, division of work, their role in the households and community as well as their education and training.

Policy options must be scrutinized for social-cultural, legal and economic impediments to achieving gender equity (Table **14.1).** Gender-inclusive policy goals informed by reliable gender-disaggregated data- bases, adequate personnel and funding to sustain the interventions is what is needed for the NAP delivery. Routine tasks should include exercises that are more gender-sensitive (Table **14.2):**

- conducting social gender impact assessments of the NAP
- engaging civil society interest groups in discussing the pros and cons of the policy
- establishing structures to ensure that the program will not violate the principles of gender equity.

Table 14.1 Framework for integrating gender issues in the National Action Programme.

Institutional Factor	Gender dimension	Practical considerations
Goals and missions	The overall reason for the NAP existence explicitly seeks gender equity	Involvement of gender-sensitive stakeholders in strategic planning activities
Policy instruments	For guiding operations and programmes towards a gender balance, the clarification of existing policies for women and for men, and compensatory measures for either gender where needed	Use of gender policy analysis to critique existing policies
Human resources and roles of women and men	Articulation and enforcement of practices for promoting even gender opportunities for professional growth	Critique and updating of personnel policies with gender –equality focus
Financial allocations	Allocating at least 20% of Country funds to gender and women's programmes	Budget and explanatory notes should reflect specific allocations to gender mainstreaming (e.g. technical assistance and to special projects directed at women
Evaluation and strategic planning	Evaluation criteria should specify gender as an issue to be addressed. Participatory approaches to evaluation and strategic planning should elicit the contributions of women and men	Use of gender specialists in planning and evaluation exercises

Table 14.2 Participatory tools for gender analysis, monitoring and evaluation at the level of the community.

TOOLS	PURPOSE
Social mapping	• Identify the spatial distribution of services most relevant to women • Community demographic data, household information • Disaggregation of women as a group in the community
Resource mapping	• Spatial distribution of resources accessed and controlled by women
Seasonal calendar	• Workloads of men and women by season • Division of labour between women and men. • Economic activities of women
Access, control and responsibility matrix	• Who controls resources • Gender roles • Differences in access to natural resources • Differences in control of natural resources • Differences in responsibility toward natural resources
Well-being ranking	• Criteria for wealth amongst women • Relative wealth of women

TOOLS	PURPOSE
	• Socio-economic profile of households • Socio economic profile of women's groups
Daily activity clock	• Daily patterns of work • Gender division labour • Workloads
Resource analysis	• Access to land • Access to natural resources • Control of land and natural resources • Indigenous knowledge around natural resources
Mobility mapping	• Contact with the outside • Most important nodes of economic activity • Marketing strategies for natural products and produce • Movement of women and men • Frequency, distance and purpose of movement
Venn diagrams	• Relative importance of men and women's institutions • Identifying role players and stakeholders important to women
Pair-wise ranking	• Identifying problems • Prioritising problems • Indicating level of women's participation • Developing options and making decisions around options

14.5 Partnerships for sustainable land management

Forming partnerships to address the objectives of the NAP is a vital element of strategy. The framework required for this must (a) recognise and reinforce current partnerships that are appropriate to the NAP and (b) recognise different entities and models in the various spheres, from national to community.

Examples of appropriate partnerships, models or proposed entities in the different spheres include:

- in the sphere of national government
  - o implementation programme, such as Working for Water (see 15.1.4 below)
- between spheres of government
  - o As defined in the Local Government: Municipal Systems Act, 2000 (see 10.2 above)
  - o The NCB (see 15.1.3 below)
- the wider partnership at national level
  - o The NCB
  - o TEBA
  - o The NDA
  - o The Business Trust
- regional partnerships among diverse agents
  - o CAPE, SKEP and STEP have emerged as agreements among various agents within a given region on the vision and principles as well as substance for bioregional conservation plans
- international partnerships
  - o Bilaterals, between national government and ODA partners
  - o Multilaterals: GM, UNDP
  - o Science Partnerships: DMP; SA ICSU, SANBI;
  - o SADC region partnerships, through the mechanism outlined in 13.2 above and new ones;
  - o NEPAD

- local partnerships
  - These will ultimately be the most important forms of partnership in sustainable land management, and will be identified (current or new) in the local land management planning process
  - The *Guidelines for the implementation of community-based natural resource management (CBNRM) in South Africa* quote the following kinds of local partnerships:
    - Between adjoining communities sharing the same natural resource base
    - Between rural communities and private sector businesses
    - Between different government departments with interests in and responsibilities for different aspects of natural resources of an area
    - Between communities, NGOs and government departments.
  - PPPs: the Mweni Trust (see Box 12.1); Fire Protection Associations; Conservancies
  - CPPs and CPPPs: such as the Umzimkhulu Medicinal Bark Harvesting project, a partnership between DWAF and local traditional healers to manage forest utilisation, and the Makuleke Region of the Kruger National Park.; Fire Protection Associations; Conservancies;
  - Blesbokspruit; Gauteng Pollution Forum
  - Forest companies and traditional hunters
- Sectoral partnerships
  - GrainSA and emergent farmers
  - Commercial wool farmers and emergent wool farmers in the Eastern Cape and Free State.

At national, provincial and local levels, partnerships will be the most effective vehicles for implementing the NAP. To facilitate partnership building, the NAP will:

- build on the findings of the resource mobilisation strategy to draft the terms of a vision and a partnership agreement with the private sector to be negotiated in the National Coordinating Body
- examine models such as CAPE, for regional partnerships, and the diverse models mentioned above for local partnerships, and formulate models for partnership agreements at these levels
- examine current bilateral and multilateral international partnerships and formulate a model for this kind of agreement and
- actively promote these models.

15. STRATEGIES FOR IMPLEMENTATION OF THE *NAP*

This section is the action programme for the medium-term implementation of the NAP. The National Coordinating Body will review this programme annually. The programme will be reformulated every three years, in response to the findings of the three-yearly report to the nation on the state of the land.

The priorities for action are as follows:

- Priorii A: for completion within one year of start
- Priorii B: for completion within three years of start
- Priorii C: for completion after three years of start.

The national institutional arrangements for the NAP will be as set out in Figure 15.1.

The strategies are summarised in Appendix C.

15.1 Strengthened governance in the national and provincial spheres for an integrated and coordinated thrust in the NAP

15.1.1 Co-ordination and integration of national frameworks: new arrangements for cooperative government within the Cluster Group for the Social Sector to address sustainable land management

Achieving effective sustainable land management will require extraordinary effort in South Africa, because of the historic and structural barriers that must be overcome to achieve this. The current Ministerial and Director-General clusters are the basis for a coordinated and concentrated effort to promote sustainable land management within the overall programme for sustainable rural development as well as the national policy for sustainable development.

The Government will therefore assign the responsibility for high-level coordination and integration of government initiatives relevant to sustainable land management to the Social Sector Cluster, with a focus on the following national Departments:

- Agriculture
- Environmental Affairs and Tourism
- Land Affairs
- Minerals and Energy
- Provincial and Local Government
- Water Affairs and Forestry,

as well as the counterpart departments in provinces (Priority A).

The task of the cluster group with respect to the UNCCD will be to lead the process of reviewing the strategies of each Department as they relate to sustainable land management, reach agreement on the contents of these strategies, and to ensure that these elements of strategy are reflected in the medium-term expenditure frameworks for each Department.

DEAT, as Focal Point for the UNCCD, will report to this cluster group on progress with implementation of the Convention, provide it with proposals regarding coordination, integration, strategy and protocols, and take direction from it on its strategy and on relevant elements of cooperative government in this field.

15.1.2 The Committee for Environmental Co-ordination

The Committee for Environmental Co-ordination (CEC) is a key institution in the field of sustainable development in South Africa, and has the statutory role of coordinating government work in environmental management.

DEAT, as Focal Point, will link with the CEC via its Sub-committee on Biodiversity to promote the coordination necessary to achieve sustainable land management.

15.1.3 National Coordinating Body for the UNCCD

The Convention requires that Parties each form a National Coordinating Body, to function as a catalyst in the preparation, implementation and evaluation of its NAP.

Implementing the NAP requires concerted work to follow a path agreed upon by the partners in the enterprise, i.e. DEAT and other organs of state in different spheres of government, the private sector, development finance institutions, organised labour, and civil society. An effective negotiation forum is needed for this.

However, it is important to use existing institutional arrangements as far as possible to achieve the improvements in coordination and integration of government initiatives needed for progress.

DEAT will therefore give effect to the requirements of the Convention by re-constituting the current UNCCD Steering Committee as the National Coordinating Body (NCB) for the UNCCD, with representation from the following bodies or stakeholder structures (PrioriA):

- the national departments of Agriculture, Land Affairs, Minerals and Energy, National Treasury, Provincial and Local Government, and Water Affairs and Forestry, as well as DEAT
- the organised private sector (e.g. mining and minerals, agriculture, forestry, and business)
- organised labour
- NGOs
- development finance institutions, and
- the science and technology sector.

A person to be appointed by the Director-General of Environmental Affairs and Tourism will chair the NCB.

The purpose of the NCB includes its objectives as stated in Annex I of the UNCCD and captured in the NAP, and specifically those as set out below:

- to advise the DEAT upon the policy, strategy and programme for the implementation of the NAP, as well as the for provisions of the UNCCD as a whole
- to advise DEAT on preparations for participation in international forums and assist in its reporting responsibility to the Conference of Parties
- to generally advise the DEAT on its role as National Focal Point for the UNCCD
- to review NAP evaluation reports prepared by the National Focal Point

The National Coordinating Body will meet four times per year.

The institutional arrangements regarding the NCB are as set out in Figure 15.1.

Box 15.1 The responsibility of the coordinating body as specified in Annex I of the United Nations Convention to Combat Desertification.

This coordinating body shall, in the light of article 3 and as appropriate:

a) undertake an identification and review of actions, beginning with a locally driven consultation process, involving local populations and communities and with the cooperation of local administrative authorities, developed country Parties and intergovernmental and non-governmental organizations, on the basis of initial consultations of those concerned at the national level;

b) identify and analyze the constraints, needs and gaps affecting development and sustainable land use and recommend practical measures to avoid duplication by making full use of relevant ongoing efforts

and promote implementation of results;

c) facilitate, design and formulate project activities based on interactive, flexible approaches in order to ensure active participation of the population in affected areas, to minimize the negative impact of such activities, and to identify and prioritize requirements for financial assistance and technical cooperation;

d) establish pertinent, quantifiable and readily verifiable indicators to ensure the assessment and evaluation of national action programmes, which encompass actions in the short, medium and long terms, and of the implementation of such programmes; and

e) prepare progress reports on the implementation of the national action programmes.

15.1.4 The Focal Point and the National Action Programme

DEAT is the Focal Point for the UNCCD in South Africa.

Implementing the NAP will require concerted management effort jointly by the primary national departments responsible for sustainable land management.

For this purpose, the Ministers of Environmental Affairs and Tourism, Land Affairs and Agriculture, Finance, Provincial and Local Government and Water Affairs and Forestry will jointly agree on a protocol and/or a Memorandum of Understanding that will determine the modalities of and procedures for national cooperative government in the field of sustainable land management (Priority A).

As Focal Point for the UNCCD, DEAT will among other things:

- strengthen its capacity to administer the requirements of the UNCCD and the implementation of the NAP, and assign appropriate resources to this function via the appropriate element of its Departmental Strategy and Medium-Term Expenditure Framework, so as to effectively manage the implementation of the NAP under the advice of the National Coordinating Body
- commission an audit of the current institutional arrangements relevant to the field of sustainable land management within the scope of sustainable development, and on the basis of its findings, make recommendations to the DG Cluster for the Social Sector for necessary improvements and adjustments
- establish protocols for intergovernmental cooperation in the field of sustainable land management
- manage the implementation of the NAP, as well as other commitments under the UNCCD and, in order to achieve this, facilitate the coordination and integration of programmes implemented by and with partners in government, the private sector and among NGOs
- lead South Africa's role in international forums, including the Conference of Parties for the UNCCD, SADC, NEPAD, and the African Union, and meet South Africa's obligations under the UNCCD including in the preparation and implementation of subregional and regional action programmes
- facilitate access to GM, GEF and other international funding sources
- keep Working Group 1 of the MinTech for Environmental Affairs and Tourism, and thus the MinTech, informed of progress with implementation of the NAP and any other issues related to it, and take the advice given by these organs
- provide inputs on draft policy, strategy and programmes for consideration by the National Coordinating Body
- maintain links with the CEC via its Sub-committee on Biodiversity

- see to the monitoring and evaluation programme for the NAP, and draft the three-yearly report on the state of land in South Africa
- procure and manage relevant projects, other than those in the Programmes of line Departments
- convene consultative forums as necessary, and
- commission an audit of the institutional arrangements relevant to sustainable development and make recommendations for necessary improvement (this last Priori B).

The institutional arrangements NAP development and implementation are to be as setout in Figure 15.1 and 15.2.

15.1.5 The National Disaster Management Framework and the work of the Disaster Management Advisory Forum

The National Disaster Management Framework provides statutory guidelines for disaster management by provinces, and through this, to local government. The 11 Working Groups of the National Disaster Management Committee (to be replaced by the Advisory Forum in terms of the Disaster Management Act) develop and provide key elements of the framework, through the work of relevant Department, and stakeholders represented in each group. Certain of the fields addressed by the Working Groups are fundamental to the combating of land degradation, and these are:

- drought
- floods
- food securii
- veldfires.

The Head of the National Disaster Management Centre in consultation with DEAT will convene joint meetings of these Working Groups and the NCB to review the contents of the relevant parts of the National Disaster Management Framework and the National Action Programme to ensure that these common elements are identical, as well as to identify any other phenomena relevant to land degradation that should be treated in the same way (Priori A).

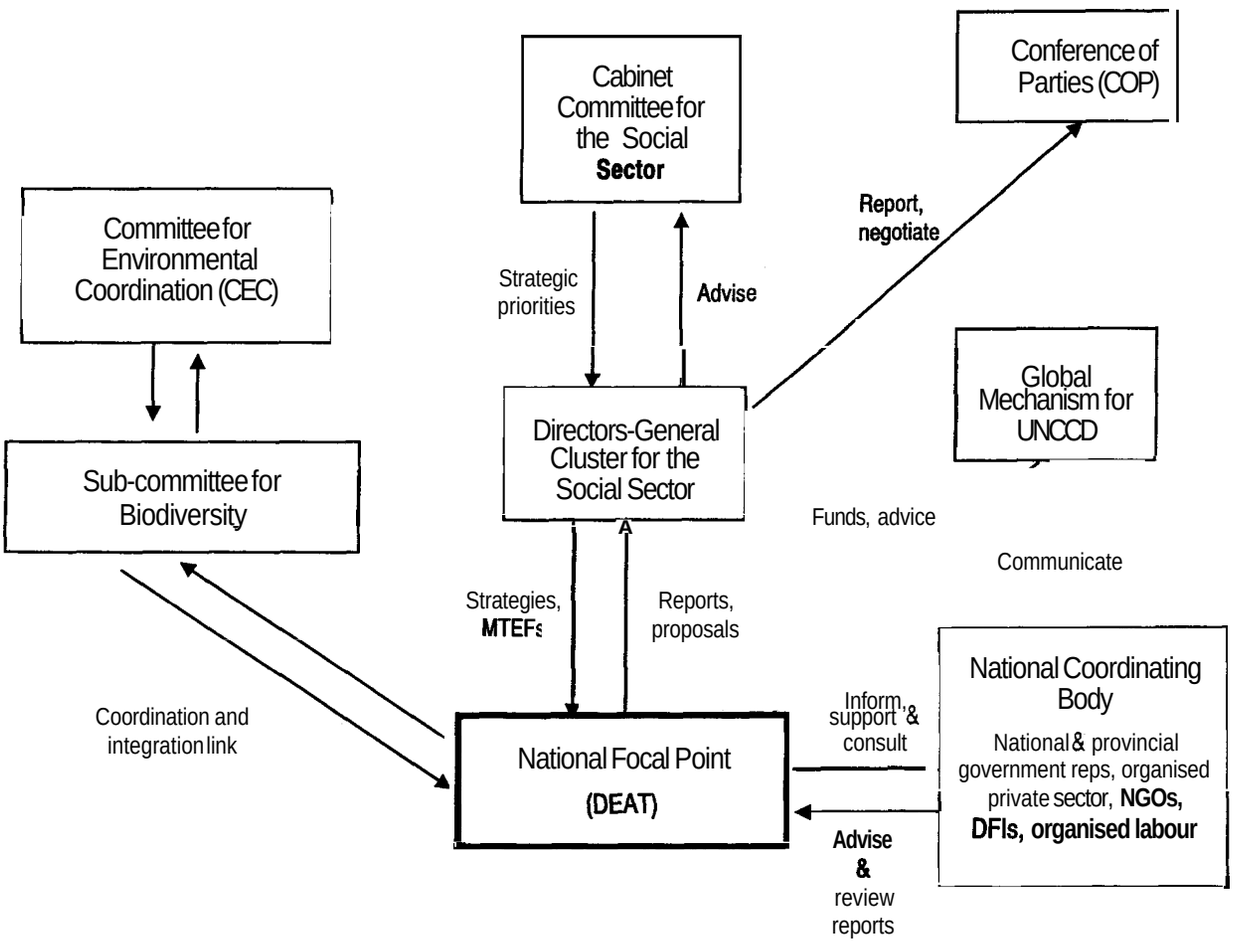

Figure 15.1 Institutions in the system of governance for the combating of land degradation at the national level. The National Focal Point is the final point of accountability of UNCCD.

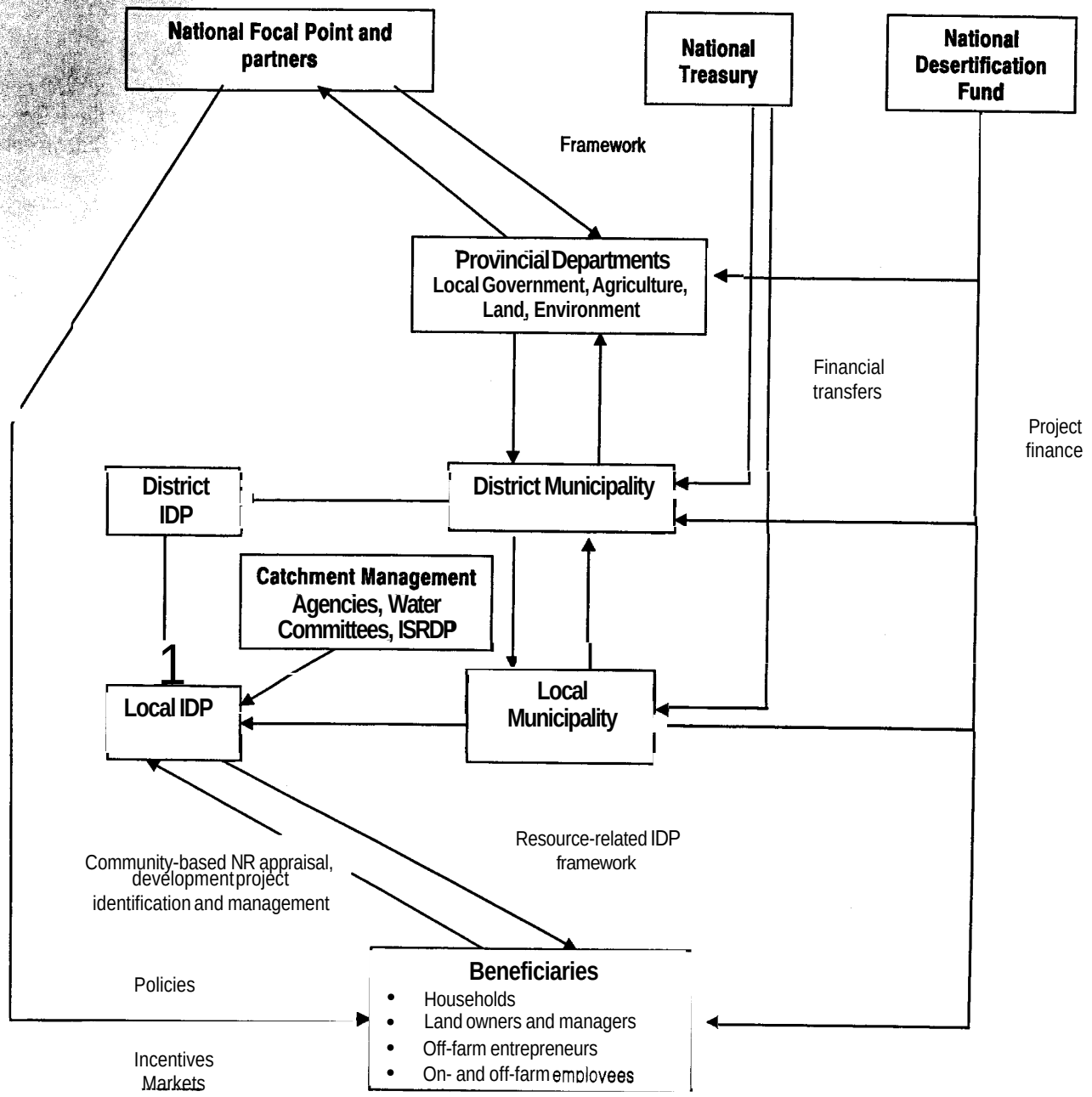

Figure 15.2 **The institutional relationships that play a role in the local sphere (see also section 10 above).**

15.1.6 The National Water Resource Strategy and catchment management

Sustainable land management and water resources are linked through catchment management. Without adequate catchment management, South Africa's water resources will continue to be degraded by the effects of land degradation. In South Africa, catchment management is addressed through the Mountain Catchment Areas Act and, potentially, the Catchment Management Strategies for Water Management Areas required by the National Water Act, 1998. The National Water Resource Strategy does not require catchment management, since there is no such provision in the National Water Act, 1998.

There is no clear and coherent approach to catchment management in South Africa. Integrated catchment management will be an important objective of the NAP. This means that catchment management principles will include:

- balanced attention to both social and technical dimensions of planning and management, with poverty alleviation a requisite outcome
- risk management that addresses all relevant assets within the catchment
- with support from all stakeholders, to be achieved through local multi-stakeholder forums.

To address this deficiency:

- the Minister of Environmental Affairs and Tourism will transfer the responsibility for the Mountain Catchment Areas Act (1970) to the Ministry of Water Affairs and Forestry (Priori B)
- DEAT will develop a general guideline for land management and catchment management, as part of the national land management framework (see below), to be prescribed under the Mountain Catchment Areas Act (1990), with which Catchment Management Strategies should comply, for approval by the NCB, and which will have force through forest certification, the contents of the Farmer's Charter, and the minimum standards regarding the management of the components of biodiversity required in the National Biodiversity Framework, Bioregional Plans, Biodiversity Management Plans provided for in the National Environmental Management: Biodiversity Act (2004), and the National Land Use Framework contemplated in the Land Use Management Bill (Priori B)
- DEAT in consultation with the NCB will determine the appropriate strategy means of assigning catchment management to the appropriate organ of state (possibly Catchment Management Agencies) and see to the necessary assignments and delegations
- DEAT will commission an analysis of South Africa's mountain catchments and identify those in which the need for land management will justify intervention, and use this to develop a coordinated series of intervention projects
- the Director-General of Water Affairs and Forestry, in consultation with the Director-General of DEAT, on the advice of the NCB, should assess options for financial mechanisms to afford the costs of catchment management and implement the preferred options (Priority B).

15.1.7 The National Sustainable Land Management Framework

Effective co-ordination and integration of the many policies, programmes and frameworks that influence sustainable land management require that the elements of each that are relevant to NAP should be captured in a single framework for easy reference by any stakeholder and agent.

To achieve this, DEAT will draft for adoption by the Social Cluster, such a framework, based on an analysis of existing or emerging national instruments as set out in Part C above and negotiation with the relevant authorities where adaptation is needed, and which will meet the following requirements (Priority A).

The purpose of the national framework is to:

- establish agreed priorii areas in land degradation
- provide a guide for the development of provincial or regional frameworks and in turn, local frameworks, that will provide the basis for the identification and implementation of local policies, plans and projects to promote sustainable natural resources management, and
- serve as the agreed basis upon which national partnerships between government, the private sector and civil society in the implementation of the NAP and its component implementation projects.

The requirements for the framework include the following:

1) provide for an integrated, co-ordinated and uniform approach to sustainable land management by organs of state in all spheres of government, non-governmental organisations, the private sector, local communities, other stakeholders and the public, based upon livelihoods approach, and including integrated catchment management-
2) establish the principles for the frameworks for sustainable land management at the provincial and local levels, as well as to guide South Africa's engagement in Africa and the SADC sub-region and the involvement of multilateral and bilateral international partners in South Africa's NAP, to be applied in all land-related spatial development and management plans, including integrated environmental management and bioregional conservation planning
3) provide a ready "look-up" reference to all other relevant national frameworks with pointers to the elements in these frameworks that must be considered in sustainable land management policies, programmes and initiatives
4) determine the general minimum standards with which the national land use management framework, the national biodiversity framework, and the national disaster management framework should comply
5) in establishing the priorii areas of land degradation, the framework will provide a national diagnosis by addressing and formulating the following:
   a) criteria for assessment of the priority forms land degradation in South Africa as well as the identity and adequacy of the policies, programmes and institutions available to combat natural resources degradation
   b) the priorii forms of land degradation should be specified as expressed outcomes of land use or land-use change that degrade soil and water resources, such as changes in land cover and vegetation status, which in turn contribute to climatic change, alter biodiversity and modify hydrologic cycles which feed back to further influence land-use systems
   c) the framework should identify as best possible the root causes and driving forces of land degradation, or where these cannot be identified with certainty, the uncertainties about these factors, including the following kinds of factors:
      i) economic
      ii) social
      iii) cultural
      iv) environmental
      v) institutional
      vi) policy.
6) the framework should identify the gaps in knowledge about natural resources degradation that become apparent during the diagnosis and include proposals as to how these gaps should be closed
7) the framework should as far as possible be based upon available sectoral strategies and frameworks as required by contributory policy fields, as set out in Part C
8) it should set out national sustainable land management objectives, the prioriiies and strategies to achieve those objectives, performance indicators against which progress with the achievement of those objectives could be measured, and mechanisms to monitor and measure such progress
9) it should establish the basis for co-operative governance in the combating of land degradation, and the basis for as well as the identity of partnerships between government, the private sector, and civil society for this purpose

10) it should provide principles for the identification, use and protection of indigenous knowledge relevant to land management
11) the framework should establish a guide including any necessary minimum standards for the identification and design of local intervention projects:
    a) the guide should be based upon standards for environmental risk management
    b) it should make up a systematic assessment procedure involving the identification of the social, economic and environmental assets or values at risk to the consequences of natural resources degradation and the strategies that should be applied to manage these risks
    c) it should be designed to form an integral part of the IDP Manual as maintained by the Department of Provincial and Local Government
    d) it should include guidelines for the identification of partners to address local natural resources degradation
12) the framework should serve as a model with which the provincial and local frameworks should conform, with due account to the findings of provincial and local assessments.

15.1.8 Review and revision of the strategies and MTEFs of relevant national departments

There are at least **19** programmes in **7** departments that are relevant to the combating of land degradation in South Africa. From an analysis *of* these strategies, it is clear that that they are not coordinated to a degree adequate to the requirements of sustainable land management.

Over and above established programmes, Government spends about **R500** million per year on work related to land degradation, **e.g.** Working for Water. This will be increased to about **R1.5** billion per year over three years. In addition, the Department of Environmental Affairs and Tourism will increase its expenditure on the NAP over the current approximately **R600** 000 per year (excluding intervention projects) to **R5** million within three years.

Financial transfers from the budgets of national departments, or through conditional grants in the Equitable Share, are justifiable for interventions within the former homelands, to correct the effects of past policy. They are also justified, though within a limited scope, in the case of policy failure in the "commercial" sector, specifically in the case of alien invasive plants.

In order to achieve the right level of national and coordinated financing of sustainable land management DEAT in consultation with the NCB will therefore review the elements of departmental strategies relevant to sustainable land management and recommend to the Sectoral Cluster the changes needed to achieve proper co-ordination so that the combating of land degradation can be better coordinated, and will monitor the necessary adjustments to medium-term expenditure frameworks, in co-ordination with the actions required in **15.1.1** and **15.1.2** above. This work should address the need for:

- revision of programmes relevant to sustainable land management, or restructuring of Programmes for this purpose
- new finance for conditional grants in the Equitable Share for local government for the purposes of promoting the combating of land degradation
- new finance to ensure sustainable transfer of land through the land reform programme, and
- appropriate budgetary provisions for the financing of Landcare, Working for Water, Working on Fire, catchment management, reforestation schemes, and renewable energy, the latter within the former homelands only (all Priority A).

15.1.9 Achieving synergy between the relevant Conventions: UNCCD, FCCC, CBD, Ramsar, and the forest agreements

A substantial part of the nation's response to its obligations under the Convention lies in the promotion of the combating of land degradation:

- for the Framework Convention on Climate Change, the responses to the impacts of elevated carbon dioxide and climate change on ecosystems, such as the risks of biodiversity loss and accelerated bush encroachment
- for the Convention on the Conservation of Biodiversity, the same
- the Ramsar Convention requires improved catchment management for the protection of Ramsar sites, and
- the forest agreements administered by the UN Forum on Forests require the combating of deforestation and the promotion of sustainable forest management.

DEAT in consultation with the NCB will in the review of departmental strategies pay special attention to those Programmes relevant to the land-management responses to these conventions (see **15.1.8** above) and ensure that these comply with the requirements of the NAP (PrioriA).

DEAT will in consultation with the Department of Science and Technology take steps to ensure that the National Committee on Climate Change and the SA Scientific Committee on Climate Change communicate adequately and in such a fashion as to ensure proper interaction between scientific information and policy development, and that the National Committee pays due attention to the need for policy responses in the field of land management (PrioriA).

Regarding the provisions in the National Environmental Management: Biodiversity Act (2004) for bioregional conservation plans, DEAT will request the South African National Biodiversity Instiiute (currently the National Botanical Institute) to facilitate the development of these plans, along the lines of CAPE, SKEP and STEP, in consultation with the National Coordinating Body, augmented to incorporate the guidelines for land management to be followed in the development of IDPs and in this way to support the mainstreaming of the NAP (PrioriB).

15.2 Strengthened local institutions and instruments for sustainable land management and projects that contribute to substantial eradication of rural poverty

15.2.1 Enabling legislation for local institutions

Because plans and projects for sustainable land management are predominantly local, at a scale of about the ward, local government will often not have the reach to provide support much beyond the formulation of the IDP. Civil society institutions will therefore have to be the main vehicle for local delivery of sustainable land management plans, projects and services. There is a variety of such local institutions currently active in the field (see section 10.2 above). Local initiatives should build as far as possible on the existence and work of current local institutions, but there needs to be statutory legitimacy for these institutions to operate in this field. For better integration, local institutions should be merged to the degree appropriate to required effectiveness and efficiency. A useful mechanism is for institutions to acquire additional statutory recognition and empowerment, such as provided for in the National Veld and Forest Fire Act (1998) and the Sustainable Use of Agricultural Resources Bill.

In order to achieve this, DEAT in consultation with the NCB (PrioriiA):

- will negotiate with the Department of Land Affairs to include a provision in the Land Use Management Bill for the statutory registration and empowerment of existing local institutions (as for example in section 4(3) of the National Veld and Forest Fire Act (1998)), or where they are absent, of a Sustainable Land Management Association, and the considerations that would apply for recognition
- with the Department of Provincial and Local Government, formulate regulations for gazetting under the Local Government Municipal Systems Act, 2000 the provisions needed to require that local government should consult with such structures in the formulation or revision of IDPs
- provide for the creation of incentives for the maintenance or establishment of such institutions, through making their registration a prerequisite for ongoing projects, such a Working for Water, Working on Fire, and Landcare, as well as new projects.

15.2.2 Finalising the standards for the integrated land management planning package: CBNRM principles, DPLG community based planning process, local area plans and land degradation risk management

The Guidelines for IDPs do not contain adequate requirements to address sustainable land management. In addition, when development needs are aggregated from the level of community to municipality, the detail of needs at community level is lost.

In order to address this deficiency,

- DEAT in consultation with the National Coordinating Body will develop appropriate prescriptions for SEAs
- DEAT in consultation with the NCB will work with the IDT and the Department of Provincial and Local Government and the Department of Land Affairs to agree on a standard but flexible local sustainable land management package that would include the guidelines for Community-Based Natural Resource Management, the Community-Based Planning manual of the Department of Provincial and Local Government, and the Local Area Planning tool under development by the IDT, supported by the Land Risk Management Tool (see Appendix B)
- DEAT in consultation with the NCB will with the IDT, test and improve this package by commissioning pilot studies in selected ISRDP nodes, and for its relevance to provincial strategy development, in Mpumalanga
- DEAT in consultation with the NCB will with the Department of Provincial and Local Government promote the adoption of the agreed standard throughout the country and formulate regulations for gazetting under the Local Government: Municipal Structures Act, 2000 the provisions needed to require that planning will conform to such guideline standards (Priority A).

15.2.3 Building land management institutions in municipalities located in areas with predominantly communal land

Civil society structures that address one or more aspects within the area of the former homelands are weak or non-existent. It is also mainly within these areas that government can justify the financial transfers required to address sustainable land management, poverty eradication, and local development.

In order to address the deficiencies in local institutions in these areas, the Department of Provincial and Local Government should:

- make grants for local land-management projects contingent on provision for the establishment of recognised local institutions to oversee the development and implementation of such projects
- provide for the affirmative procurement of support services from local service providers including NGOs, and

- examine the model of Umbrella Fire Protection Associations and the experience ion the Working on Fire Programme, as additional vehicles of support to local institutions, while
- DEAT in consultation with the NCB should monitor and evaluate once annually the progress with and performance of these institutions (Priority A).

15.2.4 Coupling land management with community health

In many rural areas the depletion of human resources is aggravated by morbidity and mortality owing to HIV/AIDS

In order to counteract the effects of poor health and mortality on interventions to promote sustainable land management, DEAT in consultation with the NCB will set standards that require:

- inclusion in any land-management intervention project of an HIV/AIDS package that is built on best practice, including lessons from the model applied by Working for Water (Priority B).

15.3 Effective and adequate financing and resource mobilisation

15.3.1 The global funds

There is a variety of opportunities for South Africa to draw upon multilateral sources of funding and finance for the combating of land degradation in South Africa. The GEF has opened a new "window" of funds for the purposes of the Convention. The aims of the global Solidarity Fund are also relevant. Elements of World Bank funding can also be addressed for the combating of land degradation.

The Minister of Environmental Affairs and Tourism with the Minister of Finance, will therefore inform these and other relevant agencies of the contents of the NAP and of those elements of this strategy for implementation that should be considered for funding and finance from these sources, as well as informing potential applicants for such money.

15.3.2 Bilateral support

Many of South Africa's overseas development assistance partners have a focus on natural resources management in relation to poverty eradication and development, or are open to support to this field if the Government affirms its priority.

The Minister of Finance, in consultation with the Minister of Environmental Affairs and Tourism, will therefore inform the overseas development assistance community in South Africa of the contents of the NAP, and affirm the priorii that the combating of land degradation has been accorded, within the framework of the Integrated Sustainable Rural Development Strategy. In addition, the Director-General of DEAT with National Treasury will call a donor conference to discuss and affirm NAP priorities.

15.4 Effective mobilisation, generation and delivery of the knowledge and information required to support sustainable land management

15.4.1 Preparing the ground: creating awareness through education of civil society and its institutions of the problem of land degradation, its causes and its solutions

Stakeholders and the general public often have little understanding of the concepts of desertification and land degradation, nor of their risks and costs, and of the management options available to promote sustainable land management. It is vital to ensure that there is a wide understanding of the NAP.

To ensure this:

- DEAT will prepare a three-page information piece for decision-makers, that will convey the essence of the NAP with maximum impact (Priori A)
- DEAT will publish a quarterly newsletter for wide communication about the implementation of the NAP, as well as supporting posters (Priori A)
- DEAT will with the Department of National Education conduct a review of curricula where they address land and natural resources management and ensure that these curricula contain material appropriate to sustainable land management (Priori B)
- a DEAT will negotiate with the Surveyor General to incorporate a natural resources component into the project on map literacy, linking this with information contained in bioregional plans (Priority A).

15.4.2 Building and retaining the capacity among institutions, people and communities to conduct sustainable land management

In all spheres of government, among service providers, and in civil society there are deficiencies in the capacity needed to implement the NAP. This is felt most keenly at the local level, which is also the level where competent people are often depleted by recruitment to provincial or national entities.

To rectify capacity deficiencies, DEAT will:

- convene workshops for the design of training modules and standards appropriate to sustainable land management, for adoption by the appropriate National Standards Generating Bodies, involving the FIETA, PAETA, and other appropriate sectoral training authorities, the National Standards Generating Bodies, and other stakeholders
- develop a strategy for identifying, mobilising and protecting indigenous knowledge relating to land management
- work with the Department of Provincial and Local Government to have these modules built into the capacity building programme run by that Department, targeting especially provincial, regional, and local institutions
- within the awareness initiative, raise the profile of sustainable land management practitioners and take any other measures needed to promote job satisfaction among this body of experts.

15.4.3 International exchange of information on best practice

Most countries throughout the world have maintained of initiated programmes of land management from which South Africa can transfer or adapt best-practice guidelines for use here. Although there is already exchange of information on land management, this exchange can be considerably enhanced.

DEAT in consultation with the NCB will therefore:

- discuss with overseas development assistance partners the possibilities of further international exchange in this field, and include the outcomes of these discussions in its work programme
- promote the inclusion of funding for overseas exchange within the Fund for the Combating of Land Degradation
- review and establish South Africa's role in SADC and in NEPAD to share information with parties in Africa
- encourage the National Research Foundation and other national science and technology institutions to promote international scientific exchange in this field (all Priori A).

15.4.4 National priorities in research and the development of sustainable land management policy and practice

Adequate progress in the combating of land degradation requires a sound body of scientific information as a foundation for rational policy and practice. This body of knowledge needs to multidisciplinary, with adequate balance between natural and social science. There needs to be proper and competent linkage between rational knowledge and the development of policy and practice.

Currently, there is patchy attention to research and development that is relevant to this field in South Africa. In order to address this deficiency:

- the Department of Science and Technology in consultation with the Department of Environmental Affairs and Tourism, will review the National Strategy for Science and Technology to ensure that it addresses the needs of the NAP in a coherent fashion, and ensure that the providers of research and development are informed accordingly, with due attention to the intents of the National Sustainable Land Management Framework and of bioregional conservation plans
- the National Research Foundation will align its priorities with the revised strategy and as national focal point for the International Council of Scientific Unions, promote proper alignment with international science in initiatives in this field, including those addressing global change and sustainabilii science
- the national science and technology providers in this field, i.e. the Agricultural Research Council, the CSIR, and the Human Sciences Research Council, will review their strategies and achieve alignment with the NAP (Priori B).

15.4.5 Global change and land degradation

There is convincing scientific evidence that global change poses a substantial risk to sustainable land management in South Africa in the responses within ecosystem anticipated (see 8.4.2 above). Nevertheless (a) there are uncertainties about the scientific projections and (b) there has been no formal or adequate examination of the policy responses appropriate to land management.

In order to address this deficiency:

- the Department of Science and Technology should commission a scientific review, according to the standards of the FCCC IPCC, of the work on global change and ecosystems in South Africa, and ensure adequate exposition of the risks and uncertainties attending current outlooks
- the National Committee on Climate Change should revise the Country Studies Report accordingly and see that it is issued

- DEAT with the National Committee on Climate Change should commission an analysis of the policy options to address anticipated ecosystem impacts of global change and derive from this appropriate recommendations for government policy to manage the impacts of global change (all Priority A).

15.4.6 The consequences of premature de-agriculturalisation

The research on South Africa's rural economy outlined in section 6 above indicates that there is severe structural distortion of this sector, which may constitute a uniquely difficult obstacle in the path of achieving sustainable land management.

To understand the policy implications of premature de-agriculturalisation, DEAT in consultation with the NCB together with appropriate science and technology providers should commission appropriate policy review in this field and follow this with a process to develop effective policy guidelines (Priority B).

15.4.7 New financial mechanisms to support sustainable land management

Sustainable land management delivers public goods and services for which there are currently no markets, or at best very weak markets. There are however emerging or incipient markets for such things as carbon sequestration and biodiversity protection. Financial transfers from international or national sources may be appropriate for certain services, such as catchment protection.

To determine strategy for the promotion of new financial mechanisms to promote sustainable land management, DEAT will commission a policy review in this field, with support from overseas development assistance partners, including the following:

- in collaboration with the World Bank, on kick-starting carbon markets locally, especially in regard to reforestation projects (Priority A)
- on the financing of biodiversity protection (Priorii B)
- in collaboration with the Department of Water Affairs and Forestry, on the financing of catchment management services and a review of the water charges policy formulated in terms of the National Water Act, 1998 (Priority B).

15.4.8 Causal relationships in land degradation

Land managers and those who develop land management plans need to understand adequately the chain of causality that leads to locally observed land degradation. This is because cause and effect need to be identified to allow the bets choice of management strategy for any given land degradation risk. These cause-effect relationships are often not understood in a degree sufficient to allow rational choice of the most effective intervention to reverse the degradation, or to prevent future degradation.

DEAT will:

- commission appropriate case-study reviews to satisfy this need
- ensure that the findings are incorporated into certified training packages (Priority B).

15.4.9 The consequences and costs of land degradation

Although the consequences and costs of land degradation are evident, the infomation about this that is available is patchy.

To ensure that we have an adequate understanding of the full extent of land degradation costs and consequences, DEAT will commission work to (Priority B):

- identify the principal forms of land degradation evident in each municipality
- conduct an overall risk assessment for each municipality
- provided an aggregate picture of land degradation consequences
- estimate the costs to society and the economy of the main land degradation risks, and
- use this information in raising awareness and guiding priorities for interventions.

15.4.10 Systems to deliver information to the local development plans

Local communities and institutions engaged in sustainable land management need ready access to locally relevant planning information (a) with respect to policy and practice, for national and provincial frameworks and (b) with respect to the land resources they manage. There is a multitude of relevant information sets available, but not accessible.

There are various important initiatives that offer the promise of effective gateways *to* these information bases by local communities and their service providers, including the Risk and Vulnerability Atlas under development by the Department of Provincial and Local Government, AGIS developed by the department of Agriculture and SA-ISIS. SA-ISIS, developed through the Innovation Fund, is in beta test before commercialisation, but its business model allows for free access in needy cases.

To address this issue, DEAT with the Departments of Provincial and Local Government and of Land Affairs should commission the work needed to:

- identify the institutions providing relevant information, and define their roles
- formulate the specifications for an information service to local communities, on the basis of a needs and benefits assessment, and
- develop a plan for an integrated policy-relevant and locally-relevant information system for land management planning (all Priority B).

15.5 Assessment of and improvement to policies that impact on land management (priority C)

15.5.1 Regulations and incentives for the promotion of the combating of land degradation

The sustainable management of land is strongly influenced by diverse regulations, incentives and disincentives. This is especially so in the case of the "commercial" sector. The multifunctionality of agriculture may be promoted or otherwise by the array of incentives and disincentives faced by farmers. The regulatory portfolio includes provisions in diverse statutes, such as the Conservation of Agricultural Resources Act, 1983, the National Forest Act, and the National Water Act, 1998. These incentives or disincentives may be fiscal or financial, the availability or otherwise of support services, self-regulatory methods such as certification schemes, and others.

To provide an overall strategy for improvement of the regulatory and incentive environment needed to promote the combating of land degradation, DEAT with the NCB will commission work on the following, as a basis for development of that strategy (Priority B):

- the influence on land management of the provisions in statutes, and the regulations issued in terms of the statutes, including the Conservation of Agricultural Resources Act, 1983 (or its successor, the Sustainable Use of Agricultural Resources Bill), the Land Use Management Bill, the Local Government Rates Bill (2004), the National Forests Act, 1998, the National Water Act, 1998, the National Veld and Forest Fire Act, the National Environmental Management Act, 1998 (especially the regulations on integrated environmental management)
- green taxes; building on recent work in the National Treasury
- provider-gets schemes
- forest certification, the Farmer's Charter, sustainable tourism initiatives, and other certification schemes that would promote incentives for the combating of land degradation.

15.5.2 Security of tenure in natural resources

Where communities are insecure about their tenure of land and its resources, unwilling neglect and degrade follow. This insecurity often comes from criminal actions, or local conflict between and among institutions ,involved in land and resources. There is no ready solution to this problem.

However, to make progress, DEAT will (Priority B):

- make an assessment of the risks associated with tenure insecurity by analysing every municipality for tenure status and hazards to securii, and thus compiling a risk map of the country
- use this as a basis (a) for negotiation with the Department of Land Affairs about possible solutions and (b) to guide priorities for sustainable land management.

This work will be linked with the work in 15.4.9 above.

15.5.3 Reviewing and improving macro- and micro-policies that affect land degradation

The way land is used is influenced by the regulations, policy and market signals, and support services that impact on users and managers of the land, and the entities with which they have social, market and policy links, especially locally. This field of influence is determined not only by directly relevant policy fields, but also the larger and perhaps more remote fields, such as economic, trade, market and even foreign immigration and safety policies.

In order to achieve the sustainability goals in rural development, and hence promote the combating of land degradation, these influences need *to* be understood in their totality, the sources of beneficial or detrimental policy elements identified, and proper corrective action taken where needed.

To this end, DEAT will (Priority B):

- commission a review of sound case studies in rural development in South Africa to identify the policy elements that have influenced each, and draw policy lessons from this assessment
- commission with ODA partners equivalent reviews on experience elsewhere, through the literature or otherwise if necessary
- feed these policy lessons into the relevant policy fields in South Africa, and

- commission new cased studies as needed.

15.6 Assuring sustainable outcomes from the Land Reform Programme: implementation of the DLA environmental guidelines

The new owners of land that are realised through the land reform programme will in time manage a very large fraction of rural South Africa. Clearly, it is vital to ensure that the land is sustainable managed and that the planned support to the new owners is effective in this regard.

To this end, DEAT will:

- collaborate with the Spatial Planning Facilitation Directorate in the Department of Land Affairs to ensure that the latter Department's guidelines are developed to all projects, and captured in all relevant certified training modules (Priority A)
- develop minimum requirements to ensure that the necessary after-care for and monitoring of Land Reform projects by agricultural institutions is assured and reported upon
- monitor and evaluate implementation (Priority C)
- collaborate in rationalising and improving the Guidelines (Priority C)
- examine the need or otherwise to prescribe the Guidelines in Statutory regulations (Priori C).

15.7 Monitoring, evaluation and continuous improvement

The NAP requires a significant commitment of human and financial resources, for which there are many competing uses.

Sound monitoring and evaluation is critical for the success of the South African NAP process. It must track progress of the implementation of the NAP and ensure that the NAP is on track. Remedial action will be needed where this is not the case. This is a prerequisite for good governance. Monitoring and evaluation must ensure that the intended consequences are being achieved from the NAP interventions. This is critical to secure long term funding. The NAP must be an adaptive management process that can recommend change where desired results are not being achieved either in the implementation process or in the resultant consequences from implementation. Reporting on the NAP and the state of desertification is an international obligation as a signatory to the UNCCD.

15.7.1 A system of indicators against which land degradation and NAP implementation is monitored must be established, and these must be coordinated with current reporting processes

DEAT will commission a process to develop a set of indicators and methodologies for monitoring NAP implementation and desertification. The driving force-pressure-state-impact-response (DPSIR) framework should be used. The Land Degradation Assessment in Drylands approach should be followed to develop the indicators and methodologies and this must be conducted taking the following into account:

- the process must be participatory
- the process must link to other reporting processes such as state of the environment, state of forests, Statistics South Africa etc and where possible should use or strengthen their current indicators
- co-ordination and shared data must be obtained between current M&E processes to prevent duplication of effort
- should be an iterative process requiring successive approximations and be adaptive to new learning

- must be multi-scale from local to national
- based on empirical knowledge and practical experience
- focus on goods and services of drylands
- integrative in an interdisciplinary sense
- must have flexibility
- must be based on sound scientific principles
- must promote sound governance by providing auditable accounts of interventions

This process will provide the indicators and methodologies to be used to achieve the monitoring and evaluation requirements below.

15.7.2 Progress toward implementation of the NAP must be monitored and evaluated every year

DEAT will ensure monitoring and evaluation of the NAP implementation every year. Bodies independent of the NCB will conduct the monitoring. Monitoring will cover both national initiatives and local implementation (as covered in greater detail below).

15.7.3 Progress toward reaching the goals of the NAP must be monitored and evaluated every Three years

The state of the land must be monitored, evaluated and reported on every three years. This must cover both biophysical and socio-economic aspects using a DPSIR approach.

DEAT will ensure that a national state of desertification (state of the land) monitoring and evaluation takes place on a three yearly basis. A state of the land report must be submitted to Parliament every three years. The monitoring process must be linked to rigorous review of successes and failures and the NAP must be adjusted accordingly. This monitoring process must be closely aligned with and draw on data from:

- State of the environment M&E
- State of the forests M&E
- M&E in Land Affairs
- Agricultural resource M&E
- Drought and food security M&E
- The Statisitics South Africa M&E
- Veld fire M&E
- National Land Cover
- Water Resources M&E
- Millennium assessment M&E process
- and others as identified in the process.

15.7.4 Monitoring at the Municipal and local level

Municipalities must report on a yearly basis on the extent of desertification activities and projects within their municipality. Local level monitoring must feed into this process. This must cover the number and value of projects being implemented, progress on projects, the number of people involved, and size of area and nature of interventions. Provincial Departments of the Environment together with Departments of Agriculture must combine the data to provide provincial assessments of project implementation for the NCB.

Municipal IDP managers must report on the nature, severity and risk associated with desertification on a three yearly basis, aligned with the IDP process.

The indicator development process must provide a detailed reporting framework including a set of monitoring and reporting tools to facilitate this reporting process.

15.7.5 Community level monitoring

Community monitoring of resource status should be a key component imbedded into local level resource management structures such as CBNRM committees, ward development committees etc. The approach to be followed here must be based upon the methodology of sustainable livelihoods. This local monitoring is a key component of a local process of continual improvement. The key purpose of this monitoring is to inform local decision making, and need not necessarily be used to feed back into national reporting. Monitoring is also a vital process in the development of local capacities to manage resources sustainably. Establishment and training of local monitoring institutions or structures should be a component of local resource management projects. Appropriate methodologies, such as Participatory Impact Monitoring, should be applied. DEAT must develop a set of guidelines and training material to assist this.

15.7.6 The need for long term monitoring sites and appropriate research on monitoring methodologies

Effective monitoring and evaluation of progress in the combating of land degradation also requires scientifically sound long-term observation of key environmental and social variables at an adequate range of sites across the country. South Africa has tended to neglect the needs for an adequate network of long-term ecological research sites. In addition, the adequacy of the network of weather stations is uncertain.

In order to address these deficiencies:

- the National Research Foundation should conclude its work on the South African Ecosystems Observation Network, and with the Department of Science and Technology, conclude the plan for establishment this network; the Director-General of Science and Technology should then ensure that the network is adequately financed and managed
- the Chief Executive Officer of the South African Weather Service should commission an investigation of the weather station network as basis for the optimum design of a future network, and implement the preferred design; this investigation should take account of the existence of the network maintained by the South African Weather Service, of the agro-meteorological network, and the network associated with the national hydrological programme, and consider the opportunities offered by new observation technologies.

15.8 Programmatic approach to intervention projects

15.8.1 Testing the planning package – the pilots

The Community-Based Planning process, the Local Area Planning procedure, and the Land Degradation Risk Management Standard (see Appendix B) need to be integrated into a package for local (about ward level) planning for the promotion of sustainable land management, to be conducted according to the agreed principles of Community-Based Natural Resource Management.

To this end, **DEAT** will (Priority **B**):

- commission work to complete the draft Land Degradation Risk Management Standard, taking due account of similar and related standards, such as those implemented in terms of the National Veld and Forest Fire Act and Working for Water
- commission a trial of the standard within a pilot, see to the necessary improvements, and have a case compiled on the basis of this study
- work with the IDT to integrate the Community-Based Planning process and the Local Area Planning procedure, and to formulate the final principles of Community-Based Natural Resource Management for application in local planning
- compile amendments to the guidelines for the IDP to accommodate the need for local sustainable land management planning, and ensuring that the requirement for a planning scale at about ward level is properly accommodated with the IDT, commission tests of the package at least five pilot sites, evaluate the results, make any further improvements that may be needed, and transfer the material to training entities for mainstreaming into the capacity-building programme.

15.8.2 Reforestation

Deforestation, both of closed forests and of woodlands, is pervasive throughout South Africa, but especially in the areas of the former homelands. This loss of resources has a disproportionate impact on household livelihoods, because of the multifunctional nature of forest resources. Deforestation also has disproportionate local and regional impacts of water resources and biodiversity.

To address this urgent problem DEAT will:

- with the Department of Water Affairs and Forestry, analyse each municipality and set priorities for projects to combat deforestation and to promote reforestation
- identify urgent projects
- direct the relevant programme in the Department of Water Affairs and Forestry to these projects, and ensure that the medium-term expenditure framework of the Department addresses future priority needs
- jointly procure the required projects.

15.8.3 Renewable energy

Deforestation is often driven mainly by the use of fuel wood from natural resources by rural households. These households are often beyond the reach of the national electricity grid, or cannot afford grid electricity, or both. There are a variety of innovative options to substitute renewable energy sources for fuel wood.

With this in mind, DEAT will:

- with the Departments of Water Affairs and Forestry and of Minerals and Energy, identify, promote and/or procure appropriate rural renewable energy projects.

15.8.4 Deploying catchment management: rural employment based upon natural resource management: Working for Water, Working on Fire, Working on Wetlands, LandCare, and integrated catchment management

The new focus on sustainable land management and the gap in catchment management in South Africa requires a fresh approach to rural employment creation through land rehabilitation in critical degraded catchments.

To address this, DEAT with its partners will:

- assess the scope of opportunities for rural employment that arise from the promotion of sustainable land management, especially regarding degraded lands in the former homelands, invasive alien plants, and catchment management
- formulate a strategy to address these opportunities
- review the business plans of Working for Water, Working on Fire, Working on Wetlands, and LandCare
- focus these revised business plans on agreed areas of priority (Priori B).

Appendix D provides an approach to these intervention projects.

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APPENDIX A: EXAMPLES OF CURRENT PROGRAMMES AND PROJECTS IN SOUTH AFRICA

A.1 Introduction

There are a variety of projects, programmes and institutions in South Africa that contribute to the combating of land degradation through local interventions. These have yet to be surveyed, but what follows is a series of examples to illustrate the nature of the work in progress.

A.2 The National LandCare Programme

LandCare is a community-based programme of the National Department of Agriculture aimed at optimising the productivity and sustainable use of resources. It has had support until recently from AusAid. From its inception in 1998 up to 2000, LandCare created 7 016 direct short-term employment opportunities.

The vision and overall goal of Landcare:

Vision: The development and implementation of systems of land use and management, which will sustain individual and community benefits presently and in future" (South Africa 2000)

Overall goal: "LandCare seeks to optimise productivity through the sustainable use of natural resources resulting in greater food securii, job creation and better quality of life for all" (South Africa 2000).

The allocated LandCare budget for 2002/2003:

Province	Totals (Focused Investment and Small Community Grants)
Mpumalanga	R2 000 000.00
Eastern Cape	R6 000 000.00
Western Cape	R1 300 000.00
Northwest	R3 000 000.00
Northern Cape	R1 300 000.00
KwaZulu-Natal	R4 000 000.00
Limpopo	R5 000 000.00
Free State	R1 400 000.00
National projects	R1 000 000.00
TOTAL	R25 000 000.00

Implementation of LandCare

Two instruments are used to implement the programme: Focused investment and small community grants.

- Focused investment

Focused investment resources are distributed according to four major themes namely WaterCare, SoilCare, VeldCare and JuniorCare, which is aimed at raising awareness within the youth of South Africa.

- Small community grants

  Small community grants form part of LandCare as an instrument to catalyse action and an ongoing commitment to natural resource management.

A.3 The Desert Margins Programme

The Desert Margins Program (DMP) is a co-funded with the Global Environmental Facility (GEF) to support research activities related to desertification in nine African countries, i.e. Kenya, Botswana, Burkina Faso, Mali, Namibia, Senegal, Niger, South Africa, and Zimbabwe.

The overall objective of the DMP is to conserve and/or restore biodiversity and arrest land degradation in Africa's desert margins through demonstration and capacity-building activities for sustainable utilisation of dryland ecosystems.

The GEF increment to this project will enable the programme to address issues of global environmental importance as well as to develop and implement national strategies, on issues of national economic and environmental importance, and in particular:

- on the loss of biological diversity
- reduced sequestration of carbon
- increased soil erosion and sedimentation.

Key sites harbouring globally significant ecosystems and threatened biodiversity have been selected in each of the nine countries to serve as field laboratories for demonstration activities related to monitoring and assessment of biodiversity status, improving the understanding of ecosystem status and dynamics, testing of most promising natural resource management options, developing sustainable alternative livelihoods and policy guidelines and replicating successful models. The project will make a significant contribution to reducing land degradation in the marginal areas and to help conserve or restore biodiversity. The work will comply with guidelines, recommendations and supportive national policies that address degradation and biodiversity concerns in the implementing countries.

The DMP has a long history that dates back to the Rio summit of 1992. Two- and-a-half years of planning and global consultation led to the initial proposal being submitted in 1996 by the International Crop Research Institute for Semi-Arid Tropics (ICRISAT). Regional workshops were held in South Africa during the same year to develop South African priorities. Follow up workshops on appropriate issues related to the DMP/GEF programme were held in all nine countries, including South Africa during 1998, 2000 and 2001. GEF was approached and a GEF grant was finally approved in November 2001. The funding is over six years broken into three two-year phases. The total GEF grant to all nine countries is US$ 16 335 000, and each country is expected to contribute an additional amount in cash or in kind.

The DMP governance is organized according to three distinct and complementary levels: National (country), Sub-regional (western and southern/eastern Africa) and regional (Africa) including at the GEF level (i.e. GEF/UNEP; GEF/UNDP). The DMP Regional Co-ordinator is located at the ICRISAT Sahelian Center in Niamey, Niger.

The South African component of the project will focus on test communities in selected target areas in the Northern Cape and North West Provinces. Existing LandCare or other related and currently funded projects, will be targeted with the DMP project allowing for greater research and capacity building. GEF contribution to South Africa will total US$ 984 000 with South Africa expected to raise an amount of about 1.9 million US$. The Potchefstroom University for CHE has been appointed as the National Co-ordinating unit for the DMP/GEF program in South Africa, with Prof Klaus Kellner as the National Co-ordinator of the project. Monitoring and evaluation activities will follow the ICRISAT, GEF and UNEP procedures.

A.4 Working for Water

Mission Statement

'The Working for Water programme will sustainably control invading alien species, to optimise the potential use of natural resources, through a process of economic empowerment and transformation. In doing this, the programme will have a legacy of social equity and legislative, institutional and technical capacity." (South Africa 2001)

Working for Wafer's challenge

Invading alien plants (IAPs) have become established in over 10 million hectares of land in South Africa. The cost of controlling IAPs in South Africa is estimated at R600 million a year over 20 years. If left uncontrolled, the IAPs problem will double within 15 years. IAPs consume 7% of our water resources.

Achievements of Working for Water

Number of people employed (2000/2001)	23 998
Number of projects (2000/2001)	313
Alien plants cleared (1996 – 2001)	170 660 hectares
Follow-up clearing undertaken	183 736 hectares
Number of wetlands undergoing rehabilitation	20
Total expenditure (1996 - 2001)	R 1 124 848 000.00

Some components of *Working for Wafer*

- social development:
  - child-care for children of workers
  - HIV/AIDS interventions
  - partnership with the Planned Parenthood Association of South Africa (PPASA)
  - Nicro ex-offender reintegration in partnership with the Department of Welfare
  - saving schemes for workers.
- wetland rehabilitation
- research
- secondary Industries
- partnerships: Santam/Cape Argus Ukuvuka: Operation Firestop Campaign

Financial and institutional arrangements:

Working for Water is funded through the Poverty Relief funds of the government, as well as through revenues from secondary industries. The DWAF and DEAT are jointly accountable for the programme. Implementation projects involve a diverse array of partnerships around the country, which together include government departments, conservation agencies, and businesses, such as companies in the forest sector.

A.5 Working for Wetlands

Drawing on the experience and successes of Working for Water (WfW), the Working for Wetlands (WfWet) programme was established in July 2002. This programme aims to facilitate the conservation, rehabilitation and sustainable use of wetland ecosystems in South Africa. All projects are deliberately designed *to* be labour intensive thereby creating employment while achieving the aforementioned goal. This programme currently operates from within WfW and is a partnership between WfW, the Department of Environmental Affairs and Tourism (DEAT), the Department of Agriculture (NDA), DWAF, the Mondi Wetlands Project and other organisations.

In its first year of operation, fourteen rehabilitation projects were implemented on state, private and communal land covering various wetland types. WfWet reports that the efficiency and success of the rehabilitation work in these projects is already evident from the degree of sedimentation behind structures, stabilising of gully erosion and rewetting of previously drained areas. An indication of changes in wetness has also been demonstrated by the change in plant species composition over time, with terrestrial species gradually being replaced by wetland vegetation.

WfWet currently draws its funding mostly from the WfW Poverty Relief Fund allocation with additional support from Rand Water. The programme's budget for the 2003/04 financial year is R30 million.

A.6 The Community Based Public Works Programme

The Community Based Public Works Programme (CBPWP) focus is the identification of clusters of projects within identified poverty pockets in rural disadvantaged communities. The objectives of this programme – otherwise known as Ilimdletsema (Working Together) – are poverty alleviation and job creation by way of labour-intensive construction methods while creating community assets. The programme targets South Africa's poorest and most disadvantaged sector of the population, the rural poor. Although the stated objectives of this programme are related to construction of community assets, CBPWP is active at a much larger scale. Some projects implemented in the 2000101 financial year include Community Production Centres – concentrating on the provision and/or upgrading of agricultural infrastructure in partnership with the Department of Agriculture for food production and rural economic generation – and Clean & Green, an environmental programme implemented in partnership with South Africa Breweries (SAB) to provide waste removal services and waste management awareness in under-serviced areas. In 2000101, National Treasury allocated funding to the value of R249 million which was increased by R100 million from the budget of the Department of Public Works. Ilima/Letsema works closely with the Integrated Sustainable Rural Development Programmr (ISRDP) and forms part of the Inter-Departmental Task Team for this programme. Community projects implemented by Ilimdletsema covers a broad spectrum, also addressing environmental protection through erosion control, donga rehabilitation and revegetation projects.

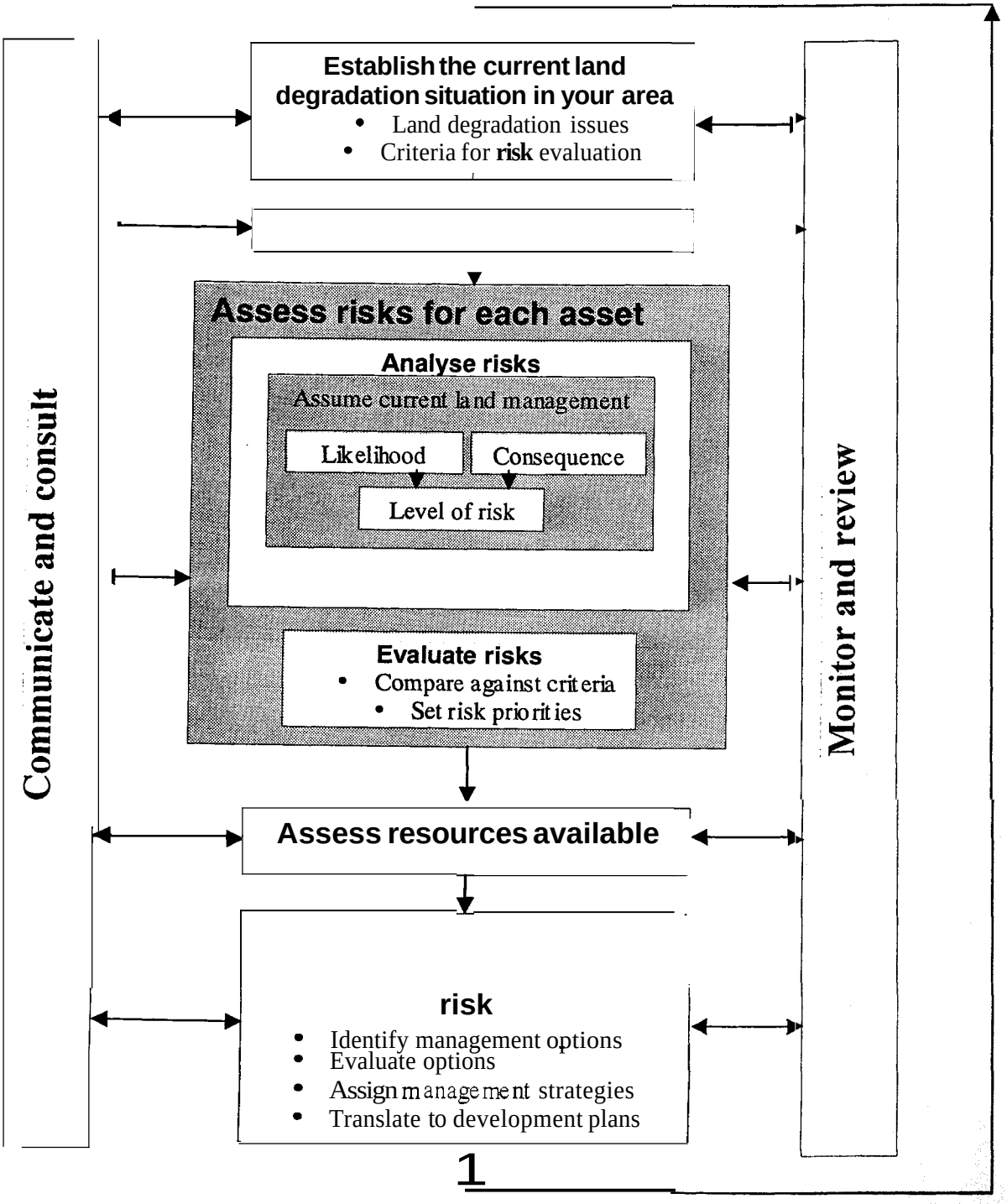
APPENDIX B: LOCAL PLANNING FOR SUSTAINABLE LAND MANAGEMENT: LAND RISK MANAGEMENT

OVERVIEW

- Use environmental risk management approach within the Community-Based Planning/Local Area Planning emergent standard.
- In this way, link to **IDPs.**
- Identify livelihood assets of value, assign management strategies according to nature and priority of risk arising from land degradation/drought.
- Provide for within-community risks as well as off-site risks.

RISK CONCEPTS

- Land degradation risk: the chance of land degradation that causes damage to assets of value to the community.
- In order for there to be a risk there must be some asset that is exposed to a hazard.
- The level of risk faced by the asset depends on the likelihood that the hazard will eventuate, and the vulnerability of the asset to loss or damage arising from the asset, i.e. the consequence.
- so:
    - **risk = function of (likelihood of hazard) and (consequence).**


Establish the current land degradation situation in your area
• Land degradation issues
• Criteria for risk evaluation
Assess risks for each asset
Analyse risks
Assume current land management
Likelihood
Consequence
Level of risk
Evaluate risks
• Compare against criteria
• Set risk priorities
Assess resources available
risk
• Identify management options
• Evaluate options
• Assign management strategies
• Translate to development plans
Communicate and consult
Monitor and review
1

APPENDIX C: SUMMARY OF STRATEGIES FOR THE NATIONAL ACTION PROGRAMME

Strategic Objective 1: Strengthened governance in the national and provincial spheres for an integrated and coordinated thrust in the NAP			
Activities	Outcomes	Responsibility	Priority
15.1.1 Coordination and integration of national frameworks: coordination and integration within government	Coordination of UNCCD and NAP assigned to Ministerial and DG Clusters for the Social Sector	Government (Presidency)	A
	DEAT reports appropriately to the Cluster	DEAT	A
15.1.2 The Committee for Environmental Co-ordination	DEAT links with the CEC via Sub-Committee on Biodiversity to promote the coordination necessary to achieve sustainable land management.	DEAT	A
15.1.3 National Coordinating Body for the UNCCD	NCB established	DEAT	A
15.1.4 Focal Point and the National Action Programme	Ministers of Environmental Affairs and Tourism, Land Affairs and Agriculture, Finance, Provincial and Local Government and Water Affairs and Forestry jointly agree on a protocol and/or a Memorandum of Understanding that will determine the modalities of and procedures for national cooperative government in the field of sustainable land management	DEAT	A
	Management objectives established in DEAT to meet obligations as Focal Point	DEAT	A
	Audit of the institutional arrangements relevant to sustainable development make recommendation for necessary improvement.	DEAT	B
15.1.5 The National Disaster Management Framework and the work of the Disaster Management Advisory Forum	Elements of National DM Framework for drought, floods, food security and veldfires are identical in sustainable land management framework	Head: National Disaster Management Centre and Chief Director: Biodiversity and Conservation, DEAT	A
15.1.6 The National Water Resource Strategy and catchment management	Mountain Catchment Areas Act reassigned	DEAT and DWAF	B
	Guideline for catchment management and land management	DEAT	B
	Plan for series of catchment management projects	DEAT	B

Strategic Objective 1: Strengthened governance in the national and provincial spheres for an integrated and coordinated thrust in the NAP			
Activities	Outcomes	Responsibility	Priority
15.1.7 The National Sustainable Land Management Framework	**Framework formulated and adopted**	**DEAT**	A
15.1.8 Review and revision of the strategies and MTEFs of relevant national departments	**Programmes relevant to NAP revised or restructured**	**DEAT, Cluster**	A
	New finance for conditional grants in the Equitable Share for local government for NAP	**DEAT, DPLG**	A
	New finance to ensure sustainable transfer of land through the land reform programme,	**DoA**	
	Appropriate budgetary provisions for the financing of LandCare, Working for Water, Working on Fire, catchment management, and land rehabilitation and reforestation schemes, the latter within the former homelands only, and renewable energy projects that promote sustainable land management	**DEAT, DWAF, DoA, DME**	A
15.1.9 Achieve synergy between the relevant Conventions: CCD, FCCC, CBD, Ramsar, and the forest agreements	**Programmes in departmental strategies relevant to these conventions and NAP comply with the requirements of the NAP**	**DEAT**	A (and B)
	National Committee on Climate Change and the SA Scientific Committee on Climate Change communicate to ensure proper interaction between scientific information and policy development, and National Committee pays due attention to the need for policy responses in the field of land management		
	National Biodiversity Institute (currently the National Botanical Institute) facilitates development of bioregional conservation plans along the lines of CAPE, SKEP and STEP		

Strategic objective 2: Strengthened local institutions and instruments for sustainable land management and projects that contribute to substantial eradication of rural poverty			
Activities	**Outcomes**	**Responsibility**	**Priority**
15.2.1 Enabling legislation for local institutions	Land Use Management Bill includes a provision for the statutory registration and empowerment of existing local institutions OR a Sustainable Land Management Association. Regulations under the Municipal Structures Act to require that local government should consult with such structures in the formulation or revision of IDPs. Incentives for the maintenance or establishment of such institutions, through making their registration a prerequisite for ongoing projects, such a Working for Water, Working on Fire, and LandCare, as well as new projects.	DEAT	A
15.2.2 Finalising the standards for the integrated planning package: CBNRM principles, DPLG community based planning process, local area plans and land degradation risk management	Standard but flexible local sustainable land management package that would include the guidelines for Community-Based Natural Resource Management, the Community-Based Planning manual of the Department of :Provincial and local Government, and the Local Area Planning tool under development by the IDT, supported by the Land Risk Management Tool.	DEAT	A
	This package tested and improved by pilot studies in selected ISDRS nodes, and for its relevance to provincial strategy development, in Mpumalanga	DEAT	A
	Agreed standard adopted throughout the country and prescribed by regulations under the Municipal Structures Act	DEAT	A

Strategic objective 2: Strengthened local institutions and instruments for sustainable land management and projects that contribute to substantial eradication of rural poverty			
Activities	**Outcomes**	**Responsibility**	**Priority**
15.2.3 Building land management institutions in municipalities located in areas with predominantly communal land	Grants for local land-management projects contingent on provision for the establishment of recognised local institutions to oversee the development and implementation of such projects;	Department of Provincial and local Government	A
	Affirmative procurement of support services from local service providers including NGOs.	Department of Provincial and local Government	A
	The model of Umbrella Fire Protection Associations and the experience in the Working on Fire Programme, used as additional vehicle of support to local institutions Progress with and performance of these institutions monitored and evaluated once annually.	Department of Provincial and local Government	A
15.2.4 Coupling land management with community health	Standards that require inclusion in any land-management intervention project of an HIV/AIDS package built on best practice.	DEAT	B

Strategic objective 3: Effective and adequate financing and resource mobilisation			
Activities	**Outcomes**	**Responsibility**	**Priority**
15.3.1 The global funds	World Solidarity Fund, GEF, and World Bank and applicants informed of the contents of the NAP and of those elements of this strategy for implementation that should be considered for funding	Minister of Finance	A
15.3.2 Bilateral support	Overseas development assistance community in South Africa informed of the contents of the NAP, and the priority it has been accorded.	Minister of Finance	A
See also Objective 1; wrt MTEFs			

Strategic objective 4: Effective mobilisation, generation and delivery of the knowledge and information required to support sustainable land management			
Activities	**Outcomes**	**Responsibility**	**Priority**
15.4.1 Preparing the ground: creating awareness through education of civil society and its institutions of the problem of land degradation, its causes and its solutions	Three-page information piece for decision-makers	DEAT	A
	Quarterly newsletter for wide communication about the implementation of the NAP.	DEAT	A
	A review of curricula where they address land and natural resources management and ensure that these curricula contain material appropriate to sustainable land management.	DEAT	B
	Surveyor General to incorporate a natural resources component into the project on map literacy.	DEAT, Surveyor General	A
15.4.2 Building and retaining the capacity among institutions, people and communities to conduct sustainable land management	Design of training modules and standards appropriate to sustainable land management, for adoption by the appropriate National Standards Generating Bodies	DEAT	A
	Modules built into the capacity building programme run by that Department of Provincial and Local Government	DEAT	A
	Awareness initiative raises the profile of sustainable land management practitioners	DEAT	A
	Any other measures needed to promote job satisfaction among this body of experts	DEAT	A
15.4.3 International exchange of information on best practice	Possibilities of further international exchange in this field discussed with overseas development assistance partners the, and the outcomes of these discussions included in its work programme	DEAT	A
	Inclusion of funding for overseas exchange promoted within the Fund for the Combating of Land Degradation	DEAT	A
	South Africa's role in SADC and in NEPAD to share information with parties in Africa reviewed and established	DEAT	A
	National Research Foundation and other national science and technology institutions encouraged to promote international scientific exchange in this field	DEAT	A

Strategic objective 4: Effective mobilisation, generation and delivery of the knowledge and information required to support sustainable land management			
Activities	**Outcomes**	**Responsibility**	**Priority**
15.4.4 National priorities in research and the development of sustainable land management policy and practice	National Strategy for Science and Technology addresses the needs of the NAP in a coherent fashion, and providers of research and development are informed accordingly.	Departmentl of Science and Technology	B
	Priorities of NRF aligned with the revised strategy and NRF as national focal point for the International Council of Scientific Unions, promotes proper alignment with international science in initiatives in this field, including those addressing global change and sustainability science.	National Research Foundation	B
	National science and technology providers review their strategies and achieve alignment with the NAP.	Agricultural Research Council, the CSIR, and the Human Sciences Research Council	B
15.4.5 Global change and land degradation	Scientific review, according to the standards of the FCCC IPCC, of the work on global change and ecosystems in South Africa, and adequate exposition of the risks and uncertainties attending current outlooks;	Department of Science and Technology	A
	Country Studies Report on climate changed reviewed and issued	DEAT, National Committee on Climate Change	A
	Analysis of the policy options to address anticipated ecosystem impacts of global change and derive from this appropriate recommendations for government policy to manage the impacts of global change.	DEAT, National Committee on Climate Change	A
15.4.6 The consequences of premature de-agriculturalisation	Appropriate policy research on premature de-agriculturalisation, and process to develop effective policy guidelines	DEAT	B

Strategic objective 4: Effective mobilisation, generation and delivery of the knowledge and information required to support sustainable land management			
Activities	**Outcomes**	**Responsibility**	**Priority**
15.4.7 New financial mechanisms to support sustainable land management	Research on: • kick-starting carbon markets locally (with the World Bank), especially in regard to reforestation projects • financing of biodiversity protection • financing of catchment management services and a review of the water charges policy formulated in terms of the National Water Act (with the Department of Water Affairs and Forestry)	DEAT	B
15.4.8 Causal relationships in land degradation	Appropriate research and findings incorporated into training packages	DEAT	B
15.4.9 The consequences and costs of land degradation	Principal forms of land degradation identified in each municipality Overall risk assessment for conducted in each municipality Aggregate picture of land degradation consequences Estimated costs to society and the economy of the main land degradation risks Information used in raising awareness and guiding priorities for interventions	DEAT	B
15.4.10 Systems to deliver information to the local development plans	Information bases relevant to NAP identified, including the Risk and Vulnerability Atlas, AGIS and SA-ISIS Specifications for an information service to local communities formulated on the basis of a needs and benefits assessment, and Plan for an integrated policy-relevant and locally-relevant information system for land management planning	DEAT	B

Strategic objectives 5: Assessment of and improvement to policies that impact on land management			
Activities	**Outcomes**	**Responsibility**	**Priority**
15.5.1 Regulations and incentives for the promotion of the combating of land degradation	Influence on land management of statutes, including the Conservation of Agricultural Resources Act etc Green taxes Provider-gets schemes Forest certification, the Farmer's Charter, sustainable tourism initiatives, and other certification schemes that would promote the NAP	DEAT	C
15.5.2 Security of tenure in natural resources	ks associated with tenure insecurity by analysing every municipality for tenure status and hazards Basis (a) for negotiation with the Department of Land Affairs about possible solutions and (b) to guide priorities for sustainable land management	DEAT	B
15.5.3 Reviewing and improving macro- and micro-policies that affect land degradation	Review of sound case studies in rural development in South Africa to identify the policy elements that have influenced each, and draw policy Equivalent reviews with ODA partners of experience elsewhere, through the literature etc Policy lessons New cased studies as needed	DEAT	B

Strategic objective 6: Assuring sustainable outcomes from the Land Reform Programme			
Activities	**Outcomes**	**Responsibility**	**Priority**
	With Spatial Planning Facilitation Directorate in the Department of Land Affairs ensure that LRAD Guidelines are deployed to all projects, and captured in all relevant certified training modules Minimum requirements to ensure that the necessary after-care for and monitoring of Land Reform projects by agricultural institutions is assured and reported upon Monitor and evaluate implementation Rationalised and improved Guidelines	DEAT	A (and B)

Activities	Strategic objective 7: 7Monitoring, evaluation and continuous improvement Outcomes	Responsibility	Priority
15.7.1 A system of indicators against which land degradation and NAP implementation is monitored must be established, and these must be coordinated with current reporting processes	Not yet defined	DEAT	B
15.7.2 Progress toward implementation of the NAP must be monitored and evaluated every year	Not yet defined	DEAT	B
15.7.3 Progress toward reaching the goals of the NAP must be monitored and evaluated every three years	Not yet defined	DEAT	C
15.7.4 Monitoring at the Municipal and local level	Not yet defined	DEAT	B
15.7.5 Community level monitoring	Not yet defined	DEAT	B
15.7.6 The need for long term monitoring sites and appropriate research on monitoring methodologies	Not yet defined	DEAT	B

Activities	Strategic objective 8: Programmatic approach to intervention projects Outcomes	Responsibility	Priority
15.8.1 Testing the planning package – the pilots	Completion of the draft Land Degradation Risk Management Standard commissioned, taking due account of similar and related standards, such as those implemented in terms of the National Veld and Forest Fire Act and Working for Water	DEAT	B
	Trial of the standard within a pilot commissioned, to see to the necessary improvements, and have a case compiled on the basis of this study	DEAT	B
	Work with the IDT to integrate the Community-Based Planning process and the Local Area Planning procedure complted, and the final principles of Community-Based Natural Resource Management formulated for application in local planning	DEAT	B
	Amendments to the guidelines for the IDP to accommodate the need for local sustainable land management planning compiled, and the requirement for a planning scale at about ward level properly accommodated with the IDT	DEAT	B
	Tests of the package completed at at least five pilot sites, results evaluated, further improvements included, and material transferred to training entities for mainstreaming into the capacity-building programme	DEAT	B
15.8.2 Reforestation	Projects procured	DEAT	B
15.8.3 Renewable energy	Projects procured	DEAT	C
15.7.4 Catchment management	Projects procured	DEAT	B

APPENDIX D INDICATIVE PROGRAMME OF INTERVENTION PROJECTS

INTRODUCTION

The several current programmes in South Africa that address various aspects of land degradation (Table 1) will continue as part of the NAP, though each may evolve in time.

Table 1. Current programmes of intervention projects, which address various aspects of land degradation. See main text for details.

Name of programme	Current expenditure in R million per year	Comments
Working for Water	400	Could roll out into a programme of catchment management projects
LandCare	25	Focuses on agricultural support: vital for land reform; with the Programme on Sustainable Resource Management and Use in DoA, under-resourced and poorly integrated
Community forestry (Joint Forest Management)	*	Could be the basis for programme of reforestation projects
Desert Marains Programme	5	A groundbreaking programme in UNCCD; continuing
Working on Fire	20	Essential part of NAP
Working for Wetlands	30	Essential part of NAP
CoastCare	*	Essential part of NAP?
Community-Based Natural Resource Management	*	Essential part of NAP; could roll pilots into catchment management (e.g. Machubeni Catchment) and reforestation
Food Security Programme	*	Contributory to NAP
Disaster Management	?	Elements complementary to NAP
Land reform including (LRAD)	?	NAP vital to land reform

These are not sufficient on their own, however. Further intervention are needed in the following fields, because of their centrality to poverty alleviation and rural development and because of the gaps in environmental management that they represent:

- reforestation
- integrated catchment management, and
- renewable energy.

Each of these fields is addressed in greater detail below.

Any intervention project will need to meet certain requirements in every case before it can receive support.

First, each needs to be a project that is integrated into the sustainable development strategy for the community or for the municipality or province concerned. This means that projects should:

- provide a balanced outcome with attention to both social and technical dimensions of planning and management, and with poverty alleviation a prerequisite
- be based upon land risk assessment that addresses all relevant assets within the area of the project, and fit with current development plans, such as the local IDP and bioregional conservation plan and
- be conducted with support from all stakeholders, to be achieved through local multi-stakeholder forums.

Second, the contribution to local development from the projects must be lasting. Once a project is complete, it should have contributed to local assets in such a way that employment and livelihood opportunities have increased by an increment that justifies the level of project expenditure. The local asset building, e.g. through promotion of local entrepreneurs, should maximise the value added to the local economy through the land management investments made during and after the project life.

Finally, close coordination with current programmes, such as Working for Water and Landcare, would be essential.

The needs and scenarios outlined below indicate that the intervention programmes could create more than 10 000 direct full-time-equivalent rural jobs per year during the life of the programme. The additional benefits would include:

- human capital: skills (entrepreneurial, management and natural resources technology), knowledge, ability to work, good health
- social capital: local institutions, knowledge networks, relationships of trust, access to the wider institutions
- natural capital: rebuilt natural resource stocks: land, water, grazing, energy sources, biodiversity
- physical capital: basic infrastructure – transport, shelter, water services, energy, communications.

ELEMENTS OF AN AUGMENTED PROGRAMME OF INTERVENTION PROJECTS

Integrated catchment management

Fifty per cent of South Africa's mean annual river runoff originates in the mountain catchments of the country. These catchments amount in area to about 10 million hectares. About 1.6 million hectares of the primary catchments are protected, but the remainder is largely in private or communal ownership. Although most of the river runoff is generated within the mountain catchments, the foreslopes of these catchments are also vitally important because proper land management is needed in these downstream areas to protect river water quality; South African rivers often leave the mountain catchment with water of good quality, only to be polluted by sediment and dissolved agrochemicals downstream. Integrated catchment management requires coherent management of the land within catchments from source to point of water use, with poverty alleviation and development as the social outcomes.

The key catchments for a programme of integrated catchment management are those in the following Provinces:

- Eastern Cape: the districts of the north and east of the province
- KwaZulu-Natal: districts that include the Drakensberg and its footslopes, as well as Zululand, which includes the catchments of the St Lucia wetlands
- Free State: – higher-lying regions
- Mpumalanga: the Highveld and Escarpment regions in all districts
- Limpopo: the high-lying regions in all districts.

Much of the area of these catchments falls within the former homelands, and it is in these regions that land degradation, and hence water resource degradation, is worst. The main types of land degradation involved vary geographically, but include the following:

- soil degradation: water erosion
- mining waste and pollution
- veld degradation including:
  - loss of cover
  - bush encroachment
  - alien plant invasions, and
- deforestation.

The kinds of intervention required therefore include soil restoration, gully (donga) control, wetland management, vegetation management including alien plant removal and livestock grazing management, reforestation and veldfire management, and mine wastewater management, depending on local needs and over and above developmental investments. Box 1 summarises preliminary proposals for integrated catchment management ion a case in the Eastern Cape, derived through participatory planning.

Box 1. Integrated catchment management proposals for the catchment of the Machubeni Dam in the Chris Hani District, Eastern Cape.

1. Develop the capacity of local leaders and local government officials. Write capacity development into the Terms of Reference of the integrated catchment plan; contract an initial 5 day training course in the dynamics of land degradation and restoration processes, focusing on range management, erosion processes and fire as a management tool.

2. Initiate a participatory integrated land use and catchment management planning process, building on the first stage of participatory research. Contract a specialist team, with experience in participatory planning for natural resources, to implement a participatory land use and catchment planning and awareness raising process. Involve local resource users, leaders and local agricultural extension officers.

   Issues to be addressed in the plan are management interventions, e.g.: protecting steep hillsides to rest veld and prevent further erosion and enhance water infiltration in seepage zones; erosion control structures in gullies to raise the water table and enhance the water holding capacity, slow down the sedimentation process (silt traps) in riparian zones; re-vegetation of riparian areas by means of e.g. grass plugs (possibility for thatching grass) or/and broadcasting of grass seed mixes; methods for re-creating wetland areas in the mid catchment; facilitate the recovery of the riparian areas by allowing vegetation to stabilize the riverbanks; controlled grazing of rehabilitated areas, as fodder banks, during drought periods. Continuous trampling by cattle and goats of this area is one of the major factors contributing to accelerated erosion.

3. Develop a Geographic Information System as a first step towards integrated planning. Digitize the data collected in this study, supplement with available digital data.

4. Raise local awareness of catchment degradation by developing a participatory monitoring programme. Build 300 participatory monitoring into the catchment planning process.

Catchment management in South Africa currently costs about **R20** to **R150** per hectare per year, say, an average of R100 per hectare. Assuming that 2 million hectares of catchment (mountain catchments plus forelands) would need special interventions during the next 20 years, the annual cost of catchment

management under average conditions would amount to R200 million per year. However, to address the major problems of land degradation in the target areas would require additional investments in intuitional and capacity building as well as in catchment rehabilitation. Annual expense may rise to twice the average. Given an assumed average expenditure of R200 million per year, with 60% of this going to employment and an average total annual employment cost of about R33 000.00, this would create about 3 000 new jobs per years during the life of the programme.

Reforestation

Together, woodlands and natural forests are the main source of forest goods and services to rural households in South Africa. According to the Department of Water Affairs and Forestry, woodlands are the most extensive vegetation type in South Africa, covering just over one-third of the country. They are home to approximately 9.2 million rural inhabitants, almost one-quarter of all South Africans. Natural forests occupy a much smaller area, about 530 000 hectares. The direct-use value of woodland resources to each rural household per year is about R5 000; this represents a considerable saving of scarce cash resources which can then be allocated to other household need. The woodlands are also important for livestock production, tourism, and the other ecosystem goods and services, such a biodiversity protection.

About 12 million hectares of the original 46 million hectares of woodland has been converted to crops and other cover types, and 4.0 million hectares is degraded, according to the 1996 land cover assessment. Much natural forest has been lost, and deforestation continues, mainly n the Eastern Cape and KwaZulu-Natal, but the extent of loss is not clear.

Most of the forest and woodland degradation is in the provinces of the Eastern Cape, KwaZulu-Natal, Mpumalanga, Limpopo, North-West, and Northern Cape. The Eastern Cape, KwaZulu-Natal, and Limpopo Provinces have the greatest concentration of rural poor in South Africa, though each of the other woodland provinces are also marked by rural poverty.

Reforestation of woodlands and natural forests is a necessity to restore the flow of ecosystems goods and services to rural households in particular, but also to benefit South African society as a whole. There is also substantial potential for income from the carbon markets.

The kinds of interventions required in reforestation include the following, delivered as integrated, customised packages fitted to each community's needs:

- rehabilitation, through release of degraded areas from land uses that cause degrade, as well as replanting where necessary
- management of livestock and grazing
- domestication, commercialisation and planting of indigenous trees for commodity production, e.g. indigenous fruits
- development of medicinal plant supply systems, including local small-scale plantations
- woodlot development and management to substitute for or augment forest goods and services from natural resources
- other local development of small, medium and micro-enterprises
- strengthening and development of resource-management institutions and governance systems.

Assuming that 1.0 million hectares of forests and woodlands is targeted for reforestation, and assuming that the annual expenditure on management per hectare is about R100.00 (about one-tenth of average management costs in commercial forests in South Africa), will mean that the annual expense on managing reforested areas will amount to about R100 million. A long-term approach is needed, say for 20 years, and the expenditures would need to provide for capacity and institution building, as well as other investments in social

and natural assets, especially of a public-good nature. The average annual investment required during the time of full intervention is therefore likely to amount to about the same as the current investment through Working for Water, i.e. about R400 million per year. The initial focus would need to be on the former homelands in the provinces mentioned above. The greatest initial obstacle to overcome would be to set up workable institutional and managerial arrangements. Given an assumed average expenditure of R400 million per year, with 60% of this going to employment and an average total annual employment cost of about R33 000.00, this would create about 6 000 new jobs.

Renewable energy

Rural South Africa is like rural Africa as a whole with regard to energy supply. A large fraction of households has no regular access to electricity, and have heavy dependence on biomass energy. The Department of Water Affairs and Forestry estimates that 60% of rural households – 10 million people - still rely on biomass sources for household energy, principally wood fuel, but also cow dung and other materials in regions poor in wood. Substitution by grid electricity in these cases is unlikely in the medium and long term, because the grid cannot extend to reach these communities economically, or because households cannot afford grid electricity. Meanwhile, the demand for biomass energy drives deforestation and the lack of good energy services reduces livelihood opportunities.

Interventions to create alternative, renewable energy sources accessible to rural communities is an essential requirement in the programme to prevent and reverse land degradation.

The kinds of interventions required here include:

- Woodlots and other tree plantations in areas with biomass fuel deficits
- Capacity building and governance systems for biomass resources management
- Development and implementation of alternatives to traditional biomass energy:
    - Minigrids
    - Gas networks
    - Solar energy
    - Integrated biogas systems (e.g. wastewater fertigation of woodlots plus biogas production).

The integrated approach would require special coordination with the reforestation programme as well as with South Africa's alternative energy programme as a whole, as well as, locally, integration of energy development with household and community needs, usage patterns, culture, and optimisation with respect to sustainable livelihoods through participatory planning and local institutionalisation.

It is difficult to estimate the levels of investment and expenditure that would arise from a renewable energy programme. However, recent estimates indicate that filling the biomass energy shortfall would require establishment of about 200 000 hectares of woodlots. This would cost about R3,000.00 per hectare to do. If this were done over 10 years, the annual cost would be R60,000,000, and this on the cost of employment assumption of R33,000 per year, would create about 1 800 jobs annually.