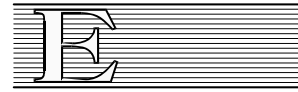




**UNITED NATIONS
ECONOMIC AND SOCIAL COUNCIL**



**Distr.: General
E/ECA/ACSD/5/3
November 2007
ORIGINAL: ENGLISH**

ECONOMIC COMMISSION FOR AFRICA

**Fifth Meeting of the Africa Committee on
Sustainable Development (ACSD-5)
Regional Implementation Meeting (RIM) for CSD-16
Addis Ababa
22-25 October 2007**

**Africa Review Report on
DROUGHT AND DESERTIFICATION**

Table of Contents

Acronyms	ii
Acknowledgements	iii
Section 1: Introduction	1
1.1 Background.....	1
1.2 Structure and outline of the report	1
Section 2: Overview of drought and desertification situation in Africa	3
2.1 Causes of drought and desertification.....	3
2.2 Status and trends of drought and desertification.....	6
2.3 Impact of drought and desertification.....	8
Section 3: Review of progress and achievements made in combating desertification and mitigating impacts of drought	15
3.1 Progress in the development and implementation of measures to prevent and combat desertification as well as to mitigate the effects of drought within the framework of the UNCCCD.....	15
3.1.1 National level.....	16
3.1.2 Subregional and regional levels.....	19
3.2 Progress made in combating desertification and drought impact mitigation through other strategies and programs in agriculture and natural resources management sectors	20
3.2.1 National level.....	20
3.2.2 Subregional and regional level programmes.....	28
3.3 Progress in developing and strengthening systems for monitoring, early warning and adaptation to drought and desertification.....	30
3.3.1 Desertification and land degradation monitoring and information systems	31
3.3.2 Drought monitoring and early warning systems and programs.....	32
3.3.3 Drought risk and disaster management.....	33
3.4 progress in providing support for the implementation of programmes to combat desertification and mitigate effects of drought.	34
3.4.1 Financing.....	35
3.4.2 Capacity building.....	41
3.4.3 Enhancing access to technology	43
Section 4: Challenges and constraints to meeting goals and targets	45
Section 5: Lessons learned and recommended priority approaches and actions	48
5.1 Lessons learned.....	48
5.2 Recommended priority approaches and actions	49
Section 6: Conclusion	54
References	55
Annexes	60

Acronyms

AfDB	African Development Bank
ACMAD	African Centre of Meteorological Applications for Development
CSD	United Nations Commission on Sustainable Development
ACSD	Africa Committee on Sustainable Development
AMCEN	African Ministerial Conference on the Environment
AMU	Arab Maghreb Union
AREED	Africa Rural Energy Enterprise Development
AWF	Africa Wildlife Foundation
AU	African Union
AUC	African Union Commission
CAADP	Comprehensive African Agriculture Development Programme
CBD	Convention on Biological Diversity
CDM	Clean Development Mechanism (under UNFCCC)
CEN-SAD	Community of Sahel-Saharan States
CIDA	Canadian International Development Agency
CILSS	Permanent Inter-State Committee on Drought Control
COMESA	Common Market for Eastern and Southern Africa
COMIFAC	Central African Forest Commission
COP	Conference of Parties
CPFP	Country Partnership Framework Papers
CRIC	Committee for the Review of the Implementation of the Convention
CSD	Commission on Sustainable Development
DANIDA	Danish International Development Agency
DFID	Department for International Development, United Kingdom
DIS	Desertification Information System
DRC	Democratic Republic of Congo
DRR	Disaster Risk Reduction
EC	European Commission
ECA	Economic Commission for Africa
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EI	Environment Initiative
EIA	Environmental Impact Assessment
ENR	Environment and Natural Resources
EPA	Environmental Protection Agency
EU	European Union
FAO	UN Food and Agricultural Organization
FDI	Foreign Direct Investments
FINIDA	Finnish Department for International Development Cooperation
GCOS	Global Climate Observing System
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEMP	Ghana Environmental Management Programme
GLADA	Global Land Degradation Assessment

GM	Global Mechanism
GSP	Global Support Programme
GPRS	Ghana Poverty Reduction Strategy
GTZ	German Technical Cooperation Agency
HIPCs	Highly Indebted Poor Countries
ICARDA	International Centre for Agricultural Research in Dry Areas
ICRAF	World Agroforestry Centre
ICRISAT	International Crop Research Institute for Semi Arid Tropics
ICTs	Information and Communication Technologies
ICPAC	IGAD Climate Prediction and Applications Centre
IDA	International Development Association
IDDP	Integrated Drylands Development Programme
IFAD	International Fund for Agricultural Development
IFPRI	The International Food Policy Research Institute
IGAD	Inter-Governmental Authority on Development
ILRI	International Livestock Research Institute
IMF	International Monetary Fund
IPRSP	Interim Poverty Reduction Strategy Paper
ISDR	United Nations International Strategy for Disaster Reduction
ISRIC	International Soil Reference and Information Centre
IUCN	World Conservation Union
IWRM	Integrated Water Resources Management
JICA	Japan International Cooperation Agency
JPOI	Johannesburg Plan of Implementation
LADA	Land Degradation Assessment Project
LDPs	Local Development Programmes
MDAs	Ministries, Departments, and Agencies
MDGs	Millennium Development Goals
MEDREP	Mediterranean Renewable Energy Programme
MSMEs	Medium-Sized and Micro Enterprises
MTEF	Medium-Term Expenditure Framework
NAP	National Action Programme to combat desertification
NCBs	National Coordinating Bodies
NCCD	National Council for Combating Desertification
NCS	National Conservation Strategy
NCSA	National Capacity Self-Assessment
NDFs	National Desertification Funds
NDPs	National Development Plans
NEAP	National Environmental Action Plan
NECSD	National Environment Council for Sustainable Development
NEPAD	New Partnership for Africa's Development
NFPs	National Forest Programmes
NGO	Non-governmental Organization
NMHSs	National Meteorological and Hydrological Services
NORAD	Norwegian Agency for Development Cooperation
NSSD	National Strategies for Sustainable Development

ODA	Official Development Assistance
OSS	Sahara and Sahel Observatory
PFIA21	Programme for the Further Implementation of Agenda 21
PPPs	Public Private Partnerships
PRS	Poverty Reduction Strategy
PRSC	Poverty Reduction Support Credit
PRSP	Poverty Reduction Strategy Paper
RAF	Resource Allocation Framework
RAP	Regional Action Programme on drought and desertification
RCs	Regional Commissions
RCU	RAP Regional Coordination Unit
RECs	Regional Economic Communities
REED	Rural Energy Enterprise Development
RFSP	Regional Programmes for Food Security
RIM	Regional Implementation Meeting
RPID-FDH	Regional Programme for the Integrated Development of the Fouta Djallon Highlands
SADC	Southern Africa Development Community
SARD	Sustainable Agriculture and Rural Development
SDD	Sustainable Development Division
SDP	Spatial Development Programme
SDRA	Sustainable Development Report on Africa
SEA	Strategic Environmental Assessment
SECAC	Sectoral Adjustment Credit
SFM	Sustainable forest management
SIDS	Small Island Developing States
SIP	Strategic Investment Programme
SLM	Sustainable Land Management
SRAP	Sub-Regional Action Programme on drought and desertification
SSA	Sub-Saharan Africa
SWAPs	Sector-Wide Approaches
TPNs	Thematic Programme Networks
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCSD	UN Commission on Sustainable Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNEP ROA	UNEP Regional Office for Africa
UNFCCC	United Nations Framework Convention on Climate Change
UNSO	United Nations Sahel Organization
USAID	United States Agency for International Development
USAID/OFDA	USAID Office of U.S. Foreign Disaster Assistance
WMO	World Meteorological Organization
WSS	Water Supply and Sanitation
WSSD	World Summit on Sustainable Development
WWF	World Wildlife Fund

Acknowledgements

The United Nations Economic Commission for Africa (ECA) wishes to acknowledge the invaluable contributions by the Member States, and partners at regional and subregional levels towards the preparation of this review report. Further tribute is due to all individuals and institutions, which guided the preparation of the report, and provided constructive inputs and peer review comments that significantly shaped this report. These include: the United Nations Development Programme (UNDP)/Dry Lands programme; the UNCCD Secretariat; the PanAfrican Parliament Committee on Rural Economy, Agriculture, Natural Resources and the Environment; Intergovernmental Authority on Development (IGAD); Regional Programme for the Integrated Development of the Fouta Djallon Highlands; the Sahara and Sahel Observatory (OSS); and Sahel and West Africa Club (SWAC/OECD). The comments of participants at the workshop on desertification and its implications organised by the PanAfrican Parliament in Algiers in April 2007 are highly appreciated. ECA owes utmost appreciation to the Fifth Session of the Africa Committee on Sustainable Development (ACSD5)/Regional Implementation Meeting (RIM) held in Addis Ababa, Ethiopia from 22 to 24 October 2007, for its insightful comments and input on the draft report, which greatly enriched this final version of the Africa regional review report on drought and desertification.

SECTION 1: Introduction

1.1 Background

1. The United Nations Commission on Sustainable Development (CSD) at its Sixteenth Session (CSD-16) to be held in 2008, will focus on the assessment of the progress made in implementing programs and actions on sustainable development under the thematic cluster of issues covering agriculture and rural development, land, drought, desertification and Africa. This review will be conducted taking into account the goals, commitments and targets set out in Agenda 21, the Programme for the Further Implementation of Agenda 21 (PFIA21) and the Johannesburg Plan of Implementation (JPOI) of the Outcomes of World Summit on Sustainable development (WSSD).

2. The regional commissions are mandated by the United Nations General Assembly Resolution 58/218, to provide regional input to the work of the CSD through organizing Regional Implementation Meetings (RIM). This report on drought and desertification has therefore been prepared by the United Nations Economic Commission for Africa (ECA) to provide a basis for discussion at the Africa RIM, which will draw substantive input for the CSD-16.

3. The report is a result of input solicited from Member States and regional partners, and extensive desk review of available documentation and internet resources on drought and desertification, as well as information exchange with and comment from various organizations and individuals. It is in no way meant to be exhaustive but it brings out the main findings obtaining from the above sources on the subject matter.

1.2 Structure and outline of the report

4. The report is structured as follows:

5. Section two of the report provides an overview of the status and trends on drought and desertification in Africa. The significance of these problems in the region is demonstrated by outlining the impact that drought and desertification have on economic growth and poverty reduction, agriculture and food security, water, biodiversity, energy and migration.

6. In section three a review is carried out of progress made in the implementation of measures and actions at national, subregional and regional levels, that are aimed at combating desertification and mitigating impacts of drought taking into account the main goals and targets set out in Agenda 21, PFIA21, and the JPOI. These goals and targets are summarised in Annex 1. Progress in meeting these targets is specifically reviewed under the following main headings:

(i) Progress in the development and implementation of measures to prevent and combat desertification as well as to mitigate the effects of drought within the framework of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (UNCCD)

(ii) Progress in combating desertification and mitigating drought impact through other strategies and programs in agriculture and natural resources management sectors;

(iii) Progress in developing and strengthening systems for monitoring, early warning and adaptation to drought and desertification; and

(iv) Progress in providing support for the implementation of programmes to combat desertification and mitigate effects of drought.

7. Section four highlights the challenges and constraints encountered in the implementation of various measures to combat desertification and mitigate effects of drought in Africa.

8. In section five, lessons learned are reflected upon, and priority approaches and actions for further implementation in the area of drought and desertification are highlighted.

9. The main conclusions derived from the review are contained in section six.

SECTION 2: Overview of drought and desertification situation in Africa

10. Drought and desertification are at the core of serious challenges and threats facing sustainable development in Africa. These problems have far reaching adverse impacts on human health, food security, economic activity, physical infrastructure, natural resources and the environment, and national and global security.

11. Although drought has several definitions, the central element in these definitions is water deficit. In general, drought is defined as an extended period – a season, a year, or several years – of deficient rainfall relative to the statistical multi-year average for a region.¹ This deficiency results in a water shortage for some activity, group, or environmental sector. A more in-depth definition of drought includes four sub definitions including meteorological, hydrological, agricultural and socio-economic drought.

12. Desertification on the other hand is defined as a process of land degradation in arid, semi-arid and dry sub-humid areas, resulting from various factors, including climatic variations and human activities.² Land degradation manifests itself through soil erosion, water scarcity, reduced agricultural productivity, loss of vegetation cover and biodiversity, drought and poverty.

2.1 Causes of drought and desertification

13. The underlying cause of most droughts can be related to changing weather patterns manifested through the excessive build up of heat on the earth's surface, meteorological changes which result in a reduction of rainfall, and reduced cloud cover, all of which results in greater evaporation rates. The resultant effects of drought are exacerbated by human activities such as deforestation, overgrazing and poor cropping methods, which reduce water retention of the soil, and improper soil conservation techniques, which lead to soil degradation.

14. Desertification is caused by multiple direct and indirect factors. It occurs because drylands ecosystems are extremely vulnerable to over-exploitation and inappropriate land use that result in underdevelopment of economies and in entrenched poverty among the affected population. Whereas over cultivation, inappropriate agricultural practices, overgrazing and deforestation have been previously identified as the major causes of land degradation and desertification, it is in fact a result of much deeper underlying forces of socio-economic nature, such as poverty and total dependency on natural resources for survival by the poor. It is also true to reiterate that desertification problems are best understood within the dictates of disparities of income and access to or ownership of resources.

15. Consequently, the causes of desertification are more complex to unravel. Desertification is driven by a group of core variables, most prominently climatic factors

¹ NASA Earth Observatory. Drought: The creeping disaster.
<http://earthobservatory.nasa.gov/Library/DroughtFacts/printall.php>

² The United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UNCCD),

(Yang and Prince 2000; Hulme and Kelly 1993) that lead to reduced rainfall (Rowell et al. 1992) and human activities involving technological factors, institutional and policy factors, and economic factors (UNCCD 2004) in addition to population pressures, and land use patterns and practices. The technological factors include innovations such as the adoption of water pumps, boreholes, and dams. The institutional and policy factors include agricultural growth policies such as land distribution and redistribution (AIBS 2004). These variables drive proximate causes of desertification such as the expansion of cropland and overgrazing, the extension of infrastructure, increased aridity, and wood extraction.

16. Since most economies of African countries are mostly agro-based, a greater proportion of the desertification problems in rural areas are a result of poverty related agricultural practices and other land use systems. Inappropriate farming systems such as continuous cultivation without adding any supplements, overgrazing, poor land management practices, lack of soil and water conservation structures, and high incidence of indiscriminate bushfires lead to land degradation and aggravate the process of desertification. These factors prevail in many parts of the region. In Uganda, as a result of overgrazing in its drylands known as the “cattle corridor,” soil compaction, erosion and the emergence of low-value grass species and vegetation have subdued the land’s productive capacity, leading to desertification.³ In the Gambia, it is reported that fallow periods have been reduced to zero on most arable lands.⁴ Between 1950 and 2006, the Nigerian livestock population grew from 6 million to 66 million, a 11-fold increase. The forage needs of livestock exceed the carrying capacity of its grasslands.⁵ It is reported that overgrazing and over-cultivating are converting 351,000 hectares of land into desert each year.⁶ The rates of land degradation are particularly acute when such farming practices are extended into agriculture on marginal lands such as arid and semi arid lands, hilly and mountainous areas and wetlands.

17. Deforestation, especially to meet energy needs and expand agricultural land is another serious direct cause of desertification in the region. Globally, there is evidence demonstrating a heavy negative impact of the energy sector on forest and other vegetation cover and land productivity. More than 15 million hectares of tropical forests are depleted or burnt every year in order to provide for small-scale agriculture or cattle ranching, or for use as fuel wood for heating and cooking.⁷ Biomass constitutes 30 percent of the energy used in Africa and over 80 percent used in many sub-Saharan countries such as Burundi (91 percent), Rwanda and Central Africa Republic (90 percent), Mozambique (89 percent), Burkina Faso (87 percent), Benin (86 percent), Madagascar and Niger (85 percent).⁸ Production and consumption of fuel wood is said to have doubled in the last 30 years of the 20th century and is rising by 0.5 percent every year.⁹ This high dependence on biomass fuel has resulted into

³ Andreas Rechkemmer (2005). Global Forest Management: What has been achieved, what comes next? Critical choices for structural, legal and financial options. Wissenschaftszentrum Berlin für Sozialforschung (WZB)

⁴ Gambia country report, 2006

⁵ Lester R. Brown, 2006: The earth is shrinking: Advancing deserts and rising seas squeezing civilization. Earth Policy Institute. <http://www.earth-policy.org/Updates/2006/Update61.htm>

⁶ Concern Worldwide. Combating desertification.

<http://www.concern.net/docs/Debates/Resource/combating%20desertification.pdf>

⁷ The United Nations Convention to Combat Desertification (UNCCD): a carrying pillar in the global combat against land degradation and food insecurity. Background paper for the San Rossore meeting ‘Climate change: a new global vision’ Pisa, Italy, 15 - 16 July 2004.

⁸ Africa Regional Review Report on Energy for Sustainable Development, 2005

⁹ The United Nations Convention to Combat Desertification (UNCCD): a carrying pillar in the global combat against land degradation and food insecurity. Background paper for the San Rossore meeting ‘Climate change: a new global vision’ Pisa, Italy, 15 - 16 July 2004

an alarming rate of tree felling and deforestation, which is exposing large tracts of land to desertification. In Ghana, where the population density has reached 77 persons per km², 70 percent of the firewood and charcoal needed for domestic purposes comes from the savannah zones, as a result destroying 20,000 ha of woodland per annum.¹⁰ In Uganda where 90 percent of the population lives in rural areas and directly depends on land for cultivation and grazing, forestland shrank from 45 percent of the country's surface area to 21 percent between 1890 and 2000¹¹. In Nigeria where more than 70 per cent of the nation's population depends on fuel wood, it is feared that the country might be left with no forest by 2010 owing to the present level of deforestation activities.¹² Already it is estimated that more than 13 million tonnes of soil are washed away into the sea annually.¹³ It is also feared that if the current rate of tropical forests deforestation is maintained, the tropical forests could be almost entirely harvested by the year 2050, thus devastatingly contributing to climate change, loss of biodiversity, land degradation and desertification.¹⁴

18. The above direct causes of desertification are driven by a complex set of underlying factors including the high levels of poverty in the region, high population growth rates, poor natural resources tenure and access regimes, conflicts, and climate change.

19. Without alternatives poor people are forced to exploit land resources including fragile lands, for survival (food production, medicine, fuel, fodder, building materials and household items). Given that most drylands in Africa are poverty hotspots as well, the risk of desertification is high in many of these areas, as the poor inevitably become both the victims and willing agents of environmental damage and desertification. In Sub-Saharan Africa alone 270 million people live in absolute poverty.¹⁵ In Uganda, over 40 percent of the pastoralists who constitute the majority in the country's drylands, live below the poverty line.¹⁶

20. High population growth increases pressure on limited and fragile land resources. The rural population living in drylands in Africa is estimated to be 325 million.¹⁷ This breeds favourable conditions for deforestation and overexploitation of land that lead to land degradation as a large and growing rural population, struggling to survive in a limited natural resource base result in the over-utilization of the available natural resources. For instance the Nigeria's human population which grew from 33 million in 1950 to 134 million in 2006, a fourfold expansion has forced farmers to plough marginal land under the pressure to meet

¹⁰ Andreas Rechkemmer (2005). Global Forest Management: What has been achieved, what comes next? Critical choices for structural, legal and financial options. Wissenschaftszentrum Berlin für Sozialforschung (WZB)

¹¹ *ibid*

¹² The Tide on Line, 2007 citing a statement by the President, Nigerian Conservation Foundation (NCF), Chief Philip Asiodu.
<http://www.thetidenews.com/article.aspx?qrDate=01/30/2007&qrTitle=Nigeria%20risks%20extinction%20of%20forest%20by%202010%20%E2%80%93%20Asiodu&qrColumn=BUSINESS>

¹³ *Ibid*

¹⁴ The United Nations Convention to Combat Desertification (UNCCD): a carrying pillar in the global combat against land degradation and food insecurity. Background paper for the San Rossore meeting 'Climate change: a new global vision' Pisa, Italy, 15 - 16 July 2004

¹⁵ *Ibid*.

¹⁶ Report of the National Capacity Self Assessment for implementation of the Multilateral Environment Agreements (CBD, UNFCCC, CCD AND International Water) in Uganda.

¹⁷ The United Nations Convention to Combat Desertification (UNCCD): a carrying pillar in the global combat against land degradation and food insecurity. Background paper for the San Rossore meeting 'Climate change: a new global vision' Pisa, Italy, 15 - 16 July 2004

food needs. As a result of this, the country is slowly turning into a desert.¹⁸ According to the New York Times, Niger's population has doubled in the last 20 years. Each woman bears about seven children, giving the country one of the highest growth rates in the world. Given that 90 percent of Niger's people live off agriculture, this population is exerting great pressure on the less than 12 percent of its land that can be cultivated.¹⁹

21. Insecure and unclear land and other natural resources tenure and access rights are some of the main reasons the natural resources end-users are unwilling to invest in long-term sustainable land management (SLM). For instance it is reported that in Uganda, insecurity of land tenure in parts of the cattle corridor under mailo and communal land ownership systems does not encourage farmers to invest in sustainable land management practices.²⁰

2.2 Status and trends of drought and desertification

22. Two thirds of Africa is classified as deserts or drylands. These are concentrated in the Sahelian region, the Horn of Africa and the Kalahari in the south. Africa is especially susceptible to land degradation and bears the greatest impact of drought and desertification. It is estimated that two-thirds of African land is already degraded to some degree and land degradation affects at least 485 million people or sixty-five percent of the entire African population.²¹ Desertification especially around the Sahara has been pointed out as one the potent symbols in Africa of the global environment crisis.²² Climate change is set to increase the area susceptible to drought, land degradation and desertification in the region. Under a range of climate scenarios, it is projected that there will be an increase of 5-8% of arid and semi Arid lands in Africa.²³

23. Estimates from individual countries report increasing areas affected by or prone to desertification. It is estimated that 35 percent of the land area (about 83,489 km² or 49 out of the 138 districts) of Ghana is prone to desertification, with the Upper East Region and the eastern part of the Northern Region facing the greatest hazards. Indeed a recent assessment indicates that the land area prone to desertification in the country has almost doubled during recent times.²⁴ Desertification is said to be creeping at an estimated 20,000 hectares per year, with the attendant destruction of farmlands and livelihoods in the country.²⁵ Seventy percent of Ethiopia is reported to be prone to desertification,²⁶ while in Kenya, around 80 percent of

¹⁸ Lester R. Brown, 2006: The earth is shrinking: Advancing deserts and rising seas squeezing civilization. Earth Policy Institute. <http://www.earth-policy.org/Updates/2006/Update61.htm>

¹⁹ Polgreen, Lydia (2007). In Niger, Trees and crops turn back the desert. In The New York Times published on February 11, 2007. http://www.nytimes.com/2007/02/11/world/africa/11niger.html?_r=2&hp&ex=1171170000&en=db8967400d88a236&ei=5094&partner=homepage&oref=slogin&oref=slogin

²⁰ Report of the National Capacity Self Assessment for implementation of the Multilateral Environment Agreements (CBD, UNFCCC, CCD AND International Water) in Uganda.

²¹ Statement of IFAD and the Global Mechanism of the UNCCD to the 61st session of the General Assembly. <http://www.ruralpovertyportal.org/english/topics/desertification/ifad/speech.htm>

²² Reuters, 2007. Climate change to hit the poor worst, says U.N.'s Ban. <http://www.alertnet.org/thenews/newsdesk/L05558458.htm>

²³ Summary for Policymakers of the Synthesis Report of the IPCC Fourth Assessment Report - 2007.

²⁴ Ghana country report, 2006

²⁵ Ghana: Threats of Desertification Must Be Taken Seriously: <http://allafrica.com/stories/200705211574.html>

²⁶ Ethiopia Country Report, 2006

the land surface is threatened by desertification.²⁷ Estimates of the extent of land degradation within Swaziland suggest that between 49 and 78 % of the land is at risk, depending on the assessment methodology used (Government of Swaziland, 2000). Nigeria is reported to be losing 1,355 square miles (1mile =1.6km) of rangeland and cropland to desertification each year. This affects each of the 10 northern states of Nigeria.²⁸ It is estimated that more than 30% of the land area of Burundi, Rwanda, Burkina Faso, Lesotho and South Africa is severely or very severely degraded.²⁹ These rates and extent of land degradation/desertification undermine and pose serious threats to livelihoods of millions of people struggling to edge out of poverty. They also cripple provision of land resources - based ecosystem services that are vital for a number of development sectors.

24. With regard to drought, the continent has witnessed a high frequency of occurrence and severity of drought as shown in Figure 1 below. Drought is one of the most important climate-related disasters in Africa. Climate change is set to exacerbate occurrence of climate related disasters including drought. A study from Bristol University projects that areas of western Africa were at most risk from dwindling freshwater supplies and droughts as a result of rising temperatures.³⁰ Current climate scenarios predict that the driest regions of the world will become even drier,³¹ signalling a risk of persistence of drought in many parts of Africa (arid, semi-arid and dry sub humid areas) which will therefore bear greater and sustained negative impacts.

²⁷ Concern Worldwide. Combating desertification.

<http://www.concern.net/docs/Debates/Resource/combating%20desertification.pdf>

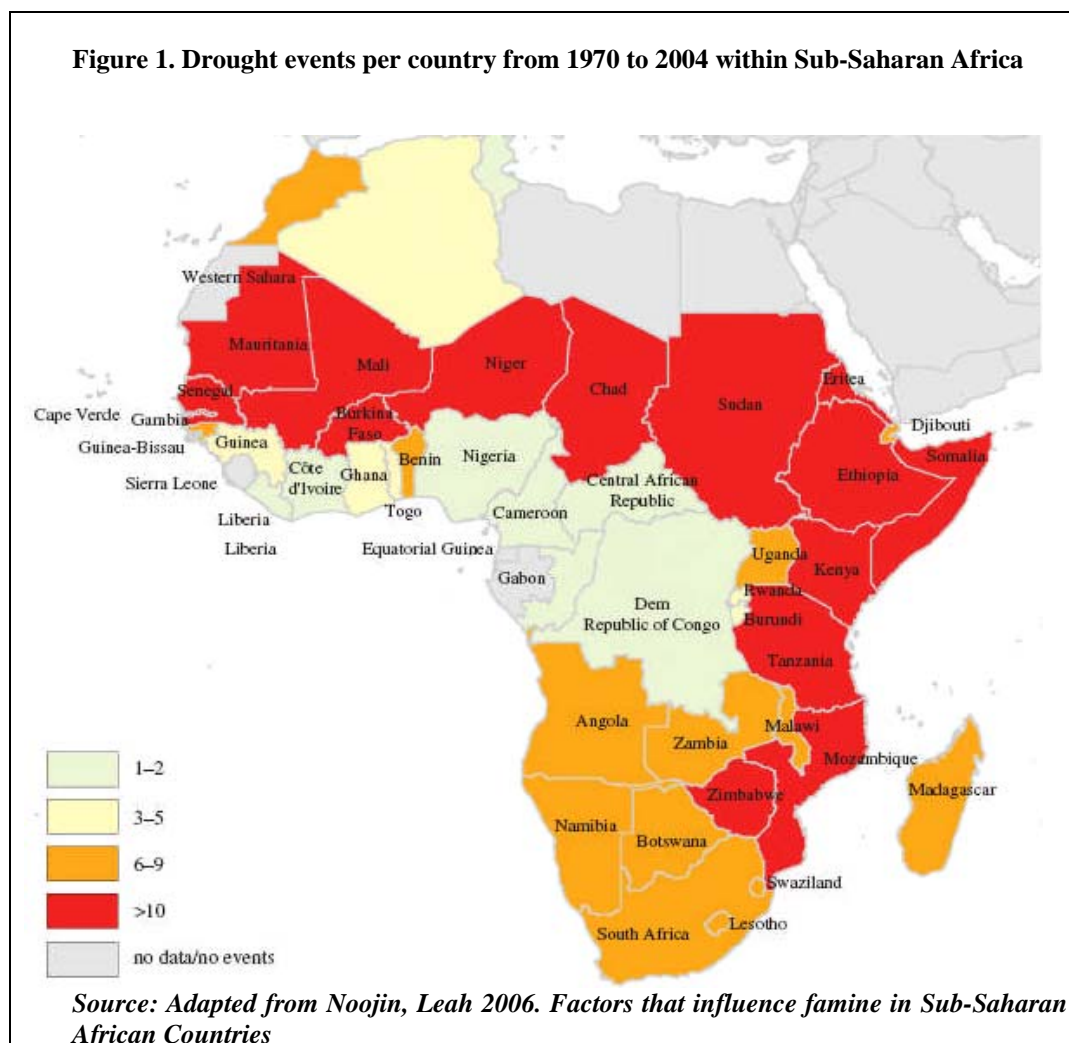
²⁸ Lester R. Brown, 2006: The earth is shrinking: Advancing deserts and rising seas squeezing civilization. Earth Policy Institute. <http://www.earth-policy.org/Updates/2006/Update61.htm>

²⁹Program brief on a proposed grant from the Global Environment Facility Trust Fund in the amount of USD 137.298 Million. Strategic Investment Program for Sustainable Land Management in Sub-Saharan Africa (SIP) May 3, 2007.

[http://www.gefweb.org/uploadedFiles/Documents/Council_Documents_\(PDF_DOC\)/GEF_31/SIP_Project_Document_051407.pdf](http://www.gefweb.org/uploadedFiles/Documents/Council_Documents_(PDF_DOC)/GEF_31/SIP_Project_Document_051407.pdf)

³⁰ BBC News: More disasters' for warmer world - Story from BBC News: <http://news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/4791257.stm>. Published: 2006/08/14 22:02:41 GMT

³¹ UNESCO 2006 A world of science. Vol. 4, No.4. October to December 2006



2.3 Impact of drought and desertification

25. It is common knowledge that land degradation and desertification constitutes major causes of forced human migration and environmental refugees, deadly conflicts over the use of dwindling natural resources, food insecurity and starvation, destruction of critical habitats and loss of biological diversity, socio-economic instability and poverty and climatic variability through reduced carbon sequestration potential. The impacts of drought and desertification are among the most costly events and processes in Africa. The widespread poverty, the fact that a large share of Africa's economies depend on climate-sensitive sectors mainly rain fed agriculture, poor infrastructure, heavy disease burdens, high dependence on and unsustainable exploitation of natural resources, and conflicts render the continent especially vulnerable to impacts of drought and desertification. The consequences are mostly borne by the poorest people and the Small Island Developing States (SIDS). In the region, women and children in particular, bear the greatest burden when land resources are degraded and when drought sets in. As result of the frequent droughts and desertification, Africa has continued to witness food insecurity including devastating famines, water scarcity, poor health, economic hardship and social and

political unrest.³² The gravity of drought and desertification impacts in the region is demonstrated by the following examples.

Impact on economic growth and poverty reduction:

26. The majority of the populations in most African countries live on marginal lands in rural areas practicing rain-fed agriculture. Desertification threatens agricultural production on these marginal lands (Conserve Africa, 2006; UNCCD, 2004), exacerbating poverty and undermining economic development. Growing levels of entrenched poverty, environmental degradation, desertification, and underdevelopment of rural areas characterize most rural areas of the African countries. The impact of drought and climatic variability in both economic and mortality terms is generally larger for relatively simple and predominantly agricultural economies. These types of economies dominate Africa. In 2004, the UNCCD estimated that some six million hectares of productive land was being lost every year since 1990, due to land degradation. This in turn had caused income losses worldwide of US\$ 42 billion per year.³³ With two-thirds of arable land expected to be lost in Africa by 2025, land degradation currently leads to the loss of an average of more than 3 percent annually of agriculture GDP in the Sub-Saharan Africa region. In Ethiopia, GDP loss from reduced agricultural productivity is estimated at \$130 million per year.³⁴ In Uganda land degradation in the dry lands threatens to wreck havoc on the country's economy and escalate poverty. This is because these drylands constitute the Uganda cattle corridor, which accounts for over 90 percent of the national cattle herd and livestock production contributes 7.5 percent to the GDP and 17 percent to the agricultural GDP³⁵.

27. Drought and floods account for 80 percent of loss of life and 70 percent of economic losses linked to natural hazards in Sub-Saharan Africa.³⁶ The drought of 1990/1991 in Zimbabwe resulted in a 45 percent drop in agricultural production but also a 62 percent decline in the value of the stock market, a 9 percent drop in manufacturing output and a GDP drop of 11 percent. Similarly, in Kenya, the drought of 1999-2001 cost the economy some 2.5 billion dollars. As a proportion of the national economy this is a very significant loss and can best be thought of as 2.5 billion dollars of foregone development, for example, hospitals and schools not built.³⁷

28. Desertification in Africa is a major cause and consequence of poverty and resource depletion, which threaten economic growth. In many African countries poverty and desertification are expected to rise during the twenty first century (Conserve Africa, 2006) given that most governments are unable to increase expenditure on economic and agricultural production to drive rural and urban economic development and reduce the dependence of the

³² The United Nations Convention to Combat Desertification (UNCCD): a carrying pillar in the global combat against land degradation and food insecurity. Background paper for the San Rossore meeting 'Climate change: a new global vision' Pisa, Italy, 15 - 16 July 2004

³³ UNCCD Secretariat http://www.unccd.int/publicinfo/pressrel/showpressrel.php?pr=press01_06_04

³⁴ World Bank: Terrafrica: Halting Land Degradation.

<http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/contentMDK:20221507%7EmenuPK:34457%7EpagePK:34370%7EpiPK:34424%7EtheSitePK:4607,00.html>

³⁵ Report of the National Capacity Self Assessment for implementation of the Multilateral Environment Agreements (CBD, UNFCCC, CCD AND International Water) in Uganda.

³⁶ The World Bank and United Nations International Strategy for Disaster Reduction (ISDR) (2007). Report on the Status of Disaster Risk Reduction in the Sub-Saharan Africa (SSA) Region.

³⁷ Drought Risk and Development Policy: Discussion Paper for the UNDP-DDC/BCPR and UN - ISDR Expert Workshop *Drought Risk and Development Policy*, January 31 - February 2, 2005, Nairobi.
<http://www.undp.org/drylands/docs/drought/Drought%20discussion%20Paper.pdf>

poor on the natural environment, a process that exacerbates desertification and poverty. Increased agriculture and rural economic development expenditure each year contribute to improved food security and to a steady decline in the incidence of rural poverty (Fan *et al.*, 1999) and the process of desertification.

Impact on food security

29. The loss of natural resources, environmental degradation (Van Crowder *et al.*, 1998) and desertification (UNCCD, 2004) affects food security. The poor households that are affected by drought and desertification do not have adequate resources to deal with food shortages leading to food insecurity and hunger that affects millions of people. If land degradation continues at the current pace, it is projected that more than a half of cultivated agricultural area in Africa could be unusable by the year 2050 and the region may be able to feed just 25 percent of its population by 2025.³⁸ Agriculture being one of the main economic activities in Africa (which represents around 40 percent of the region's GDP and employs about 60 percent of the active labour force), this would lead to a catastrophe with unprecedented repercussions. In the two northern regions of Ghana severely hit by soil degradation, it is estimated that malnutrition among children increased from 50 percent in 1986 to 70 percent in 1990.³⁹

30. The most severe consequence of drought is famine. Food aid to the subcontinent accounts for approximately 50 percent of the yearly budget of the World Food Aid Programme.⁴⁰ The consecutive droughts that have occurred in southern Africa since 2001 have led to serious food shortages. The drought of 2002–03 resulted in a food deficit of 3.3 million tonnes, with an estimated 14.4 million people in need of assistance.⁴¹ At the height of the Horn of Africa's drought in 2000, 3.2 million Kenyans were dependent on food aid, and malnutrition reached 40 percent of the population, more than 3 times the normal level. In 2005, Concern, in partnership with the Diocese of Malindi, Kenya, provided seed and technical support to 2,129 farm households who were severely affected by drought.⁴² During the same year 2005 many other African countries faced food shortages because of the combined effects of severe droughts (Nhambura, 2006; Radford and Vidal, 2005) and desertification that could become semi-permanent under climate change. The worst affected countries included Ethiopia, Zimbabwe, Malawi, Eritrea and Zambia, a group of countries where at least 15 million people would go hungry without aid (FAO, 2005). The situation in Niger, Djibouti and Sudan also deteriorated rapidly. Many of these countries had their worst harvests in more than 10 years and were experiencing their third or fourth consecutive severe drought.

31. The Sahelian drought and famine of 1968 to 1974 is a horrific reminder of the combined effects and impacts of desertification and drought. In the span of six years, hundreds of thousands of people died and millions of animals perished. Images of starving children, dead livestock and desolate land quickly grabbed the world's attention and

³⁸ Press release on the Joint International Conference on desertification and the international policy imperative Algiers, Dec. 17-19, 2006. http://www.inweh.unu.edu/inweh/drylands/Algiers_news_release-Final.pdf

³⁹ Ghana EPA. 2002. Cited in UNCCD 2006. Implementing the United Nations Convention to Combat Desertification in Africa: Ten African experiences.

⁴⁰ The World Bank and United Nations International Strategy for Disaster Reduction (ISDR) (2007). Report on the Status of Disaster Risk Reduction in the Sub-Saharan Africa (SSA) Region.

⁴¹ Simms, Andrew (2005). Africa – Up in smoke? The second report from the Working Group on Climate Change and Development. nef (the new economics foundation).

⁴² Combating desertification in Africa. <http://www.unccd.int/publicinfo/factsheets/showFS.php?number=11>

catapulted desertification centre stage (McHarry *et al.*, 2002). In Africa as a whole, food consumption exceeded domestic production by 50% in the 1980s and by more than 30% in the 1990s (WWI, 1998). Although agriculture will remain for many years a major contributor to the economies of most developing countries (Van Crowder *et al.*, 1998), in some countries, however, its share of GDP will progressively decline as drought and desertification take their toll with food shortages increasing at the same time.

Impact on water

32. Both drought and desertification influence water availability, which is projected to be one of the greatest constraints to economic growth in the future. In Africa, climate change is expected to intensify the continent's increasingly critical water situation. Reduced annual average rainfall and its run-off would worsen desertification in southern Africa. This subregion being one of many water-stressed regions could thus see a further decrease in streams flow and the ability of groundwater to 'recharge'. Furthermore, it is projected that by 2025 Southern Africa will also join most countries in North Africa that can already be classified as having absolute water scarcity today. This means that countries in these regions will not have sufficient water resources to maintain their current level of per capita food production from irrigated agriculture - even at high levels of irrigation efficiency - and also to meet reasonable water needs for domestic, industrial, and environmental purposes. To sustain their needs, water will have to be transferred out of agriculture into other sectors, making these countries or regions increasingly dependent on imported food. By the year 2025, it is thus estimated that nearly 230 million Africans will be facing water scarcity, and 460 million will live in water-stressed countries.⁴³ Already, 14 African countries are subject to water stress or water scarcity, increasing to 25 countries by 2025, (UNCCD, 2004) a situation that will further exacerbate desertification, perilous food security and economic underdevelopment.

33. In the Nile region, most scenarios estimate a decrease in river flow of up to more than 75 per cent by the year 2100. This would have significant impacts on agriculture, as a reduction in the annual flow of the Nile above 20 per cent will interrupt normal irrigation. Such a situation could cause conflict because the current allocation of water, negotiated during periods of higher flow, would become untenable.⁴⁴

34. The situation of women and children who are responsible for fetching water for the households is therefore worsened by drought and desertification. These can add hours of labour to an already fully charged workday.

Impact on biodiversity

35. Biodiversity existing in dry lands and other habitats underpin ecosystem services that vital for livelihoods of millions of people in Africa. It is the foundation for sustainable development in the region and globally. The dry areas of the world are the origin of a large number of globally important cereals and food legumes, such as barley, wheat, faba beans

⁴³ <http://www.solcomhouse.com/drought.htm>

⁴⁴ Simms, Andrew (2005). Africa – Up in smoke? The second report from the Working Group on Climate Change and Development. The New Economics foundation (nef).

and lentils.⁴⁵ Four hundred million people, two thirds of sub-Saharan African population, rely on forest goods and services for their livelihood. Drought, land degradation and desertification have had serious impact on the richness and diversity of Africa Diversity. These factors remain some of the most serious threats to the management, sustainable use and equitable sharing of benefits of biodiversity. The projected devastating impacts of climate change in the region including exacerbating these factors will escalate biodiversity degradation and loss associated with drought, land degradation and desertification. These factors affect biodiversity directly and indirectly. Onsite impacts include habitat and species degradation and loss, leading to overall loss of economic and biological productivity. For instance on rangelands, overgrazing not only reduces the overall protective soil cover and increases soil erosion, but also leads to a long-term change in the composition of the vegetation. Plant biodiversity will change over time, unpalatable species will dominate, and total biomass production will be reduced. These in turn trigger and contribute to indirect or offsite impacts. Soil erosion will contribute to denudation and pollution of wetlands and water bodies. As biological and economic productivity deteriorates, communities are forced migrate to other areas or engage in other coping activities that too contribute biodiversity degradation

36. According to the Africa Environment Outlook II, approximately half of Africa's terrestrial eco-regions have lost more than 50 per cent of their area to cultivation, degradation or urbanization. It also states that some ecoregions such as the Mandara Plateau mosaic, Cross-Niger transition forests, Jos Plateau forest-grassland mosaic, and Nigerian lowland forests have gone more than more than a 95 percent transformation. Nine other eco-regions have lost more than 80 per cent of their habitat, including the species-rich lowland Fynbos and Renosterveld and the forests and grasslands of the Ethiopian Highlands; the Mediterranean woodlands and forests have lost more than 75 per cent of their original habitat, and the few remaining blocks of habitat are highly fragmented.

37. In the sand dune areas of countries such as Mauritania, Mali, Niger, Nigeria and Senegal major river basins siltation processes accumulate debris and materials that engulf natural vegetation, such as the *Acacia nilotica* riparian forests. Soil erosion contributes to moving the seed capital of the ground, uprooting grassy as well as woody species, and in accumulation areas it smothers valuable species.

38. In West Africa the movement of people south towards subhumid to humid tropical areas has resulted into loss of primary forests and woodlands, repeated logging of the secondary vegetation, and depletion of a number of species (UNEP 2006). More diffuse degradation of land resources also occurs in the arid and sub-humid parts. These include the extraction of tree resources outside forests for charcoal making (about 150 million tonnes/year from the savannah and woodland areas), and the use of high-value woods. Most affected are the *Meliaceae family* (*Khaya species*), *Pterocarpus erinaceus*, and *Dalbergia melanoxylon*.

39. There is mounting evidence to show that drought and desertification as exacerbated by climate change will have devastating impacts on habitats and species in the region. For example shifts in rainfall patterns could affect the fynbos and karoo in southern Africa by

⁴⁵ Adel El-Beltagy. Land degradation: a global and Regional Problem. http://64.233.167.104/search?q=cache:V_JKB6y2Z-cJ:www.unu.edu/millennium/el-beltagy.pdf+impact+of+desrtification+and+land+degradation+on+biodiversity&hl=en&ct=clnk&cd=29&gl=us

altering the fire regime critical for their regeneration. Decreasing run off could impact wetland ecosystems such as the Okavango Delta and the Sudd area.⁴⁶

Impact on Energy:

40. The impacts of drought and desertification on the energy sector are felt primarily through losses in hydropower potential for electricity generation and the effects of increased runoff (and consequent siltation) on hydropower generation as demonstrated in Table 1. The gravity of impacts of electricity generation is further demonstrated by the case of Ghana, where for the first half of 2007 (and it was projected to continue for the year), the water level at the Akosombo dam had fallen below the minimum level of 240 feet. This led to reduction in hydro-electricity generation and hence load shedding of electricity in the whole country.⁴⁷ Energy impacts are also experienced through changes in the growth rates of trees on which a vast majority of the people in the region rely for fuel wood.

41. Due to the limited alternatives available to them and low priority accorded to meet their needs in times of scarcity, the rural areas and the urban poor bear the greatest cost of decrease in energy resources. This undermines efforts to pull these categories of people out of the poverty trap.

Table 1: Electricity related impacts of drought in selected countries in Africa

Country	Period	Consequences of drought
Uganda	2004/2005	Reduction in water levels at Lake Victoria resulting in reduction in hydro-power generation by 50MW
Kenya	1992	Failure of rains led to power rationing in April–May 1992
Kenya	1998 to 2001	Massive drought decreased hydro generation (25 percent in 2000), which had to be replaced by more expensive fuel-based generation. Power rationing in 1999–2001
Lesotho	1992	Hydro operation limited to 6 months, leading to 20 percent reduction compared to 1991
Malawi	1997 to 1998	Engineering operations affected by drought. Amount of hydro energy generated was 6 percent less than in years of normal rainfall.
Mauritius	1999	Massive drought led to 70 percent drop in normal annual production of electricity.
Tanzania	1997	The Mtera dam reached its lowest ever level resulting in a 17 percent drop in hydro generation, use of thermal generation to meet the shortfall, and power rationing.
Zambia	1992	Poor rainfall resulted in a 35 percent reduction in hydro generation in relation to the previous year.
Zimbabwe	1993	Drought led to a drop of over 9 percent in energy production compared to 1992

Source: *African Energy Policy Research Network (2005)*.⁴⁸

Impact on Migration

⁴⁶ Achim, Stener (2007). Curbing climate change: risks and opportunities for world's wildlife. In Gincana 3: Biological Diversity and Climate Change. Secretariat of the Convention on Biological Diversity, 2007

⁴⁷ Kwadwo Tutu, personal communication

⁴⁸ African Energy Policy Research Network (AFREPREN) (2005) Making the African Power Sector Sustainable. Final Regional Report.

42. The effects of desertification extend beyond the affected dryland areas. As the level of vulnerability due to the combined impacts of desertification and socio-economic susceptibility increase, the greater the probability of human migration (Acosta-Michlik, *et al.*, 2005). Desertification is displacing big population of people and forcing them to leave their homes and lands in search of better livelihoods. Desertification and drought related migration takes many forms the majority occurring as internal migrations (Nanyunja, 2004), that is, displacements of populations within national boundaries (Mora and Taylor, 2006; Lein, 2000; Zaman, 1991). At greatest risk are those at the low end of the socio-economic spectrum, both in developed and developing regions. In developing regions, the poorest inhabitants are often forced to live on marginal land outside urban areas or coastal zones (Chan, 1995), potentially prone to desertification. Migration is often a coping mechanism, with little faith in finding permanent residence (Haque and Zaman, 1989; Mutton and Haque, 2004; Zaman, 1991). Availability of natural resources for example prompts pastoralists along the borders of Ethiopia, Kenya and Uganda to migrate away from areas of dwindling resources; thus raising competition over finite resources with incidence of conflict increasing when these individuals move into areas of crop growing communities (Meier and Bond, 2005). It is estimated that 135 million people - the combined populations of France and Germany - are at risk of being displaced by desertification. The problem appears to be most severe in sub-Saharan Africa, the Sahel and the Horn of Africa. Some 60 million are estimated to eventually move from the desertified areas of sub-Saharan Africa towards Northern Africa and Europe by the year 2020.⁴⁹

43. Already, it is reported that in the past 20 years, nearly half of the total male population in Mali has migrated at least once to neighbouring African countries (96 percent) or to Europe (2.7 percent). In Burkina Faso, desertification can be identified as the cause of 60 percent of the swelling of main urban centres.⁵⁰ In Kenya one of the consequences of desertification is a constant flow of rural poor to Nairobi. The population of Nairobi has grown by 800 percent from 350,000 in 1963 to 2,818,000 in 2005.⁵¹ Migration will exert stress on the poor and limited public infrastructure in urban areas and may exacerbate conflicts already witnessed in the region as result of scarcity of grazing land and water.

44. Against this background of the devastating impact of drought and desertification, which permeates and undermines the very foundations for securing sustainable livelihoods and economic growth, poverty eradication in Africa is inextricably linked to success in combating desertification and mitigating the impacts of drought. For millions on the continent, hopes of getting out of poverty therefore hinge on efforts at national, regional and global levels to prioritise the provision of support and the implementation measures for desertification control and coping with drought.

⁴⁹ UNCCD Secretariat 2004 http://www.unccd.int/publicinfo/pressrel/showpressrel.php?pr=press01_06_04

⁵⁰ Ibid

⁵¹ National Geographic September 2005 cited in Combating desertification: <http://www.concern.net/docs/Debates/Resource/combating%20desertification.pdf>

SECTION 3: Review of progress and achievements made in combating desertification and mitigating impacts of drought

45. This section provides a review of the progress made in the implementation of measures in combating desertification and mitigating impacts of drought. The review is carried out taking into consideration measures set out in Agenda 21, the Programme for the Further Implementation of the Agenda 21 (PFIA21), and the Johannesburg Plan of Implementation (JPOI) of the World Summit on Sustainable Development (WSSD). Specifically addressed in this review is progress made in the region in the implementation of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (UNCCD), and the relevant programs of New Partnership for Africa's Development (NEPAD).. This is in recognition of the emphasis accorded to them in Agenda 21, PFIA21 and the JPOI and their particular significance in providing sound frameworks for tackling drought and desertification in Africa.

3.1 Progress in the development and implementation of measures to prevent and combat desertification as well as to mitigate the effects of drought within the framework of the UNCCD

46. The WSSD called for concerted and concrete measures at all levels to enable developing countries to achieve their sustainable development goals. The JPOI consequently identifies combating desertification and mitigating the effects of drought among the priority actions needed to enable developing countries to achieve their poverty reduction goals and targets. In this regard, it calls for actions to strengthen the implementation of the UNCCD to address causes of desertification and land degradation in order to maintain and restore land, and to address poverty resulting from land degradation.

47. The UNCCD, which was adopted in 1994 and came into force on December 26, 1996, constitutes the centrepiece in the international community's efforts to combat desertification and mitigate effects of drought and ensure sustainable development. The objective of the convention is to "combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, 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." All African countries are contracting parties to the convention and are engaged in various activities and making progress in meeting their obligations in implementing the convention. The following are some of the actions that have been undertaken at the various levels

3.1.1 National level

Development and implementation of National Action Programmes to combat desertification (NAPs)

48. African countries with support from development partners⁵² are at different stages in developing and implementing their National Action Programmes to combat desertification (NAPs). The NAPs, which are developed through highly participatory processes, are the overall strategies for specific land and drought-related plans and programs, also serve as important tools in guiding the implementation, donor coordination and monitoring of efforts in combating desertification and poverty reduction. As of April 2007, NAPs had been developed and adopted by 42⁵³ African Countries.⁵⁴ The majority of the remaining countries had launched NAP processes.⁵⁵ The NAP processes have contributed significantly to the strengthening of capacity of various stakeholders to deal with drought and desertification. Other than producing the NAPs, the participatory NAP process was powerful in awareness raising, educating and mobilizing various stakeholders and therefore empowering them on drought and desertification issues. It also triggered and resulted into institutional and legislative reforms supportive of effective measures for tackling drought and land degradation

49. Implementation of NAPs has commenced in some countries. In Niger, a number of projects as indicated in Box 1 are being carried out within the framework of the country's National Action Plan to Fight Desertification and Manage Natural Resources, which was adopted in December 2000.⁵⁶

Box 1: Implementation of the NAP: the case of Niger

The following projects are being implemented within the framework of the Niger's NAP.

- (i) A project to study the causes and effects of desert windstorms, and what actions can be taken to make the effects of these less severe.
- (ii) The 'African Land and Water Initiative', for which the 2004-2005 pilot project was financed with 515,000 dollars obtained from the World Bank and under the UNCCD.
- (iii) The 'Natural Forests Management Project', financed with about 15.6 million dollars from the African Development Bank (ADB) and UNCCD during 2000-2005.
- (iv) An institution-building project to support the National Action Plan to Fight Desertification and Manage Natural Resources, financed by Italy with 1,600 dollars during 2002-2004.
- (v) The 'Youth Corps Project' to reduce poverty, financed with 450,000 dollars from the UNDP and UNCCD.
- (vi) A presidential initiative that seeks to encourage community participation on the part of the youth and fight poverty, carried out during 2001-2004. It was financed with some 70 million dollars from the Heavily Indebted Poor Countries Initiative (HIPC).
- (vii) A UNDP-financed project still underway (2004-2007) -- the 'Programme to Fight Poverty'. The agency has supplied four million dollars for this project.
- (viii) The 'Community Action Programme', also a poverty reduction initiative, financed by the

⁵² See section on progress in providing support for implementation of UNCCD for some development partners mentioned by countries.

⁵³ UNCCD Presentation at PanAfrican Paliment workshop on desertification and its implications. Algiers, April 2-4 2007'

⁵⁴ Also see: <http://www.unccd.int/actionprogrammes/africa/africa.php#national>

⁵⁵ Combating desertification in Africa.

<http://www.unccd.int/publicinfo/factsheets/showFS.php?number=11>

⁵⁶ <http://ipsnews.net/news.asp?idnews=36659>

- | | |
|------|--|
| | World Bank and the Global Environment Facility (GEF) with 39 million dollars for 2004 to 2008. |
| (ix) | The 'National Forestry Programme', financed with 365, 900 dollars from the United Nations Food and Agriculture Organisation, 2004-2006. |
| (x) | A project to fight silting up of the Niger River watershed, financed by the ADB and the Niger Basin Authority, with about 9.6 million dollars for 2004-2008. |

Source: Adapted from Inter Press Service News Agency⁵⁷

50. In many countries however, limited progress has been made in implementing the NAPs. As observed by the report of the UNCCD Secretariat: “while most of the countries of the region have had national action programmes (NAPs) for several years, meaningful progress has not been made with their operational implementation.”⁵⁸ Factors identified by many countries as impediments to NAP implementation include capacity and resource constraints, as well as lack of systematic integration of desertification control plans into planning and budgetary frameworks at various levels.

51. Noteworthy however, is the fact that the partnership arrangements for implementation of NAPs, although still not sufficiently implemented, provide a blueprint on how donor coordination in recipient countries can be organized effectively.

Establishment and operation of National Desertification Funds (NDFs)

52. Some countries have set up National Desertification Funds (NDFs) as part of the NAP process. The NDFs serve as local and easily accessible sources of funding for implementation of NAP priorities. A case in point is the Kenya Desertification Community Trust Fund, which was launched in June 2004. The Fund has benefited from a significant contribution by the private sector and has assisted in the implementation of priority activities in the country's NAP.⁵⁹

53. The progress made in setting up of NDFs notwithstanding, countries are encountering difficulties in making these funds genuinely operational.⁶⁰ This can be attributed partly to the existence at national level of similar or related funds, the momentum building up of incorporating NAPs into NDPs and PRSs, and the emphasis placed by a number of development partners and individual countries on direct budget support and basket funding as the favoured approach to resource mobilization and allocation.

Establishment of National Coordinating Bodies (NCBs)

54. Countries in the region are establishing National Coordinating Bodies (NCBs) in accordance with the provisions of the UNCCD. The NCBs are charged with the role of coordination, guidance and leadership in order to ensure cross-sectoral and integrated planning for desertification control activities. However country reports highlight the need to strengthen the NCBs whose performance and effectiveness is constrained by the limited

⁵⁷Environment-Niger: Projects Aplenty to Halt the Desert. <http://ipsnews.net/news.asp?idnews=36659> Accessed March 28, 2007

⁵⁸ UNCCD. ICCD/CRIC(3)/2/Add.1 4 January 2005. Synthesis and preliminary analysis of information contained in reports submitted by affected African country parties. Note by the secretariat.

⁵⁹UNCCD 2006. Implementing the United Nations Convention to Combat Desertification in Africa: Ten African experiences. UNCCD Secretariat. Bonn, German.

⁶⁰UNCCD. ICCD/CRIC(3)/2/Add.1 4 January 2005. Synthesis and preliminary analysis of information contained in reports submitted by affected African country parties. Note by the secretariat.

human, technical and financial resources at their disposal. Also pointed out is the need for enhanced policy making authority and integration of the NCBs into the administrative structure at a level high enough for them to fulfil their functions of coordination and mainstreaming of desertification control activities.⁶¹

Mainstreaming of NAPs and other SLM priorities into national development programs (NDPs) including poverty reduction strategies (PRSPs)

55. The UNCCD recognizes the linkages between land degradation and poverty, and stresses the need to integrate efforts to combat desertification into other development frameworks. It is also acknowledged that in order to mobilise resources to initiate and sustain implementation of planned interventions to combat desertification, it is crucial to improve the integration and linkage of NAPs and dry land development issues in general with national development plans and in particular PRSPs which are currently the basis for development planning and assistance.

56. Countries have therefore embarked on integrating NAPs into NDPs, especially the PRSPs. Examples of countries that have succeeded in mainstreaming NAPs and SLM into the NDPS and PRSPs include Burundi, Kenya, Tunisia, Burkina Faso and Uganda.

57. In Burundi, the NAP informed the development of the Interim Strategic Framework for Economic Growth and Poverty Eradication. As a result two of the six pillars of the Strategic Framework relate to the sustainable management of natural resources and the fight against land degradation.⁶²

58. In Kenya the NAP has been integrated into socio-economic policy frameworks, including the national Economic Strategy for Wealth and Employment Creation, the Manifesto for the National Rainbow Coalition, the governing coalition party, the draft constitution and the Arid and Semi-arid Lands Policy. The NAP has also been included in a number of sectoral environmental protection plans. Additionally, it is being implemented under various sectoral and cross-sectoral activities.⁶³

59. The Tunisia NAP was integrated into the country's 10th Economic and Social Development Plan in 2002. As a result the government earmarked 2,925 million Tunisian dinars for implementing strategies and programmes aimed at conserving natural resources and combating desertification. In 2005, the National Committee for Combating Desertification was upgraded and became the National Council for Combating Desertification (NCCD).⁶⁴

60. Notwithstanding the importance of increased funding and sustainability outcomes that can arise out of integrating NAPs in particular and SLM in general into NDPs and PRSPs, it has been observed that few countries have in practice, effectively integrated NAPs within

⁶¹UNCCD. ICCD/CRIC(3)/9 23 June 2005. Committee for the Review of the Implementation of the Convention. Report of the Committee on its Third Session, held in Bonn from 2 to 11 May 2005.

⁶²UNCCD 2006. Implementing the United Nations Convention to Combat Desertification in Africa: Ten African experiences. UNCCD Secretariat. Bonn, Germany.

⁶³Ibid.

⁶⁴Ibid.

their national development strategies.⁶⁵ The slow pace of integration can be attributed to the challenge integration still poses to many countries. There is therefore the need for increased political commitment and continued guidance and support to countries to assure effective integration of drought and desertification considerations into NDPs and PRSs. This is paramount if the ultimate goal of securing increased multi-stakeholder and cross-sectoral backing, participation and investment in projects and activities to mitigate drought impact and combating desertification while reducing poverty, is to be achieved.

3.1.2 Subregional and regional levels

Development and Implementation of Subregional Action Programmes (SRAPs) and the Regional Action Programme (RAP) on drought and desertification.

61. The development of Subregional Action Programmes (SRAP) and the Regional Action Programme (RAP) on drought and desertification has been undertaken. These programs complement the NAPs particularly with respect to trans-boundary resources such as lakes, rivers forests; and crosscutting issues including information collection and dissemination, capacity building and technology transfer.

62. Five SRAPs have been put in place.⁶⁶ The SRAPS were developed and are being implemented under the auspices of subregional institutions namely: the Permanent Inter-State Committee on Drought Control in the Sahel (CILSS) and Economic Community of West African States (ECOWAS) for West Africa and Chad subregion; the Arab Maghreb Union (AMU) for the AMU sub-region; the Southern African Development Community (SADC) for the Southern Africa subregion; and the Intergovernmental Authority on Development (IGAD) for the Eastern Africa subregion..⁶⁷ Among the projects being implemented within the IGAD SRAP are: the AfDB funded pilot project on water harvesting in the drylands of the IGAD subregion, the IGAD Pro-poor livestock policy initiative and fertilizer and inputs program.⁶⁸ Under the auspices of the Central African Forest Commission (COMIFAC), the SRAP for the Central Africa region has also been prepared.⁶⁹

63. Under the auspices of the Regional Coordination Unit (RCU) hosted by the AfDB, a RAP has being finalized.⁷⁰ The RAP is constituted based on six Thematic Programme Networks (TPNs) namely: TPN1 on Integrated management of international river, lake and hydro-geological basins; TPN2 on promotion of agroforestry and soil conservation; TPN3 on rational use of rangelands and promotion of fodder crops development; TPN4 on ecological monitoring, natural resources mapping, remote sensing and early warning systems; TPN5 on promotion of new and renewable energy sources and technologies; and TPN6 on promotion of sustainable agricultural farming systems. The RCU plays a critical role including the exchange of information on combating desertification between regional and global level.

⁶⁵Uwe Holtz (2005). Important outcomes of the previous five Round Tables of Members of Parliament on the United Nations Convention to Combat Desertification. Vers. 04.10.2005.

<http://www.unccd.int/cop/cop7/docs/report5parl-eng.pdf>

⁶⁶ UNCCD Secretariat input at ACSD-5/RIM.

⁶⁷Action programmes: Africa. <http://www.unccd.int/actionprogrammes/africa/africa.php#subregional> and UNCCD ICCD/CRIC(3)/2/Add.2. 21 March 2005 Progress in the formulation and implementation of subregional action programmes and the regional action programme in Africa.

⁶⁸ IGAD (2007) A brief report on combating drought and desertification of the Intergovernmental Authority on Development (IGAD).

⁶⁹ UNCCD Secretariat input at ACSD-5/RIM.

⁷⁰ibid., and updated with input from the UNCCD secretariat at ACSD-5.

3.2 Progress made in combating desertification and drought impact mitigation through other strategies and programs in agriculture and natural resources management sectors

64. Unsustainable agriculture and natural resources exploitation play a major role in accelerating desertification and drought risk exposure. Therefore promoting sustainable agriculture and natural resources management within the framework of poverty reduction and sustainable livelihoods constitutes one of the major pillars in mitigating effects of drought and controlling desertification. Thus, in addition to the measures specifically developed for the implementation of the UNCCD, countries have developed and are implementing other measures within the agriculture and natural resources sectors. These measures have a significant bearing on the drought impacts mitigation and desertification control. The following measures are being pursued at national, subregional and regional levels.

3.2.1 National level

65. At country level, wide-ranging interventions are being undertaken. These include policies, strategies, plans and projects aimed at preventing land degradation and /or restoring degraded lands through fostering food security, natural resources regeneration, integrated water resources management, and promotion of efficient energy use and renewable sources of energy. These are illustrated below.

National strategies, policies and plans

66. Many African countries have formulated and are implementing national environmental policies, strategies and plans. In many countries, National Environmental Action Plans (NEAPs), which were first formulated in the early 1990s, have provided the broad policy framework for coordinated management and protection of the environment. They articulate among other things, policy interventions for conservation and sustainable utilization of natural resources, including land management and integrated resource planning⁷¹. Drought and desertification control constitute an important pillar of policy interventions. For example, in the Gambia, the NAP is drawn within the framework of the country's NEAP,⁷² and in Benin desertification control is an important pillar of the country's NEAP.⁷³ Other examples include the Cape Verde 2004 National Environment Action Plan (NEAP II), which incorporates all the objectives of the NAP. The Niger National Environmental Plan for Sustainable Development (NEPSD) includes the NAP. Noteworthy is the fact that the articulation of Environmental Policies and NEAPs in the context of national development policies and plans has progressively improved. Examples of environmental policy goals and objectives from Ethiopia, Madagascar Zambia are shown in Box 2 below.

Box 2: Examples of environmental policy goals and objectives

The overall policy goal of the Environmental Policy of Ethiopia: "to improve and enhance the health and quality of life of all Ethiopians; to promote sustainable social and economic development through

⁷¹Country reports on drought and desertification submitted to ECA, 2006

⁷²Republic of the Gambia, 2003: The Roadmap for the Implementation of the United Nations Convention to Combat Desertification.

⁷³Benin's country report, 2006

the sound management and use of natural, human-made and cultural resources and the environment as a whole, so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs.”

The goal of Madagascar’s third generation NEAP: “to conserve and develop natural resources for sustainable economic growth and for a better quality of life”.

The main objective of Zambia’s NEAP: “to integrate environmental concerns into social and economic development, consistent with a liberalized economy”.

Legislation

67. Several countries have put in place or updated their legal frameworks in the area of agriculture and natural resource management to address drought and desertification. These legislations among others include framework environmental laws, and sectoral laws on land, water, forestry and agriculture.

68. Kenya has adopted the Environmental Management and Coordination Act 1999. In Uganda, the National Environment Act and the Land Act are in force. In the period 2001 to 2003 Zimbabwe carried out land, agrarian and environmental law reforms to redress equity issues and mitigate poverty and environmental degradation aimed at benefiting the landless people of the country. The land reform focused on land redistribution and the reorganization of communal areas in order to reduce high population densities, which exceeded the capacity of the land to support them. It also focused on tackling the problem of over-cultivation, which had resulted in land degradation and high poverty levels, particularly in the marginal semi-arid regions where 70 per cent of the peasant farmers eked out a living.⁷⁴

Sector specific strategies and plans

69. In the forest sector, about two thirds of African countries have developed and are at different stages in implementing National Forest Programmes (NFPs).⁷⁵ The NFPs serve as fundamental tools that provide policy and planning framework for translating the principles of sustainable forest management into domestic action. The NFPs address deforestation, which is a major direct cause of desertification. According to the State of World’s Forest (2007), a majority of countries in Africa have adopted new forest policies and forest laws, and efforts are being made in many countries to improve law enforcement as part of the NFP processes.⁷⁶ Harmonizing implementation of NFPs and NAPs especially in drylands can enhance their impact in tackling land degradation.

70. Policies and plans on land and spatial planning have been formulated by some countries to address the problems in land use planning which has been recognized as major contributing factor to land and natural resource degradation. The National Spatial Planning Policy of Benin is aimed at coordinating spatial planning for balanced social and economic development taking into account the importance of safeguarding the natural resource base and promoting the optimal use of financial resources.⁷⁷ The sustainable management of land

⁷⁴UNCCD (2006). Implementing the United Nations Convention to Combat Desertification in Africa: Ten African experiences. UNCCD Secretariat. Bonn, Germany.

⁷⁵FAO (2006). Global Forests Resources Assessment: Progress towards sustainable forest management. Rome.

⁷⁶FAO (2007). State of World’s Forests 2007. FAO, Rome

⁷⁷Benin’s country report, 2006

resources that supports agricultural production protects natural resources and restores degraded resources, is an important objective of Madagascar's Land Policy.⁷⁸

71. In the Agricultural sector policies and strategies of countries are increasingly placing emphasis on sustainable agriculture, thus promoting better land management practices and redressing problems related to resource degradation. Togo's Agricultural and Rural Growth Strategy of 2004 addresses natural resources degradation and its impact on agricultural productivity.⁷⁹ Similarly, South Africa's Agricultural Strategic Plan of 2002 seeks to drive equitable access, global competitiveness and profitability, as well as sustainable resource management.⁸⁰ Ethiopia's Food Security Strategy recognizes that soil, water and vegetation, are the main asset base of both the farming community and the country's economy as a whole, and without which, the achievement of food security is unlikely. Many countries have drafted National Action Plans for integrated soil fertility management. However, in most cases implementation is constrained by lack of adequate funding.

72. In the water sector, strategies developed place emphasis in the conservation and rational management of water resources. South Africa's Water Strategy adopted in 2004 among other things emphasizes reallocation of the resource to achieve equity of access, protection of the resource and satisfying basic human and ecosystems need. The strategy provides for extension of water infrastructure to cover the whole country. In this way, marginal lands used for subsistence agriculture can be irrigated, thus improving their quality and yields, which in turn would lead to improved livelihoods for local communities.⁸¹ Ethiopia's Water Sector Strategy is aimed at creating secure basis for sustainable development and management of the country's water resources.⁸²

Rural Development Strategies

73. Rural development strategies that span a wide range of sectors have been initiated to address drought and desertification through rational exploitation and management of natural resources, sustainable agricultural production and diversification of activities and rural incomes, among others. For example, Algeria's Sustainable Rural Development Strategy of 2004 accords priority to rural communities living in dispersed or isolated areas and its implementation aims among other things to ensure rational exploitation and development of natural resources.

74. Ethiopia's Agricultural and Rural Development Policy embodies principles that are relevant to combating desertification and mitigating the effects of drought. These include improving farming skills; improving the supply, replication and dissemination of technologies; ensuring access to land and tenure security; resolving problems of drought prone regions; and improving agricultural marketing systems, promoting rural finance, developing the rural energy sector and rural telecommunications.⁸³

75. In the case of Madagascar, the country's National Rural Development Policy has a main objective of ensuring food security and promoting sustainable development of natural

⁷⁸Madagascar's country report, 2006

⁷⁹Togo's country report, 2006

⁸⁰South Africa's report to UNCCD Secretariat, 2005

⁸¹South Africa's report to UNCCD Secretariat, 2005

⁸²Ethiopia's country report, 2006

⁸³Ibid

resources. The strategic orientation is towards increasing agricultural productivity with optimal utilization and sustainable management of natural resources and supporting infrastructure.

Programs and Projects

76. Countries have also formulated some programmes, projects and action plans to support the implementation of policies and strategies. These projects are shown in Annex 2 contribute to controlling desertification and mitigating drought impacts. Successes have been registered in many cases. An example from Algeria is the implementation of activities earmarked by the National Fund for the Regulation of Agricultural Development. One such activity is the afforestation plan, which has registered the following results: the establishment of fruit trees plantations, which cover more than 1.2 million hectares of land and the conservation and improvement of soils covering an area of more than 2.8 million hectares.⁸⁴ The County's National Programme for Agricultural and Rural Development launched in Algeria in 2002, which particularly targeted arid and semi arid zones, facilitated the introduction of appropriate irrigation technologies in these regions.

77. The six countries of Burkina Faso, Chad, Kenya, Niger, Senegal and Sudan have benefited from the pilot project: Operation Acacia, which is implemented by the Food and Agriculture Organisation (FAO) with financial support from the Italian government. Launched 2003, the project has helped local farmers to restore degraded land by planting native Acacias that produce gums and resins - important products for Sahelian people's livelihoods. The project has among others trained about 56 000 producers of gum Arabic and resin on ways to improve their production to meet international market standards. As a result, more than 13 000 ha of degraded land have been restored. This has improved animal feeding and reduced conflicts between farmers and shepherds. The mixed cropping of Acacia trees with tomatoes, sesame and beans has boosted the growth of both. The sale of gum and resin overseas has brought in much-needed cash to the region and helped the farmers diversify and increase their sources of income.⁸⁵

78. Other achievements and success stories reported by countries on programmes and projects implemented in different sectors are as shown in Tables 2 to 5. Some of these achievements have engendered best practices in sustainable land and natural resources management, as well as sustainable agricultural practices discussed in the next section.

Table 2: Achievements/successes registered in the land and agriculture sectors

Country	Achievements/Successes
Algeria	Instituted measures to prevent sand encroachment and dune formation.
Chad	Promoted community involvement in the rehabilitation of degraded lands, including soil restoration techniques. Instituted sand dune formation control measures.

⁸⁴Algeria's country report, 2006

⁸⁵FAO. Killing two birds with one stone: Transferring knowledge to fight poverty and land degradation http://www.fao.org/forestry/newsroom/en/news/110909/highlight_110989en.html; and Operation Acacia: boosting production of gums and natural resins. <http://www.fao.org/english/newsroom/news/2003/24339-en.html>

Country	Achievements/Successes
Democratic Republic of Congo	Promoted sustainable cultivation practices such as observance of the fallow period, crop rotation, and agroforestry practices.
Ghana	Conserved, rehabilitated and extended sacred grove of trees, grasses and other natural resources. Established mango plantations that are communally owned and managed. Communities now practicing integrated natural resources management. Constructed bunds in rice fields to conserve water and increase productivity. Established and managed seed nurseries.
Madagascar	Applied soil defense and restoration techniques and sustainable agricultural practices, including dune fixation, windbreaks, dykes, live fences, terrace farming and agroforestry.
Morocco	Rehabilitated and irrigated more than one million hectares of land and managed pluvial land for soil conservation purposes. Rehabilitated a large expanse of pastureland and establishment of several cooperatives and groupings in the different pastoral zones.
Republic of Congo	Rehabilitated degraded and partially degraded lands.
Togo	Integrated soil fertility management, including organic soil enrichment. Effectively disseminated intensive cotton production techniques through the provision of inputs (seeds, fertilizers and pesticides).
Zimbabwe	At grassroots level, the Women and Land Lobby Group is involved in promoting irrigation projects, as well as sustainable land and water resource management and utilization projects in the dry areas of Zimbabwe. This has resulted in a pilot project, which benefited 50 households through improved food security and livelihoods.

Source: Country reports on drought and desertification submitted to ECA, 2006

Table 3: Achievements/successes registered in the forestry sector

Country	Achievements/Successes
Chad	Reforested degraded lands.
Madagascar	Reforested degraded lands.
Democratic Republic of Congo	Afforested and reforested degraded lands and promoted community forestry management practices.
Djibouti	Restoration of the Day forest
Ethiopia	Rehabilitated degraded patches of remnant forest areas through enrichment planting and enclosure. Instituted area enclosure and afforestation programmes. Introduced and disseminated fuel saving stoves and renewable energy.
Ghana	Controlled bushfires in many communities.
Morocco	Afforested four million hectares of land and reforested close to 530 thousand hectares of degraded land.
South Africa	Promoted community forestry aimed at meeting local social, household and environmental needs and at favouring local economic development.
Togo	Afforested and reforested degraded lands.
Zambia	Established community forests and fruit tree plantations and rehabilitated degraded lands through afforestation programmes.

Source: Country reports Submitted to ECA; UNCCD 2006

Table 4: Achievements/successes registered in the biodiversity sector

Country	Achievements/Successes
Ethiopia	Promoted eco-tourism based investments.
Ghana	Designated reserve areas, some of which are particularly valued for their medicinal plants.
Morocco	Developed several biological and hunting reserves to safeguard flora and fauna. Created two biosphere reserves to sustain the oasis of Southern Morocco.
Togo	Instituted conservation measures for fragile ecosystems and biodiversity.

Table 5: Achievements/successes registered in the water sector

Country	Achievements/Successes
Algeria	Instituted measures to ensure availability and sustainable use of water resources through successful exploration of underground and surface water resources, the regulation of the exploitation of water reserves, the use of non-conventional water sources such as desalinated water and the promotion of water savings.
Chad	Introduced water application systems and river basin approach to development.
Ethiopia	Introduced moisture conservation and utilization, which includes water harvesting and small-scale irrigation.
Madagascar	Rehabilitated river basins.
Morocco	Harnessed water resources through the institution of water saving measures and the construction of more than 100 dams, which made available more than 14.5 billion meter cubes of water for irrigation, drinking and the generation of hydroelectricity. Developed river basins covering a surface area of 520 thousand hectares.

Innovative community practices in natural resources use and management

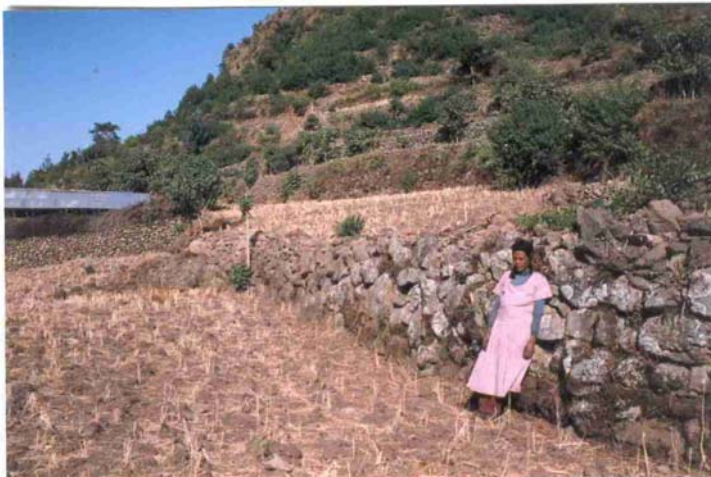
79. People's economic activities are characterized by innovation and experimentation, both in the use of natural resources and in exploiting livelihood opportunities elsewhere. Their knowledge forms a valuable resource in managing risky environments. They also possess adaptive skills, including capacities for intensifying the use of natural resources, for developing diversified livelihoods, and for contributing knowledge and skills.⁸⁶ The following examples in application of innovative practices for natural resource management and livelihood improvement can be highlighted:

80. In Ethiopia utilization of indigenous knowledge systems for land and natural resource management such as *in-situ* conservation of crop varieties, indigenous terrace building in Konso District, and application of an agro-forestry system in Gedio zone is quite commendable. The results achieved include reduction in the rate of genetic erosion and restoration of the local seeds or landraces in regions where they were wiped out by severe drought, control of land degradation in the hilly and mountainous areas of Konso, and improved biodiversity conservation, productivity and living standards of communities in Gedio zone.⁸⁷

81. Box 3 highlights the exemplary case of Wozero (Mrs) Ayelech Fikre, a woman farmer innovator in land husbandry.

⁸⁶Anderson, J. et. al., 2004

⁸⁷Ethiopia's country report, 2006



Ayelech in her terraced farm Gedeo Agro-forestry System

Box 3: Wozero (Mrs) Ayelech Fikre, a woman farmer and innovator in land husbandry

Ayelech Fikre is an illiterate, widowed woman farmer of 66 years, living in Ankober Woreda, North Shewa Zone of the Amhara National Regional State. The total area of her farmland is about one hectare. Through her own initiatives, she has been applying various structural indigenous soil and water conservation (ISWC) measures such as stone bunds, cut-off drains and traditional ditches. Recognized that these structural

ISWC measures alone are not enough to get better crop yields, she began applying various types of soil fertility management practices, including the use of composted manure, intercropping, crop rotation and planting of *Croton macrostachyus* in a row immediately below each stone bund. Moreover, to address the problem of water shortage, she has used various water harvesting techniques and successfully enhanced her crop yield.

Apart from the different indigenous land husbandry techniques applied directly on her farmland to conserve soil and water, Ayelech has also treated the steep land above her farmland by constructing hillside terraces and planting *gesho* (*Rhahmnus perinoides*), also known as 'hops', which is used for local beer brewing and for which there is a high demand in the local market. In addition, she allows other indigenous tree species, such as juniper (*Juniperus procera*) and African olive (*Olea africana*) to regenerate naturally on this slope. She prunes the juniper branches so that the trees quickly attain the desired height and diameter, which she sells as timber. She experimented with the effects of pruning by leaving some trees unpruned and comparing their growth with those that have been pruned. She uses the pruned material for fuel.

In general, Ayelech has integrated various indigenous land husbandry practices through her own initiative and knowledge. For her work on indigenous natural resources conservation practices, she received a prize from the FAO and the then Ministry of Agriculture, on World Food Day, October 1998. It is now widely recognized (by various visitors including farmers, experts and highly placed officials) that she has integrated various indigenous techniques of land husbandry, in a unique way, so as to make optimal use of the resources available to her and to make them more productive.

Source: Ethiopia's country report, 2006

82. Given the effectiveness of these traditional practices, the Ethiopian government has accorded priority to replicating them in different parts of the country, with emphasis on soil and water conservation, traditional agroforestry and water harvesting, in order to tackle the soil erosion and deforestation problems of the country.⁸⁸ For instance, between 1995/96 to 1999/2000 soil conservation activities carried out increased drastically with major activities dominated by “on-farm terraces”, “other terraces” and “terrace maintenance”. Between 1998/99 to 1999/00 the total land area treated by all types of conservation activities, excluding seedling production, tree planting and demarcation have increased from 309,196 to 1,626,171.5 hectares. Although forest conservation activities declined in the period 1995/96

⁸⁸ Ethiopia's country report, 2006

to 1999/00 due to various reasons, efforts were made in increasing seedling production, tree planting and demarcation and surveying as shown in Table 6.

Table 6: Countrywide Soil and Forest conservation Activities (1995/96-1999/2000)

Type of work	1995/96	1996/97	1997/98	1998/99	1999/00
On farm terraces (ha in hectare)	89,350	141,430	187,210	224,472	642,462
Other terraces (in hectare)	170,393	257,435	178,993	22,732	629,553
Terrace maintenance(in hectare)	36,558	26,291	44,886	56,809	164,544
Soil bund (in hectare)	50,921	3,227	1,860	1,691	57,699
Check-dams (in hectare)	478	20,811	752	856	22,897
Micro-basins (in hectare)	1,150	1,416.5	1,799	1,828	6,193.5
Cut-off drains (in hectare)	445	704	866	808	2,823
Seedling production (in million)	380.83	46,650	299.38	27.85	NA
Tree Planting(in hectare)	59,085	61,299	37,471	3085	NA
Demarcation and surveying (in hectare)	6,316	9,159	4,601.5	8,204	NA

Source: Ethiopia's country report 2006

83. Building on indigenous knowledge and techniques in Ghana, a local NGO is promoting soil and water conservation techniques such as composting and contour bunds in heavily degraded areas. The extension approach involves the formation and support of farmer groups over a seven-year cycle.⁸⁹ The Mossi people of the Central Plateau and Eastern Region of Burkina Faso have successfully implemented soil and water conservation measures on a large scale. Between 1980 and 2000, the people living in this area increased their crop yields, the numbers of on-farm trees, the numbers of livestock (and amount of manure), and fodder production. Some water tables rose, household food security improved and out-migration was partly reversed. In Togo, terrace cultivation practiced by local communities in mountainous regions supports the conservation of soil humidity, reduces water flow and erosion and sustains more arable land.⁹⁰

84. A sand encroachment control and agropastoral development project implemented in eight regions of central Mauritania - largely in the saharan-sahelian part of the country, used approaches that included empowering communities to initiate and manage land protection and economic activities to achieve successful results as follows: establishment of windbreaks and village reforestation on 328 hectares of land; protection of agricultural and grazing lands, oases and infrastructure against sand encroachment; regeneration of pasture and trees in protected areas; sand dune fixation, benefiting 40,000 people directly and 100,000-200,000 indirectly; extensive soil and water conservation measures - 2,300 hectares; movement of people back to abandoned land and villages; improved access to markets and sales of produce and wood products, especially dairy produce; increased nutrition through vegetable production and consumption of dairy products; and improved status of women through involvement in project activities and the formation of economic production units. The overall achievements were: mastery of fixation and rehabilitation techniques by local population; enhancement of popular responsibility for land management; development of a system with

⁸⁹ Ghana's country report, 2006

⁹⁰ Togo's country report, 2006

excellent potential for replication in other countries in the region; and community initiatives in place for replicating the same in neighbouring locations.⁹¹

85. Thuo-Boswa Landcare Cattle Project in the North West Province near Kudumane and Kuruman in the Northern Cape in South Africa is another example of a project engaging community based and participatory approaches. Due to uncontrolled grazing, the rangelands around the village became degraded, rendering cattle farming unprofitable and unsustainable. With technical and financial support from the provincial Department of Agriculture, the women and men farmers established a livestock grazing management system with fenced paddocks and reticulated water system. They applied a rest period to alternative grazing areas in order to allow the “veld” resources to regenerate. The farmers instituted exchange visits, formed community institutions for managing their natural resources; engaged in improved grazing practices; set themselves goals to manage their natural resources and communal assets; and are considering diversifying their livelihood options to include small stock, curios, wool and weaving. Their calving percentage increased from less than 50 percent to more than 80. Climax grasses appear to be increasing in abundance in the grazing paddocks, and the overall status of the grazing resources is reportedly improving since the initiation of the project. As a result of this project, other communities in the district are considering the sustainable management and use of their grazing resources.⁹²

3.2.2 Subregional and regional level programmes

86. To support and complement country level efforts, the following initiatives and programmes have been undertaken in the area of agriculture and natural resources management at subregional and regional levels:

87. *The New Partnership for Africa Development (NEPAD)/Comprehensive Africa Agricultural Development Programme (CAADP)* has been developed and endorsed by African heads of state and governments as a framework for the restoration of agricultural growth, food security and rural development in Africa. CAADP’s objective is to achieve an annual agricultural growth rate of at least 6 percent in SSA countries by the year 2015. To reach this goal, the CAADP process and framework has a strong focus on assisting countries in allocating at least 10 percent of national budgetary resources to agriculture within the next five years. CAADP aims to enhance food security by promoting programs designed to increase agricultural production, improve nutritional value of staple foods, and ensure better access to food for vulnerable groups. Pertinent to combating drought and desertification is CAADP’s pillar 1: “*Extending the area under sustainable land management and reliable water control Systems.*” Under this pillar CAADP aims to among others reverse fertility loss and resource degradation, and ensure broad-based and rapid adoption of sustainable land and forestry management practices in the smallholder as well as commercial sectors.⁹³

88. *Africa Fertilizer Summit, 2006* was organized by the African Union (AU), the New Partnership for Africa’s Development (NEPAD), and the Government of the Federal Republic of Nigeria, and implemented by the International Center for Soil Fertility and Agricultural Development (IFDC) in order to address the continents declining soil fertility, resulting from among others land degradation, and to trigger an African Green Revolution, the Africa Fertilizer Summit held in Abuja, Nigeria from 9 to 13 June 2006. The summit focused on building consensus around the key issues in increasing fertilizer use in Africa and

⁹¹<http://www.unep.org/desertification/successstories/6.htm> Accessed 14 November 2006

⁹²South Africa’s report to UNCCD, 2005

⁹³NEPAD Secretariat 2005. CAADP Summary. <http://www.businessactionforafrica.org/documents/CAADP.pdf>

agreeing on a strategy for developing an Africa Fertilizer Action Plan to accelerate poor farmers' access to fertilizer and other agricultural inputs. The Summit adopted the Abuja Declaration on Fertilizer for African Green Revolution, in which the African leaders declared fertilizer, from both inorganic and organic sources, "a strategic commodity without borders" and resolved that "the African Union Member States will accelerate the timely access of farmers to fertilizers". Twelve key measures to foster an African Green Revolution were adopted. The first of these was a resolution by the AU member states to increase the level of fertilizer use from the current average of 8 kilograms per hectare, to an average of at least 50 kilograms per hectare by 2015. As an immediate measure, the declaration recommended "the elimination of taxes and tariffs on fertilizer and on fertilizer raw materials". The summit also adopted a resolution on the establishment of an Africa Fertilizer Development Financing Mechanism by the African Development Bank.⁹⁴

89. *The NEPAD Environment Initiative (EI) which includes combating desertification as an integral and one of its priority program areas has been developed by UNEP under the guidance and leadership of the African Ministerial Conference on Environment (AMCEN). In 2006 UNEP continued to work closely with African sub-regional organizations including CILSS, IGAD, Sahara and Sahel Observatory (OSS), SADC, UMA, and ECOWAS, to finalize sub-regional action plans for the NEPAD Environment Initiative,⁹⁵ many of which have been adopted. With support from Norway, UNEP is providing support to Mozambique, Libya, Ethiopia, Ghana and Cameroon to develop their national action plans for the NEPAD EI on a pilot basis. These pilot projects will provide key lessons for further implementation in other countries in Africa.*

90. *The Green Wall for the Sahara Initiative, a program initiated by the African Union (AU) and developed by the AU Commission (AUC) in collaboration with ECA, FAO, UNEP, UNCCD, and CEN-SAD was launched in December 2006. African Heads of State and Government in their Summit in January 2007 adopted the Decision on the implementation of the initiative. The programme stretches from Mauritania to Djibouti. It covers a wide group of countries, including: Algeria, Tunisia, Libya, Egypt, Mauritania, Mali, Niger, Chad, Sudan, Eritrea, Ethiopia, Djibouti, Cameroon, Nigeria, Benin, Burkina Faso, Senegal, The Gambia, and Western Sahara and Cape Verde. The goals of the programme are: to slow the advance of the Sahara Desert, enhance environmental sustainability, control land degradation, promote integrated natural resources management, conserve biological diversity, contribute to poverty reduction, and create jobs.⁹⁶*

91. *The AU-ECA-AfDB Initiative on Land policy in Africa⁹⁷ addresses the lack of comprehensive national land policies in most African countries which has been recognized as one of the major factors contributing to many land-related problems such as inequitable distribution of land, mismanagement of land resources, continued existence of land laws that are inconsistent with current needs and delay in transactions as a result of lack of well-coordinated land information system. The initiative aims at building consensus among key players in Africa on the vision of a successful land policy/land reform and agreeing on*

⁹⁴ <http://www.ifad.org/events/fertilizer/index.htm> and

http://www.africangreenrevolution.com/en/green_revolution/africas_predicament/fertilizer_summit/index.html

⁹⁵ UNEP Annual Report 2006

⁹⁶ Commission of the African Union. The Green Wall for the Sahara Initiative.

http://iriportal.ldeo.columbia.edu/portal/server.pt/gateway/PTARGS_0_2_1208_0_0_18/AU%20-%20The%20Green%20Wall%20for%20Sahara%20Initiative%20--%20In%20brief.pdf

⁹⁷ ECA 2006. ECA Business Plan 2007-2009.

comprehensive framework and guidelines for the formulation and implementation of land policy in Africa. This will be accomplished in partnership with key stakeholders including member States, Regional Economic Communities, Civil Society groups and development partners. It is hoped that the end of 2008 will see the completion and adoption by the AU African Heads of States and Governments Summit, of the Framework and Guidelines on Land Policy in Africa with clear benchmarks and indicators of land policy.

92. In the *SADC sub-region*, heightened attention is being given to programs on drought and food security as a result of frequent droughts with devastating impacts on Agriculture and food security. The region is investing heavily in irrigation. This has seen the area under irrigation grow from 1.63 Million hectares in 1985 to an estimated 1.96 million hectares in 2005. In addition a lot of investment is being put into research and production of drought-tolerant seed varieties.⁹⁸ The SADC regional has also developed and adopted a regional framework - the Dar es Salaam Declaration on Agriculture and food security in the SADC region - to ensure food security and reverse chronic food shortage.⁹⁹

93. *The Regional Programme for the Integrated Development of the Fouta Djallon Highlands (RPID-FDH)* initiated by the Organization of the African Unity (OAU) within the framework of a Plan of Action on the medium and long term to control desertification, drought and other natural calamities in Africa has been under implementation. It covers eight Member States: The Gambia, Guinea, Guinea Bissau, Mali, Mauritania, Niger, Senegal, and Sierra Leone. The Programme aims at ensuring the preservation of natural resources and environment with the view to contributing to the improvement of the living conditions of populations in the area and reversing land degradation that threaten the sources of 6 important international rivers that originate from the Fouta Djallon Highlands or its extensions (the Niger, the Senegal, Gambia, Koliba/Corubal, Kolente/Great Scarcies and Kaba) and 9 other local rivers. Activities carried out include the strengthening of the legal and institutional framework to facilitate regional cooperation in the management of shared and trans-boundary natural resources, harmonization of laws and regulations, establishment of an observatory, development and dissemination of sustainable land management policies and practices and capacity building.¹⁰⁰

94. In the *IGAD subregion* a New Environment and Natural Resources Strategy has been developed and endorsed by the Ministers of Environment and Natural resources of the IGAD region.

3.3 Progress in developing and strengthening systems for monitoring, early warning and adaptation to drought and desertification

95. Important in the efforts to manage impacts of drought and to tackle desertification are effective systems for understanding, monitoring and forecasting drought and land degradation as well as mechanisms for identifying and prioritising appropriate responses, and evaluating

⁹⁸Mafuta, C. 2005, Food security strengthened by cross-boarder cooperation. In The Southern African Development Community Today, Vol. 8, No. 5 December 2005.

⁹⁹Ibid

¹⁰⁰ Input by Dr. Mamadou Ouattara, Coordinator Regional Programme for the Integrated Development of the Fouta Djallon Highlands. African Union Coordination Office (UA/BCI) B.P. 1383. Provided on June 29, 2007

the impact of the interventions. Against this backdrop work has started at national, subregional and regional and global levels to set up and implement systems for monitoring drought and land degradation, early warning and disaster management, and evaluating implementation of NAPs and other interventions as highlighted below.

3.3.1 Desertification and land degradation monitoring and information systems

96. In terms of monitoring interventions to combat drought, a good practice in establishing Desertification Information System (DIS) for NAP implementation is demonstrated by the case of Tunisia¹⁰¹ as described in Box 4. Generally however, the progress in setting up of similar systems in other countries of the region has been slow and variable depending on country specificities. This slow progress and indeed lack of DIS is witnessed even among some countries that have adopted their NAPs. Countries attribute this to limitations of human and financial resources.

Box 4: Setting up Desertification Information Systems, the case of Tunisia:

Tunisia has established a monitoring and evaluation system for steering the NAP. It aims to assess the impact of investments made in fighting desertification and to enable the compilation of management charts for national policy-makers at different levels. In addition, a desertification information pooling system (DIS) has been set up to provide crucial information for national planning, helping ensure sustainable development by helping decision-makers to make appropriate choices. The DIS consists of the desertification issue chart at national level, which shows the quantities and qualities of the various natural resources, the causes of desertification in each region and monitoring indicators pertaining to the resources. Regular desertification observations are logged in the NAP indicator grid, which is the tool for monitoring desertification and evaluating the impact of the NAP. The DIS can be accessed through the national environment portal (www.environnement.nat.tn/sid). All players involved in the fight against desertification can use it to pool information and exchange data that has been produced, approved and presented in a user-friendly format. The DIS is an important information tool for supporting the NAP implementation; it is a handy networking tool in the fight against desertification; it is ideal for presenting existing information, and storing, pooling and circulating fresh information and products that are useful for combating desertification; it bolsters existing capacities with regard to new information and communication technologies.

*Source: UNCCD 2006.*¹⁰²

97. At the initiative of the Sahara and Sahel Observatory (OSS), the Long-term Ecological Monitoring and Observatory Network has been established. The network covers 12 affected countries in the subregion. It gathers environmental data for use of decision makers. This initiative has facilitated observatories in 11 countries to operate and gather high-quality information on the evolution of natural resources and the effectiveness of management systems.¹⁰³

¹⁰¹UNCCD 2006. Implementing the United Nations Convention to Combat Desertification in Africa: Ten African experiences. UNCCD Secretariat. Bonn, Germany.

¹⁰²Ibid.

¹⁰³UNCCD. ICCD/CRIC(3)/2/Add.1 4 January 2005. Synthesis and preliminary analysis of information contained in reports submitted by affected African country parties. Note by the secretariat; and UNCCD ICCD/CRIC(3)/3/Add.1 21 February 2005. Synthesis and preliminary analysis of reports from the developed country parties. Note by the secretariat.

98. To respond to the need for up-to-date and comparable land degradation information, the GEF has funded the Land Degradation Assessment (LADA) project, a global initiative implemented by UNEP and executed by FAO with support of the UNCCD secretariat, the Global Mechanism and the International Soil Reference and Information Centre (ISRIC). LADA project has developed and tested effective assessment tools for land degradation in drylands through pilot projects and studies undertaken in selected countries. In Africa a pilot project was carried out in Senegal, Tunisia and South Africa; and case studies were conducted in Kenya.¹⁰⁴ The LADA project will produce the global land degradation assessment (GLADA) which will allow Parties to the UNCCD to have an overview of the status of land degradation and to identify the areas where targeted investment may be needed to stop and/or reverse land degradation. At the same time, the identification of bright spots will allow countries to exchange methods for ecosystem management that have proved to be effective.¹⁰⁵

3.3.2 Drought monitoring and early warning systems and programs

99. Drought monitoring and early warning systems and programs are being developed and made operational. These include the following:

100. Regional Climate Outlook Forums are convened annually by the World Meteorological Organisation (WMO) in the Greater Horn of Africa, in South Africa and in West Africa, to elaborate and ensure appropriate dissemination of consensual regional outlooks, bulletins and products about the next rainy season. These outlooks are directed towards the needs of users from agriculture, health, water management and energy, based upon their input and feedback.¹⁰⁶

101. Climate for Development in Africa (ClimDev Africa) Programme is being developed under the auspices of Global Climate Observing System (GCOS) in collaboration with ECA. The purpose of this three-phase programme is to guide the effective integration of climate information and services into development planning for Africa and to ensure the mainstreaming of climate considerations in achievement of the Millennium Development Goals. Outcomes of the programme will be achieved under the following main results areas: policy (awareness, accountability and advocacy); climate Risk management; climate services including National Meteorological and Hydrological Services (NMHSs) and other climate service; and observations, data management, and infrastructure.

102. To support drought monitoring, WMO and UNDP have provided support in the establishment of the IGAD Climate Prediction and Applications Centre (ICPAC) in Nairobi as a specialized institution of the Intergovernmental Authority on Development (IGAD). The participating countries are Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Uganda and United Republic of Tanzania. Another centre is established in Harare, Zimbabwe. These centres are charged with timely monitoring of drought intensity, geographical extent, duration and impact on agricultural production, and issuing early warnings.¹⁰⁷ The African Centre of Meteorological Applications for Development

¹⁰⁴ With additional input from ACSD-5/RIM.

¹⁰⁵ UNCCD ICCD/COP(7)/CST/8 22 July 2005. Land degradation assessment in drylands. Note by the secretariat. <http://www.unccd.int/cop/officialdocs/cop7/pdf/cst8eng.pdf> and supplemented by the ACSD-5/RIM.

¹⁰⁶ The World Bank and United Nations International Strategy for Disaster Reduction (ISDR) (2007). Report on the Status of Disaster Risk Reduction in the Sub-Saharan Africa (SSA) Region

¹⁰⁷ Ibid.

(ACMAD) is also in place and provides similar services. ICPAC has linked its drought and conflict monitoring activities into the Conflict Early Warning and Response Mechanism (CEWARN) whose drought-monitoring centre reports on drought and forage conditions and makes food projections. This is enhancing ICPAC capacity to monitor pastoral conflicts and provide to member states timely information on specific events and their causes, thus helping countries to prevent escalation of such conflicts.¹⁰⁸

103. The World Hydrological Cycle Observing System (WHYCOS) contributes towards an easily accessible source of hydrological information that provides the basic building blocks for sustainable development through water resources assessment and planning, ecosystem and water quality monitoring, flood forecasting and drought monitoring and prediction. In this regard, WMO is also providing advisory services to the countries in their efforts to reorganise and strengthen the national hydrological services for Volta, Niger and later Senegal Basins.¹⁰⁹

104. The Project, Africa Monitoring of the Environment for Sustainable Development (AMESD), which is hosted by AUC is under implementation. AMESD, which is funded by European Development Fund, targets the ECOWAS, ECCAS; SADC; IGAD and Indian Ocean Commission (IOC), regions. The objectives of AMESD are to ensure that Africa overcomes bottlenecks as regards to the receiving application of meteorological information for development in the area of environment and natural resources; capacity building for data handling and processing and technology transfer for maintenance and installation of satellite receiving stations in Africa.¹¹⁰

105. Few early warning systems have been established at country level. Zambia has an Early Warning System that has assisted the country to intervene and take necessary measures where drought has occurred. However, even though there has been regular collection of rainfall data and regular forecasting there has been little utilization of this information by most of decision makers because the information appears complex.¹¹¹

3.3.3 Drought risk and disaster management

106. At national, subregional and regional level, strategies and programs to enable countries to manage impacts associated with disasters including drought are being established.

107. More than 30 countries have platforms for disaster risk reduction (DRR) as a way of shifting from disaster response to mainstreaming disaster risk and some of these countries are reported to have succeeded in linking DRR to poverty reduction related strategies.¹¹² In this connection poverty Reduction Strategy Papers (PRSPs) for countries such as Gabon, Madagascar, Malawi, Mozambique, and Niger have incorporated aspects of natural disaster risk management as part of national poverty reduction strategies.¹¹³

¹⁰⁸UNEP 2007. Geo Year Book 2007. An Overview of Our Changing Environment.

¹⁰⁹ Ibid

¹¹⁰ The World Bank and United Nations International Strategy for Disaster Reduction (ISDR) (2007). Report on the Status of Disaster Risk Reduction in the Sub-Saharan Africa (SSA) Region

¹¹¹Zambia Country Report 2006

¹¹²UNDP & ISDR (2006). Second African Drought Risk And Development Forum Report. Nairobi, 16 – 18 October 2006. http://www.undp.org/drylands/docs/drought/workshop-10-06/ADDF2_Report.pdf

¹¹³ The World Bank and United Nations International Strategy for Disaster Reduction (ISDR) (2007). Report on the Status of Disaster Risk Reduction in the Sub-Saharan Africa (SSA) Region.

108. Some countries have embarked on emerging innovative market schemes for managing risks associated with drought. Index-based weather insurance schemes are being piloted in Ethiopia and Malawi, which are expected to demonstrate the viability of insuring extreme risks, such as drought, and enhance access to finance by farmers. Mozambique's policy strategy also encourages people to adopt risk insurance mechanisms and other preventive or mutual assistance instruments, while Namibia's National Drought Policy and Strategy promotes on-farm risk management.¹¹⁴

109. At the sub-regional level, the Inter-Governmental Authority on Development (IGAD) has developed a sub-regional strategy for disaster reduction. The Economic Community of West African States (ECOWAS) in early 2007 approved a sub-regional Common Policy and mechanisms for DRR. The Southern Africa Development Community (SADC) has revised its sub-regional strategy, factoring in DRR and the Economic Community of Central Africa States (ECCAS) has established a sub-regional centre for DRR in the Republic of the Congo and is developing a sub-regional strategy.¹¹⁵

110. Under the auspices of the AUC and NEPAD, the Africa Regional Strategy for Disaster Risk Reduction¹¹⁶ and program of action for its implementation (2006-2010)¹¹⁷ have been developed and adopted. The strategy aims to contribute to sustainable development and poverty eradication by facilitating the integration of disaster risk reduction into relevant strategies and programs. As part of this effort the Africa Working Group on Disaster Risk Reduction has been established to support national governments to advance disaster risk reduction and facilitate the mainstreaming and integration of disaster risk reduction into all phases of development in Africa to help achieve NEPAD's objectives.

111. In addition, the African Drought Risk and Development Network, known in its short name as the Drought Forum has been established with the support of the UNDP Drylands Development Centre and the Bureau for Crisis Prevention and Recovery and the UNISDR. The Drought forum is promoting the development of coordinated strategies for enhanced and effective drought management at national level. It is providing a platform that is assisting practitioners to address issues related to drought risk and its implications for development. The Forum on African Drought Risk and Development (ADDF) held every year since 2005 is one of the important tools of the network. In addition a website (<http://www.droughtnet.org>) has been established and "is providing critical and often hard-to-find resources on drought."¹¹⁸

3.4 Progress in providing support for the implementation of programmes to combat desertification and mitigate effects of drought.

¹¹⁴ The World Bank and United Nations International Strategy for Disaster Reduction (ISDR) (2007). Report on the Status of Disaster Risk Reduction in the Sub-Saharan Africa (SSA) Region

¹¹⁵ Ibid

¹¹⁶ Africa Regional Strategy for Disaster Risk reduction. <http://www.unisdr.org/africa/af-hfa/docs/africa-regional-strategy.pdf>

¹¹⁷ ISDR 2006. Progress on the implementation on the Hyogo Framework for Action 2005-2015.

<http://www.unisdr.org/eng/isdr-system/docs/ecosoc-19jul-SB-ISDR.ppt>

¹¹⁸ UNDP 2006. Input on drought to UNECA

112. At the WSSD in 2002, all governments stressed, through paragraph 24 of the JPOI, that “managing the natural resources base in a sustainable and integrated manner is essential for sustainable development” and that such an objective requires strengthening “the implementation of the UNCCD to address causes of desertification and land degradation in order to maintain and restore land, and to address poverty resulting from land degradation”. It specified that this would require, *inter alia*, actions at all levels to “mobilize adequate and predictable financial resources, transfer of technologies and capacity-building at all levels”. Governments also agreed to provide financial and technical assistance to strengthen the capacities of African countries including at the local level, for effective disaster management, including observation and early warning systems, assessments, prevention, preparedness, response and recovery. Against this backdrop, the following is the progress made.

3.4.1 Financing

113. *National budgets*: Countries of the region are making provisions within their national budgets to fund directly or indirectly projects and activities to address drought impacts and tackle desertification. Funding is channelled mainly through sectoral budgets particularly in the Agriculture and Environment and natural resources management sectors. Generally, however, these sectors tend to receive low funding.¹¹⁹ As a consequence, there persist funding gaps for addressing the identified SLM priorities.

114. *Bilateral and multilateral funding* arrangements have been crucial in financing implementation of the UNCCD and SLM related initiatives in the region. Among the programs and activities funded are: programs on community based natural resources management, agricultural development, integrated water resources management, livelihood and rural development as well as programs specifically targeted at policy reform, institutional capacity development, research and monitoring, and information management. Among the main bilateral and multilateral funding sources mentioned are: Japan International Cooperation Agency (JICA), European Union (EU), Finnish Department for International Development Cooperation (FINIDA), Danish International Development Agency (DANIDA), United States Agency for International Development (USAID), German Technical Cooperation Agency (GTZ), the African Development Bank (AfDB), Norwegian Agency for Development Cooperation (NORAD), GTZ, Canadian International Development Agency (CIDA), United Kingdom Department for International Development (DFID), the World Bank, the French Development Agency. Financial and technical support from NGOs and civil society organizations is also highlighted.

115. *Global Environment Facility (GEF)* through its implementing agencies namely UNEP, UNDP and World Bank is providing support for programs and activities to combat desertification and mitigate drought impacts. Specifically the approval in 2002 of land degradation as one of GEF focal areas and the subsequent development of the GEF Operational Programme 15 (OP 15)-Sustainable Land Management, paved the way for GEF to become a funding mechanism for the implementation of the UNCCD and SLM in general. Many of the country reports highlight support provided by the GEF for the NAP processes. In addition the country reports indicate GEF support for pilot projects to combat land degradation. It is also reported that GEF has approved and funded “large scale projects

¹¹⁹Country Reports, 2006 submitted to ECA.

designed to promote partnerships with various agencies working in the field of soil management and with land users.”¹²⁰

116. From 2002 to 2004 it is estimated that the GEF funded more than \$72 million worth of projects focused primarily on combating deforestation and desertification globally.¹²¹ As of 2005, proposals were being prepared in almost all African countries for GEF funding through UNDP. A total of US \$ 30 Million from GEF and co-financing of at least US \$ 60 million was expected.¹²²

117. In June 2007, GEF approved US \$150 million funding for the Strategic Investment Program (SIP) for Sustainable Land Management for Sub-Saharan Africa. The program aims to restore soil fertility in a large part of the African continent, helping boost food security, increase farm incomes, maintain ecosystem services, and engage local communities in better managing their lands. The SIP is designed to support the highly prioritized operational SLM objectives of NEPAD’s agriculture and environment programs, the UNCCD action plans, the African Union Specialized Programmes, and countries that intend to achieve these regional objectives.¹²³

Box 5: Highlights of the Strategic Investment Program (SIP) for Sustainable Land Management for Sub-Saharan Africa

- **Development objective:** to support sub-Saharan efforts to design and manage programs of activities that advance SLM mainstreaming, improve governance for SLM, and strengthen coalition development.
- **Funding boost-** the \$150 million investment by GEF is expected to catalyse close to \$1 billion in co-financing, marking it the single-largest effort aimed at restoring soil fertility and preventing land degradation on the African continent. The SIP is fully supportive of the New Partnership for African Development (NEPAD) and the U.N. Convention to Combat Desertification.
- **Supporting programs, not projects:** Rather than attacking problems project by project, the new, programmatic approach adopted by SIP will allow individual countries to focus their strategies on a clear set of priority issues for the global environment, build and capture synergies, and apply a common set of tracking tools to monitor progress.
- **Supporting a regional approach** – to help countries and GEF to aggregate national

¹²⁰Country reports submitted to ECA, and UNCCD. ICCD/CRIC(3)/2/Add.1 4 January 2005. Synthesis and preliminary analysis of information contained in reports submitted by affected African country parties. Note by the secretariat.

¹²¹Hurni H, Giger M, and Meyer K (eds). 2006: Soils on the global agenda. Developing international mechanisms for sustainable land management. Prepared with the support of an international group of specialists of the IASUS Working Group of the International Union of Soil Sciences (IUSS). Centre for Development and Environment, Bern, 64 pp.

¹²²UNDP (2005). “Partnerships to fight Poverty.” Report of the United Nations Development Programme to the third session of the Committee for the Review of the Convention (CRIC3) 2-11 May 2005, Bonn Germany.

¹²³ GEF (2007). Project Executive Summary.

[http://www.gefweb.org/uploadedFiles/Documents/Council_Documents_\(PDF_DOC\)/GEF_31/SIP_Executive_Summary_51407.pdf](http://www.gefweb.org/uploadedFiles/Documents/Council_Documents_(PDF_DOC)/GEF_31/SIP_Executive_Summary_51407.pdf) and Funding Boost for Fight against Land Degradation in Sub-Saharan Africa: New GEF Program to Tackle Problems on Regional Scale.

<http://www.gefweb.org/interior.aspx?id=18280>

¹²⁴ GEF (2007). Project Executive Summary.

[http://www.gefweb.org/uploadedFiles/Documents/Council_Documents_\(PDF_DOC\)/GEF_31/SIP_Executive_Summary_51407.pdf](http://www.gefweb.org/uploadedFiles/Documents/Council_Documents_(PDF_DOC)/GEF_31/SIP_Executive_Summary_51407.pdf) and Funding Boost for Fight against Land Degradation in Sub-Saharan Africa: New GEF Program to Tackle Problems on Regional Scale. <http://www.gefweb.org/interior.aspx?id=18280>

programs at the regional level, and allow for the scaling-up of beneficial impacts across the Sub-Saharan Africa region.

- **Beneficiary countries:** 28 countries including Benin, Botswana, Burkina Faso, Burundi, Comoros, Central African Republic, Democratic Republic of Congo, Eritrea, Ethiopia, Gambia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Nigeria, Rwanda, Senegal, South Africa, Sudan, Swaziland, Tanzania, Uganda, and Zambia. The SIP will also support several regional programs.

*Source: GEF (2007).*¹²⁴

118. Within the framework of the support given by GEF, it is also worth mentioning the Pilot Partnership Programme (PPP) initiative at national levels, which is being implemented by GEF and its implementing and/or executing agencies in ten pilot countries worldwide. In Africa Burkina Faso, Ethiopia and Namibia have been supported under this programme with regard to setting up solid partnership for NAP implementation as required by the UNCCD.¹²⁵

119. While this GEF funding is appreciated by African countries and organisations working on drought and desertification in Africa, they are concerned about the small proportion of GEF funding allocated to SLM and combating desertification, in comparison to funding allocated to other GEF focal areas e.g. biodiversity conservation and climate change. Further more there is serious concern that the procedures for accessing GEF funds are complex and therefore need to be simplified especially in light of the fact that deserving stakeholders lack the capacity to fulfill the requirements.¹²⁶

120. At global and regional level, there is growing momentum to mobilize and channel funding to be invested in combating desertification, ensure food security and reduce poverty in the region. In this regard, a number of initiatives have been designed to assist African countries mobilise and channel resources into SLM and drought risk management. These include efforts under TerrAfrica, the UNCCD Global Mechanism (GM) and Chef de files, and the African Union (AU) as outlined below.

TerrAfrica has been initiated as a special catalytic partnership effort that aims to scale up harmonized support for effective and efficient country-driven SLM practices in sub-Saharan Africa (SSA). Housed by the World Bank, TerrAfrica partners include African governments, NEPAD, regional and sub-regional organizations, the UNCCD Secretariat, the UNCCD Global Mechanism (GM), the World Bank, GEF, IFAD, FAO, UNDP, UNEP, AfDB as well as multilateral organizations including the European Commission, bilateral donors, civil society and scientific organizations including FARA and CGIAR centers.¹²⁷ The TerrAfrica approach focuses on tackling the critical barriers to the scaling-up and mainstreaming of SLM interventions within national development strategies and plans. This objective is being pursued through the TerrAfrica work program organized around three mutually reinforcing activity line – Coalition building, Knowledge management and Investments – which together aim to generate the coalitions, advocacy, ‘know-how’, policies and investment packages necessary for full and effective mainstreaming, up-scaling and financing of SLM.¹²⁸ The GEF SIP as outlined above will contribute to the TerrAfrica effort to harmonize actions by strengthening joint work programming at all levels for increased impacts and cost

¹²⁵ ACSD-5/RIM additional input

¹²⁶ ACSD-5/RIM further input

¹²⁷ <http://www.terrafrica.org/>

¹²⁸ TerrAfrica Info Note – CRIC-5, March 2007.

effectiveness. The SIP will also support TerrAfrica partners in their efforts to facilitate donor alignment and strengthen country engagement, including via alignment with partners beyond the GEF family.¹²⁹ The TerrAfrica platform aims at mobilising 4 Billion US Dollars for a period of 12 years.¹³⁰

121. *UNCCD GM*: The instrumental role played by the UNCCD GM and UNCCD Secretariat in mobilizing technical and financial support is highlighted by country reports. The UNCCD GM which was established in 1997 under Article 21 of the UNCCD is mandated to increase the effectiveness and efficiency of existing financial mechanisms to promote actions leading to the mobilization and channelling of substantial financial resources to affected developing country Parties. In this respect the GM is undertaking a number of programs including supporting countries to put in place the enabling conditions that are expected to trigger the flow of financial resources for UNCCD implementation. At country level the GM focuses on providing support needed to mainstream NAPs and other SLM priorities into national policies, strategies and budgeting processes; enhancing partnerships between Government and its development partners with a view of establishing country-level financing partnerships; and supporting investment programming - as part of the strategy to catalyze resource mobilization to support local initiatives. At sub regional level, the GM programme focuses on policy dialogue, enhancing coordination of UNCCD implementation and strengthening the capacity of partner institutions so they can among others support the country-level processes. The following specific GM initiatives can be mentioned:

(i) Countries have been supported to prepare Country Partnership Framework Papers (CPFP) whose main objective is to identify and establish partnerships as a basis for resource mobilization for NAP implementation. The Zambia CPFP for instance identifies fifteen (15) programme areas with detailed activities and a three-year financial plan based on the Government's Medium Term Expenditure Framework (MTEF) budgeting process.

(ii) The GM has launched the Financial Information Engine on Land Degradation (FIELD) with the overall objective of informing and sensitising target audiences on the financial risks, opportunities, costs and benefits of SLM investments and other UNCCD implementation-related activities. "FIELD is a comprehensive database of authoritative information on desertification-related funding sources, financial trends, projects, donor profiles, development cooperation policies and strategies".¹³¹

(iii) The GM is partnering with Gum Arabic Network for Natural Gums and Resins in Africa (NGARA) with the aim of supporting resource mobilization for the development of the Gum Arabic sector in Africa. Gum Arabic is derived from acacia trees, which play a key role in combating desertification and in enhancing the livelihoods of communities living in arid zones of Sub-Saharan Africa. The GM is identifying opportunities for facilitating resource mobilization in four pilot countries of Ethiopia, Uganda, Mali and Burkina Faso.¹³²

(iv) Recognizing the potential of public-private partnerships in providing resources for UNCCD implementation, the GM has launched an innovative pilot programme to

¹²⁹[http://www.gefweb.org/uploadedFiles/Documents/Council_Documents_\(PDF_DOC\)/GEF_31/SIP_Executive_Summary_51407.pdf](http://www.gefweb.org/uploadedFiles/Documents/Council_Documents_(PDF_DOC)/GEF_31/SIP_Executive_Summary_51407.pdf)

¹³⁰Input from ACSD-5/RIM

¹³¹Global Mechanism: <http://www.global-mechanism.org/initiatives/field>

¹³²<http://www.global-mechanism.org/initiatives/all-initiatives/gum-arabic>

engage the business community more effectively in NAP implementation in South Africa and Kenya. It is hoped that the lessons from this initiative will provide significant inputs for other affected country Parties in mobilizing additional resources for NAP implementation.¹³³

(v) Through its subregional program the GM is working with subregional institutions namely IGAD - through the Horn of Africa Initiative, the COMIFAC within the framework of Economic Community of Central African States (ECCAS), and CILS through which the GM is providing support to CILSS member states. The program aims to integrate the UNCCD into existing and emerging subregional development frameworks such as the COMIFAC Convergence Plan. The program also aims to map the efforts to combat desertification, focusing on success stories in agriculture and natural resources management.

(vi) Building on the Beijing Statement issued by the First Conference on Women and Desertification held in China in 2006, the GM is developing a women's initiative, targeting Sahelian countries as a start, to empower women to implement the UNCCD. This initiative seeks to enhance the recognition and capacity of women in combating desertification and scale up investments in sustainable development activities managed by women.

122. The following achievements of the GM from its catalytic financial support can be mentioned¹³⁴:

- (i) The GM catalytic funding of USD 80,000 to Tunisia, facilitated the mobilization of 24 million USD in investments from bilateral and multilateral donors;
- (ii) Similar in South Africa, the GM funding of USD 50,000 is reported to have facilitated the mobilization of another USD 80 million so far;
- (iii) In West Africa, USD 110,000 in GM catalytic resources have enabled Niger and Nigeria, with support from UNEP, to develop a trans-boundary natural resources management project which in May 2004 received a USD 10 million grant from the GEF; and
- (iv) In Burkina Faso, a GM catalytic support of USD 130,000 facilitated the incorporation of the main activities of this country's NAP into the Poverty Reduction Strategy, leading to the mobilization of approximately USD 175 million relating to desertification control.

123. *UNV/UNCCD Regional Framework for the Promotion of Youth Volunteers for Environmental Management.*¹³⁵ This regional framework for Africa seeks to bring the comparative strengths and advantages of the two organizations together to promote and support environmental management of natural resources through youth volunteerism. The framework is based on an on-going working relationship in support to various countries in the implementation of the UNCCD and builds upon the lessons learnt from past projects. This relationship has demonstrated the importance and effectiveness of the concerted effort in

¹³³ <http://www.global-mechanism.org/initiatives/all-initiatives/public-private-partnership>

¹³⁴ UNCCD ICCD/CRIC(3)/6 18 February 2005. Review of available information regarding the mobilization and use of financial resources and other support by multilateral agencies and institutions, with a view to enhancing their effectiveness and efficiency towards the achievement of the objectives of the convention, including information on the activities of the Global environment Facility (GEF), the Global mechanism (GM) and its facilitation committee.

¹³⁵ Review input from UNCCD Secretariat.

assisting affected developing countries in the various stages of preparation and implementation of their National Action Programme (NAPs) processes. This regional framework provide the structure of scaling up and replicating UNV/UNCCD collaboration in other countries in the African Region and bringing on board other partnerships (government, donor, technical institutes, NGOs).

124. Through the regional framework country specific projects are developed. The projects afford an opportunity to develop and apply integrated natural resources management practices at the local level involving the youth and voluntary community action. They enhance the exchange of experiences among natural resources management programmes in the various countries; provide an opportunity to increase the environmental awareness at all levels; and allow increased capacity for participatory environmental management and poverty eradication through youth volunteerism and address the specific needs of women and young girls. With the involvement of the NGOs and civil society at large, the projects provide the opportunity to identify implementable projects that foster sustainable environmental management practices and poverty eradication programmes in the various countries with the effective involvement of the youths in the process. The projects further provide tools for capacity development to eradicate poverty and improve the rural environment, through enabling communities and the youths to identify, prioritize and address environmental threats within their jurisdictional areas and undertake income generating activities.

125. The implementation of the UNV/UNCCD joint framework was launched in 2003, when the United Nations Volunteers Programme and the United Nations Convention to Combat Desertification launched a joint pilot programme in Cape Verde, addressing the issue of youth unemployment and land degradation, which leads to desertification. The framework was based on the 1996 Government of Lesotho and the United Nations Development Programme (UNDP) joint initiative undertaken to establish National Environment Youth Corps Project (NEYC) in Lesotho and provide employment opportunities for the unemployed youth, whilst also addressing the serious problem of land degradation in the context of implementing the UNCCD.

126. The number of countries involved in this initiative has since expanded to include Benin, Ethiopia, Madagascar, Mozambique, Niger, Senegal, Zambia and Zimbabwe with financial support coming from Venezuela, the Africa Union, among others. Employment is generated for the youths in the process of rehabilitating degraded land. At the same time the youth are removed from social vices such as crime, prostitution and drug abuse.

127. With the involvement of the NGOs and civil society at large, the initiatives provide the opportunity to identify implementable projects that fosters sustainable environmental management practices and poverty eradication programmes in the various countries with the effective involvement of the youths in the process. The projects further provide tools for capacity development to eradicate poverty and improve the rural environment, through enabling communities and the youths to identify, prioritize and address environmental threats within their jurisdictional areas and undertake income generating activities.

128. In this regard, the involvement of the youth, supported by various stakeholders, NGOs, CBO, government institutions, the private sector among others, is an important initiative, and a key component of a cross-sectoral strategy to mobilize national and international support for sustainable development, natural resource management and poverty eradication in the countries, particularly in those areas affected by drought and

desertification. Ultimately, the overall goal of the projects is to rehabilitate degraded lands, create employment and generate income for the youths, remove the youths from crime, prostitution, abusing drugs and eradicate poverty among the affected communities.

129. *Some country reports highlight mobilization and provision of financial and technical support through the Chef de files.* The Chef de files are innovative arrangements initiated under the UNCCD. The Chef de files are development partners that have accepted to act as representatives of the African governments in support of UNCCD implementation. Chef de files provide leadership within the aid community to enhance support for NAP for a specific country. For instance CIDA on behalf of Government of Canada is rendering this support to Ghana; Norway for Ethiopia; Italy for Niger; the Netherlands for Burkina Faso and Senegal; France for Chad and Cape Verde; and Germany for Morocco and Tunisia. Under these arrangements assistance such as in strengthening the capacity of agencies responsible for NAPs has been delivered. For example EPA in Ghana has been assisted to develop Environmental Management Programme (GEMP) to implement NAP priorities; and the Gambia to strengthen the Gambia National Environment Council for Sustainable Development (NECSD). However some countries such as Zambia¹³⁶ do not have chef de files. In addition there are reports of mixed results resulting from this initiative and a call for its review.¹³⁷

130. Despite this overall momentum in mobilizing and providing funding, it is note worthy however that countries report gross inadequacy of funds and some countries still have difficulties in gaining access to both domestic and external financing for SLM.

3.4.2 Capacity building

131. Various institutional and human resources capacity building programmes have been implemented by the countries with support of development partners.

Enhancing synergy and the implementation of the Rio Conventions

132. Capacity building programs have been undertaken with the aim of strengthening implementation of the Rio conventions, namely the UNCCD, the Convention on Biological Diversity (CBD) and the United Nations Framework convention on Climate Change (UNFCCC) and /or with the view to promoting SLM within the framework of poverty reduction, especially in drylands.

133. The National Capacity Self-Assessment (NCSA) funded by the Global Environmental Facility (GEF) has enabled countries in the region to review their capacity needs to address priority national and global environmental issues, and to prepare national capacity development strategies and plans of critical actions particularly related to the three Rio conventions. The necessary synergy in the implementation of these conventions were also identified and promoted. The NCSA has therefore provided a basis for developing joint work programmes among these conventions and for translating them into national priorities and concrete actions on the ground.

¹³⁶ Zambia Country Report, 2006

¹³⁷ UNCCD. ICCD/CRIC(3)/2/Add.4 21 March 2005. Results of the subregional workshops of affected African country Parties.

134. In order to provide additional support to implement the NCSA through networking, knowledge management and development of additional tools and resource materials, the Global Support Programme (GSP) was jointly initiated by the GEF, UNDP and UNEP in 2005. The workshops conducted under the GSP for all the subregions in Africa increased networking and experience sharing between NCSA teams.

135. The Bali Strategic Plan for Technology Support and Capacity Building developed under the auspices of UNEP provides a means for assisting developing countries and countries with economies in transition to address their capacity building and technology support needs in the field of environment. In the context of the African region, the Bali Plan is of particular interest, as it is fully in line with the objectives of Agenda 21, Millennium Development Goals and the Capacity Building Program of NEPAD's Environment Initiative.¹³⁸ As part of the efforts to kick-start the implementation of the plan, UNEP has in close cooperation with UNDP, initiated a pilot project in six countries of Burkina Faso, The Gambia, Kenya, Lesotho, Rwanda and Tunisia. The pilot project will draw lessons learnt to inform the scaling up of implementation of the Bali plan in the region. Increased funding and speedy implementation of the plan is considered of paramount importance in assisting the region deal with daunting capacity and technology challenges including the up-scaling support for the NCSA capacity building action plans.

136. *South-to-South Cooperation:* Inter-regional platforms of cooperation have been put in place between Africa and Asia and between Africa and Latin America and the Caribbean (LAC). Within the framework of the Africa-LAC cooperation, Venezuela contributed One Million dollars from which support has been given to promote youth and environment projects in Benin, Cape Verde, Niger and Mozambique, as well as to train participants from Mali (together with those from Venezuela and Cuba) on combating soil salinization. The two platforms revealed the potential of both regions to foster South-South cooperation in areas like sustainable agricultural farming systems, agroforestry, etc., mainly through training and/or technical assistance.

Integrating NAPs and other SLM plans into national development plans (NDPs)

137. Linking SLM and drought impact mitigation plans to NDPs and PRSs and therefore to the annual and medium-term budgeting frameworks improves the chances of SLM plans and drought impact mitigation plans of receiving government and other funding. These links also foster sustainability. However many countries these links are still weak. In light of this there is a growing effort to support countries in the region to integrate drought risk reduction, NAPs, other SLM strategies and plans and environment management activities in general, into regional and national development frameworks especially the PRSs. The following examples can be mentioned.

138. *The UNDP Integrated Drylands Development Programme*¹³⁹ coordinated by its Drylands Development Centre is helping countries to among others things mainstream/integrate NAPs into national economic frameworks and move from strategy development to effective implementation of the UNCCD including through resource mobilization. Under this programme, 29 Africa countries had been assisted as of 2005. These

¹³⁸UNEP 2006. Implementation of the Bali Strategic Plan for Technology Support and Capacity-building: Status of the pilot projects on implementation of the Bali Strategic Plan in six countries in Africa.

<http://www.unep.org/gc/gcss-ix/Documents/K0650445-INF15.doc>

¹³⁹ UNDP (2005). "Partnerships to fight Poverty." Report of the United Nations Development Programme to the third session of the Committee for the Review of the Convention (CRIC3)2-11May 2005, Bonn Germany.

countries benefited in the areas of ensuring that issues that affect the drylands are addressed by macro-economic policies; reducing vulnerability to climatic shocks, especially drought and improving adaptation to climate change; and improving local governance for natural resource management. Some countries such as Uganda are developing guidelines for mainstreaming dry land issues into national and sub-national development frameworks.

139. *The UNEP/UNDP initiative on poverty and Environment* is supporting the implementation of pilot projects in seven African countries with the aim of increasing the capacity of governments to mainstream environment into national development processes. The countries covered are: Kenya, Mali, Mauritania, Mozambique, Rwanda, Tanzania and Uganda. The projects seek to achieve the inclusion of environmental sustainability as a core objective in development planning and implementation including in the poverty reduction strategy papers (PRSPs), MDG implementation plans or equivalents; and building capacity so that decision-makers know how environmental sustainability contributes to development, and how to include environmental sustainability in development planning and implementation. Among other activities, these projects help to identify links between poverty and environment in concrete terms, advocate the inclusion of environmental sustainability as a key objective in the national development process, and building the capacity of relevant national institutions to sustain the mainstreaming of environment in the implementation of development plans. There is proposal to scale-up this initiative so as to significantly increase the number of countries mainstreaming environment into national development processes and poverty reduction strategies.¹⁴⁰

140. UNEP, UNDP and UN International Strategy for Disaster Reduction (ISDR) have launched an initiative to mainstream disaster risk reduction into development practice, including environmental management. The guidelines developed under this initiative will serve as a cornerstone in the implementation of the Disaster Risk Reduction Strategy designed by African Ministers of Environment and adopted by the African Union in 2005.

3.4.3 Enhancing access to technology

141. A number of countries report initiatives in promoting access and use of appropriate technology particularly in energy efficiency and substitution, improving agricultural techniques and water harvesting and conservation. Countries report growing effort in agricultural research. For instance in Ethiopia the country's policy gives special attention to agricultural research and development and market-oriented economy. The country has therefore strengthened the lead research institutions and has established joint research activities with International Center for Agricultural Research in Dry Area (ICARDA), International Crop Research Institute for Semi Arid Tropics (ICRISAT), International Livestock Research Institute (ILRI), and International Institute for Tropical Agriculture (IITA), among others. Research capacity in the dry lands in the country is being strengthened by opening of new research centres in the previously inaccessible regions of the country especially dry land agro-ecological zones of the pastoral and agro-pastoral production systems.¹⁴¹

142. Through the Mediterranean Renewable Energy Programme (MEDREP), UNEP with support from the Italian Ministry of Environment and Territory, is promoting renewable

¹⁴⁰UNEP Annual Report 2006

¹⁴¹Ethiopia Country Report to ECA, 2006

energy investments in the southern Mediterranean. This is facilitated via the finance scheme, which is part of MEDREP. Under this partnership, MEDREP launched PROSOL Tunisia, a solar loan facility to help thousands of Tunisian households acquire solar water heaters. Since the launch in April 2005, three partner banks have lent almost \$6 million for the installation of 8,000 solar systems. A similar programme for hotels in Morocco has targeted 80 hotels for new solar water heater systems.¹⁴²

143. The UNEP-Rural Energy Enterprise Development (REED) initiative nurtures new, clean energy enterprises in developing countries by providing enterprise development services and early stage seed finance. The Africa REED (AREED) is operating in Senegal, Mali, Ghana, Zambia and Tanzania. AREED applies a market-based approach to help rural and peri-urban households (and enterprises) climb the energy ladder. AREED has now invested in 25 clean energy enterprises with additional investment opportunities receiving business development assistance from AREED partners. The investments include enterprises involved in a wide range of products and services, including: Solar crop drying; efficient charcoal production; manufacturing efficient cook stoves; wind powered water pumps; solar water heating; liquefied petroleum gas (LPG) distribution; biofuel development; and energy efficient motors and lighting.¹⁴³

144. Countries report increased photovoltaic (PV) market and successful improved cook stoves programmes particularly in urban areas. In Zambia, the use of solar energy has reduced pressure on forests and in certain areas the rate of deforestation has gone down tremendously. In addition, employment has been generated through the installation of solar equipment. This has contributed to increased incomes, reduced over dependency on forests for firewood and reduced poverty levels in communities.¹⁴⁴

¹⁴²UNEP Annual Report 2006

¹⁴³Report on Energy for Sustainable development in Africa (full version) and UNEP Annual Report 2006

¹⁴⁴Zambia Country Report 2006

SECTION 4: Challenges and constraints to meeting goals and targets

145. Despite the achievements highlighted in the previous section, the region is confronted with many challenges and constraints that have hampered progress in the development and implementation of measures to combat desertification and to mitigate impacts of drought. The main ones include the following:

146. The high level of poverty continues to be main overarching challenge and constraint to implementation of measures to address drought and desertification in Africa.

147. Climate variability has been a major impediment to SLM activities. This will be exacerbated by climate change that is projected to have devastating impacts in the region.

148. Countries are encountering difficulties in achieving effective integration/mainstreaming of drought and desertification control plans into national development and budgetary frameworks. This contributes to the limited progress in mobilizing multi-stakeholder participation and investments for the implementation of NAPs and other SLM programs. Stumbling blocks such as poor coordination and collaboration, insufficient political will, lack of in-depth understanding and appreciation of drought and desertification especially their links with and benefits to poverty reduction, institutional limitations including those related to “turfs”, lack of tools and a danger of “mainstreaming overload” do prevail and need to be tackled.

149. There is also lack of synergies and coordination in the implementation of desert and drought related convention namely the UNCCD, CBD and UNFCCC.

150. Weak institutional capacity including poor institutional set ups and inadequate human resources capacity constrain integration of drought and desertification concerns into sectoral planning and hamper cross-sectoral and trans-disciplinary cooperation and coordination. Worthy of note is the lack of capacity by the NCBs, which are being set up specifically to coordinate the planning, and implementation of desertification control programs and activities. NCBs are reported to be lacking legislative backing; they are not situated in the mainstream policy and planning framework; and lack the required financial and human resources. The function of NCBs and other lead institutions on drought and desertification is therefore compromised to the detriment of vital services including harmonization of relevant policies and programmes, mobilization of funds, advocacy for drought and desertification programs and mobilization and liaison with a wide range of interest groups at local, national and international levels.

151. Reform and enforcement of policies and legislation to assure harmony and to guarantee clear legal ownership and access rights to land, water and other natural resources remains a daunting task. Unclear legal and ownership rights to land is one of the main reasons the poor are unwilling to invest in long-term sustainable land use practices such as reforestation, agro-forestry, and soil and water conservation measures.¹⁴⁵ Weak enforcement of relevant policies is also a constraint facing some countries in the region.

¹⁴⁵The Gambia country report, 2006

152. Inadequate funding and lack of sustainability of programs: Lack of financial resources is a systemic and one of the most pressing constraints to implementation of desertification control plans in most of the countries in the region. There is under-financing of lead institutions, policy reform processes as well as catalytic programs and initiatives needed to spur activities at local level. Resource mobilisation from various sources including the private sector is a challenge. Resource users especially the local people do not have access to affordable credit facilities to acquire funding, which they could profitably invest both in tackling land degradation and to sustain their livelihoods. Some of the SLM programs and activities as highlighted by country reports of Togo and Democratic Republic of the Congo are largely donor dependent and ensuring their sustainability, which is key to effectively combating desertification and mitigating drought impacts, remains a big challenge.

153. Inadequate information available on drought, desertification and drylands and the difficulties encountered in accessing and sharing this information continue to hamper progress in tackling drought and desertification in the region. Among the factors responsible for this state of affairs is the inadequate capacity including lack of standardized and effective systems to collect, manage and disseminate/share information. Adequate information is needed to monitor drought and desertification, as well in identifying, prioritising and reinforcing activities at various levels, to mitigate drought impacts and combat land degradation. Without information, it has been difficult to justify investments in SLM and to demonstrate their outcomes. Country reports highlight inadequacy of contextualised information and poor information delivery methods as hindrances to effective dialogue and discussion between the community on one-hand and policy and decision makers on the other. For instance in the Gambia information concerning land degradation/desertification, its causes, extent and consequences and remedial strategies has not been adequately disseminated particularly at the local level.¹⁴⁶ The report urges more scientific research into desertification, as policy formulation "has been hindered by the lack of concrete data about rates and extent of desertification,"

154. The development, management and implementation of processes that are genuinely participatory, cross-sectoral and multi-stakeholder is a still a challenge. In this context the reports highlight the need for effective involvement and participation of local communities especially women and youth, civil society organizations and the private sector in the design, implementation and monitoring of programs on drought and desertification.

155. Limited development of economic and social infrastructure and services in drylands as result of low levels of investments, hampers access to drylands and does not provide incentives enough to attract and sustain other investments needed for SLM in these areas. In this context dryland populations have little access to affordable credit facilities as well as lucrative markets for their products.

156. Technology options that empower communities remain largely inaccessible and unaffordable particularly to a majority of rural populations and the urban poor. There is poor access to agricultural inputs and continued high reliance on inefficient biomass fuel technologies. Most of the poor do not use solar technology due to limiting initial investment, especially in the face of lack of affordable credit facilities. In addition some of the systems installed in rural households have low capacity, limiting their usage for income generation.

¹⁴⁶The Gambia country report, 2006

157. High rates of HIV/AIDS and infectious diseases prevalence in some countries of the region pose a challenge to addressing drought and desertification in the affected countries. These epidemics erode human capital as well as financial resources required for investment in poverty reduction, disaster risk management and SLM.

158. The political instability and conflicts faced by some countries in the region breed conditions such as displacement and concentration of populations, destruction of natural resources and infrastructure, which favour land degradation and/or hamper implementation of programs to reduce poverty and address drought and desertification. Reports from countries such as the Democratic Republic of Congo (DRC) indicate a number of programs related to drought and desertification control that have not been implemented due to the conflict and the economic situation of the country.¹⁴⁷

¹⁴⁷Democratic Republic of Congo country report, 2006

SECTION 5: Lessons learned and recommended priority approaches and actions

5.1 Lessons learned

159. The following are some of the lessons learned, drawn from reports as well analysis during this review.

160. Combating desertification and assisting them to manage the impacts of drought constitute the primary and essential route out of poverty for millions of people in Africa.

161. Desertification control and drought mitigation are complex issues that need an integrated approach to achieve meaningful and durable results.

162. Information for education, policy advocacy and planning as well as monitoring of trends and impact of interventions on drought and desertification are central to the success of efforts in combating drought and desertification. Information and communications technologies, the media, networks and extension services are vital components of improved information systems for drought and desertification control.

163. Given the crosscutting nature of drought and desertification issues, it is pertinent that strong and well-functioning institutional frameworks are put in place to coordinate the formulation and implementation of related policies and programmes and to ensure that they are adequately mainstreamed into national development plans and PRSs, as well as relevant sectoral policies and strategies.

164. Through a mix of soil and water conservation techniques, combined with better tree and pasture management, simple and low cost farmer led innovations and technologies can help achieve sustainable farming systems needed to combat land degradation. Building on and reinforcing these innovations and technologies with outside expertise and resource support can foster achievement of greater results.

165. Drought and desertification interventions should be designed to ensure their sustainability and that affected communities derive maximum benefits. Thus the Effective involvement of local communities in drought mitigation and desertification control activities is critical. Their knowledge, skills and adaptive capacities are invaluable to ensuring that real benefits are derived from interventions by making them appropriate, acceptable and sustainable.

166. Many success stories, best practices and lessons learnt exist in approaches undertaken at various levels to combat desertification. These offer the benefit of comparative experience. They however need to be compiled, shared and replicated in other communities, as necessary. The dissemination of best practices and experiences should inform policy-making and go beyond national boundaries. It should as well serve as a vehicle for regional and global cooperation in drought and desertification control.

167. The NDPs including PRSPs can be important platforms for securing attention and resources for implementation of interventions to tackle impacts of drought and combat

desertification. Therefore effective integration of NAPs and other SLMs into development planning and budgeting frameworks is considered an essential process for achieving increased and long-term investment in drought and desertification control programmes.

168. It is important to establish and make the connection between pressures experienced by communities affected by drought and desertification and intervention strategies undertaken, and to use community role models to champion and promote activities.

169. Farmers in the drylands need market and reasonable prices for the commodities, which they produce in order to fight poverty as well as invest in SLM.

170. Drought has always been treated in the region as an emergency and thus not adequately addressed in the medium to long-term development plans. The absence of preparedness plans and adequate early warning systems have exacerbated the impacts of past droughts. There is a need to shift from the typical *ex-post* to *ex-ante* responses to drought.

5.2 Recommended priority approaches and actions

171. The following are some of the priority approaches and actions needed to enhance implementation of programs to effectively address drought and desertification as well as to achieve sustainable growth and poverty reduction in the region.

(i) Up-scale the implementation of NAPs and other SLM plans with a special focus on concrete on the ground community programs and activities with the objective of achieving measurable results on SLM and poverty reduction.

172. The pressing need to achieve this among the countries of the region calls for:
- More accessible and innovative mechanisms of channelling increased levels of support, particularly financing to farmers and other frontline natural resources managers;
 - Mobilization of local resources and ensuring maximum community participation in desertification control and drought risk reduction programs and activities;
 - Harnessing of local knowledge and skills and empowering local authorities, civil society, private sector and local communities through increased capacity building that is linked to achieving tangible results on poverty reduction, integrative natural resources management, drought risk management; and
 - Identification, documentation and exchange of best practices and promoting the replication of successful projects.
 - Ensure adequate commitment for the implementation of the 10-Year Strategic Plan and Framework to enhance the implementation of the UNCCD and the related decisions adopted at UNCCD COP8, which encompass important guidance as regards to UNCCD implementation for the period 2008-2018.

(ii) Mainstream/integrate systematically, priorities identified in the NAPs and other SLM processes into national development programs including national sustainable development and poverty reduction strategies in order to mobilize implementation

resources, and to foster medium and long-term political commitment for drought mitigation and desertification control programs.

173. Given the difficulties that countries are encountering and the mixed results realized by countries from efforts in integrating drought and desertification issues into development frameworks including budgetary frameworks, it is pertinent to focus on the following:

- Actions to build political leadership and support for SLM with the view to motivate and reinforce political commitment and raise the profile of SLM at all levels;
- Strengthening institutional arrangements for effective mainstreaming;
- Sharpening and disseminating tools for integration;
- Generating information and compelling evidence including economic analyses and arguments on SLM and poverty reduction linkages, to encourage policy makers to take favourable decisions with respect to interventions required to combat desertification;
- Developing and implementing effective communication strategies responsive and tailored to challenges, circumstances and knowledge needs of different audiences, especially the policy and decision makers and frontline resource managers;
- Identifying and promoting incentive frameworks/performance measures to encourage integration; and
- Demonstrating concrete on the ground human welfare and sustainable land management outcomes of integrating drought and desertification issues in poverty reduction interventions.

(iii) Establish and promote incentives for and address barriers to agricultural development and sustainable land and other natural resources management.

174. This calls for the following priority actions:

- Providing dryland areas with increased access to appropriate and affordable agricultural technologies such as drought resistant crop varieties, affordable credit facilities and links to markets;
- Developing economic and social infrastructure such as roads, and energy and water supply infrastructure in order to facilitate local people in the affected areas to manage their own development;
- Addressing the bottlenecks posed by insecure tenure and/ or access rights to land, water and other natural resources by carrying out reform and/or effective enforcement of land and other natural resources regulatory frameworks with a view to guaranteeing clear and secure tenure and access rights to these resources, based on well-defined and enforceable rights and responsibilities of all players; and
- Promoting sustainable land use by building capacity in land use planning.

(iv) Strengthen the information base on drought and desertification and enhance knowledge application including through identification, documentation, dissemination, and sharing of best practices.

175. Programs should be developed and supported at regional, subregional and national level to strengthen collection of information including through targeted research; and management, dissemination and application of information paying due regard to:

- Establishing comprehensive Desertification Information Systems and evaluating the effectiveness of responses to drought and desertification;

- Strengthening land degradation monitoring and assessment including through providing support to the development and application of benchmarks, indicators and methodologies for monitoring land degradation, and scaling up application of LADA project tools and methodologies in the region;
- Strengthening active involvement of the local community in land degradation and drought research and monitoring including capturing traditional knowledge;
- Capturing and sharing good practices including indigenous practices used to address drought and desertification;
- Promoting centres of excellence in order to pool resources; and
- Conducting public awareness and education programmes, including formal education programmes on sustainable use and management of forest and other land resources with the involvement of CSOs, for local communities and resource users directly affected by drought and desertification.

(v) Link and coordinate measures for combating drought and desertification with those measures aimed at addressing climate change and biodiversity conservation so as to diversify resources available for implementation of NAPs and related programmes and thus up scale SLM.

176. Analysis should therefore be carried out and links established in the implementation of the UNCCD, United Nations Framework Convention on Climate Change (UNFCCC), UN Convention on Biological Diversity (CBD) at all levels. As such there is need to strengthen capacity for developing integrated programmes aimed at promoting synergies between the UNCCD, CBD and UNFCCC; and therefore the synergistic implementation of National Adaptation Programs of Action (NAPAs) under the auspices of the UNFCCC and National, Subregional and Regional Actions Programs (NAPs, SRAPs and RAPs) under UNCCD and the National Biodiversity Strategies and Action Plans (NBSAPs) under the CBD. The focus devoted by UNFCCC on adaptation and vulnerability reduction provides opportunities for synergistic investments in addressing land degradation and carbon sequestration within the framework of the UNFCCC Clean Development Mechanism (CDM) especially in drylands. However in order to be optimal, these investments should have in close view, the needs of the local people so as to achieve SLM and poverty reduction.

(vi) Strengthen management and adaptation to drought and desertification impacts especially in the face of the expected climate change and the high vulnerability of the region to climate change impacts.

177. The required actions include:

- Strengthening capacity for systematic climate observations and timely climate information outreach and application particularly for policy making and at grass-root levels including through reinforcing capacity for more robust monitoring of drought by subregional and regional drought monitoring and early warning services centres such as ICPAC, DMC-Harare, ACMAD and OSS;
- Developing and integrating drought and other disaster management strategies into development frameworks at national, subregional and continental levels;
- Strengthening and ensuring comprehensive early warning systems and drought risk management institutions including networks at national and sub-national levels;
- Moving from policy at national level towards community level drought resilience building;

- Developing *ex-ante drought* response mechanisms. An Innovative approach such as weather index insurance is one such mechanism that can potentially offer protection to the small African farmer at affordable premiums; and
- Strengthening knowledge networking platforms and tools such as subregional and regional forums and the use of information communications technologies based on a mixture of traditional and modern technology.

(vii) Strengthen institutional arrangements and human resources capacity to provide effective leadership for coordination, planning, monitoring and championing of drought and desertification programs at national and sub-national levels.

178. In so doing particular attention needs to be paid to the following:

- Providing the lead institutions such as NCBs with an adequate policy, legal and funding base to enable them to effectively discharge their mandates;
- Enhancing sharing and synergy of responsibilities among institutions;
- Strengthening the capacity of decentralized systems, NGOs, private sector and local communities, especially women and providing for their inclusion in planning and decision making process on SLM; and
- Developing long-term human resources capacity.

(viii) Provide support and adequate resources to regional and subregional programs such as SRAPs, RAP, and SLM related programs under AU/NEPAD and RECs.

179. This is urgently needed to enable them to discharge their mandate with respect to facilitating coordination, strategic planning and catalysing programs on desertification control and drought management, and sustainable development. They also have a major role in addressing cross border and crosscutting issues including channelling of appropriate technology, knowledge and know-how to interested Parties, the exchange of lessons learned and best practices within and between regional implementation.

(ix) Promote knowledge management on, and access to appropriate affordable technology for improved agricultural production and SLM.

180. This entails actions to:

- Establish more flexible financing mechanisms for technology development, and improve access to affordable credit facilities for technology acquisition and application especially in rural areas;
- Expand energy services to the poor, especially women in rural and remote drylands for domestic use as well as economic activities;
- Provide and make more use of renewable and cleaner energy sources and energy efficient technologies;
- Recognize and promote the application of local and indigenous know-how and innovations in local farming and integrated natural resources systems for SLM and as applicable reinforced by application of relevant modern science and technology;
- Accelerate the development, dissemination and deployment of affordable agricultural technologies including fertilizers, drought resistant crop varieties and other agricultural inputs.
- Promote demand-driven research and long-term technology training.

- Support and implement partnerships including (public-public and public-private), networks and programs on technology development, transfer and deployment. In this context implementation of the Bali Plan is pertinent.

(x) Strengthen capacity for financial resources mobilization and channel increased funding for implementation of NAPs, SRAPs, RAP and other SLM initiatives.

181. Apart from the actions necessary to integrate and articulate these programs as priorities within the country MDG and PRS based plans, which are currently the vehicles through which local funding and large aid flows are channelled, the additional actions needed to mobilize increased funding include:

- Integrating and according a high priority ranking to SLM programs within development assistance policies and programming instruments so as to provide an enabling environment for increased and improved levels of access to funding for these programs;
- Strengthening SLM resources mobilization and financing mechanisms at global, regional, and subregional levels such as the GEF, GM and TerrAfrica. Better coordination among these mechanisms should be ensured. The proportion of GEF funding allocated to SLM needs to increased;
- In addition the procedures and guidelines set by the SLM funding agencies for accessing financing for SLM programs especially at field level should be simplified;
- Developing and implementing a clear agenda and fundraising strategies for funding SLM from local sources including from the private sector and emerging schemes such as payment for ecosystem services; and
- Increasing national budget allocation to SLM.

(xi) Foster peace and stability in the region through among others, the development and implementation of comprehensive and coherent conflict prevention and management strategies at national, subregional and regional levels. In addition strategies and actions are required to deal with environmental and drought refugees and to assist internally displaced persons.

SECTION 6: Conclusion

182. Drought and desertification continue to threaten the livelihoods of millions of people in Africa, increasingly making them unable to edge out of poverty. This trend is set to worsen with the onset of climate change, to which many countries in the region are most vulnerable. As such desertification and drought are at the heart of development challenges in Africa and merit urgent attention in policies and actions at national regional and global level.

183. Combating desertification in the continent has tremendous benefits in enhancing the continent's progress towards meeting MDGs particularly in terms of poverty reduction, attaining food security, combating diseases and ensuring environmental sustainability. Otherwise current trends in land degradation and high level of vulnerability of the region to the impacts of both drought and desertification will be major impediments to the attainment of the MDGs as well ensuring security and social stability at all levels in the region and at global level.

184. African countries have responded and made some demonstrated progress towards tackling drought and desertification. The UNCCD has been central and provides vital opportunities for tackling drought and desertification in the region and globally. With support from international partners, many countries are taking some concrete action at various levels to tackle desertification as well as to mitigate the impacts of drought. Notably NAPs, SRAPs, RAPs and other programs in environment and agricultural sectors, have been developed at various levels. Implementation of these plans has commenced and urgently needs to be scaled up with a special emphasis on achieving implementation and impact at local level. In this context mechanisms are needed for providing technical and long-term financial support for combating drought and desertification especially to decentralised local government and communities. Work has commenced, but major effort is needed to strengthen the establishment of systems for drought and desertification monitoring, early warning and drought risk management. In this connection concrete data about rates and extent of desertification needs to be collected and disseminated to inform policy development and implementation.

185. African countries continue to face a number of challenges and constraints that constitute major impediments to and hamper progress in addressing drought and desertification and attaining sustainable development. Notable are the high levels of poverty, weak institutional capacities, challenges in resource mobilisation, weak information base, and inadequate access to affordable appropriate technology. These impediments merit urgent attention if progress is to be accelerated. The review has identified some best practices and success stories and lessons learned that can inform the development and implementation of effective interventions to manage drought impacts and combat land degradation.

186. The main priority approaches and actions proposed to accelerate progress, recognize the need to address the root causes of desertification, respond to the main challenges, tackle constraints, and upscale implementation of existing programs and plans for SLM building on the success stories.

187. In order to succeed and achieve significant progress in combating desertification and mitigating impacts of drought, there is need for enhanced political will and commitment at all levels to address these problems as integral priority element within MDG and poverty reduction based programs and strategies.

References

Acosta-Michlik, L., Klein, R.J.T. and Compe, K. 2005. How vulnerable is India to climatic stress? Measuring vulnerability to drought using the Security Diagrams concept; Human Security and Climate Change An International Workshop, Oslo, Norway, 21–23 June 2005.

AIBS 2004. Analysis Fingers Causes Of Desertification; BioScience Press Release September 2004; [American Institute of Biological Sciences](http://www.americaninstituteofbiologicalsciences.org); Washington DC.

Anderson, J. et.al., 2004. Chance, change and choice in Africa's drylands.

Bogardi, J.J. ; Villagrán De Leon, J. C. ; Birkmann, J ; Thywissen, K ; Renaud, F ; Sakulski, D ; Affeltranger, B ; Shen, X. 2005. Climate Change, a Hazard to Human Security; Human Security and Climate Change; An International Workshop, Oslo, Norway, 21–23 June 2005.

Chan, Ngai Weng. 1995 “Choice and Constraints in Floodplain Occupation: The Influence of Structural Factors on Residential Location in Peninsular Malaysia.” *Disasters*. 19(4):287-307.

Conserve Africa 2006. Breaking the vicious cycle of poverty and environmental degradation in Africa; Poverty and Environment in Africa: An Overview. <http://www.conserveafrica.org.uk/desertification.html>

Democratic and Popular Republic of Algeria, (Ministry of Agriculture and Rural Development), 2006. National report on drought and desertification- Contribution to the Africa review report on drought and desertification.

Democratic Republic of Congo, (Ministry of Environment, Conservation of Nature, Water and Forests), 2006. Contribution of the Democratic Republic of Congo to the Africa review report on drought and desertification.

ECA, 2005. Africa's regional review report on Energy.

Environmental Protection Agency of Ghana, 2006. National report on drought and desertification.

Fan, S., Hazell, P. and Thorat, S. 1999. Linkages Between Government Spending, Growth, and Poverty in Rural India; *Research Report 110*; <http://www.ifpri.org/pubs/abstract/abstr110.htm>

FAO 2005. www.fao.org (on food security and climate change- section on desertification and food security).

Federal Environmental Protection Agency of Ethiopia, 2006. Ethiopia's input to the Africa review report on drought and desertification.

Glantz, M. H, and Orlovsky, N. 1984. International Conventions and Environmental Legislation and their Applications. Desertification A review of the concept, Encyclopaedia of Climatology, J.E. Oliver and R. Fairbridge, eds., Hutchinson. Ross Publishing Company, 1984

Government of Swaziland, 2000. *National Action Programme for Combating Desertification and Mitigating the Effects of Drought*. National Steering Committee on Desertification, Mbabane.

Haque, C.E. and Zaman, M.Q. 1989. "Coping with Riverbank Erosion Hazard and Displacement in Bangladesh: Survival Strategies and Adjustments." *Disasters*. 13(4): 300-314.

Hay, J and Beniston, M. 2001. Environmental change and migration; Global warming and the third world; *Tiempo* - Issue 42, December 2001.

Hulme, M. and Kelly M. 1993. Exploring the links between desertification and climate change. *Environment* 35: 4,39-11,45.

Lein, H. 2000. "Hazards and 'forced' migration in Bangladesh." *Norwegian Journal of Geography*, 54:122-127.

McHarry, J. Scott, F. and Green, J. 2002. Towards Global Food Security: Fighting against hunger. Towards Earth Summit 2002, Social Briefing #4 <http://www.earthsummit2002.org/es/issues/foodsecurity/foodsecurity.rtf>

Meier, P. and Bond, D. 2005. The Influence of Climate Variability on Pastoral Conflict in the Horn of Africa; Human Security and Climate Change An International Workshop Oslo, Norway, 21–23 June 2005.

Mora J. and Taylor E. J. 2006. Determinants of migration, destination, and sector choice: Disentangling individual, household and community effects. World Bank report # 33988; Washington, DC: World Bank.

Mutton, D. and Haque, C.E. 2004. "Human Vulnerability, Dislocation and Resettlement: Adaptation Processes of River-bank Erosion-induced Displacees in Bangladesh. *Disasters*. 28(1):41+

Nanyunja, R. K. 2005. How Does Water Scarcity Directly or Indirectly Influence Conflict or Cooperation? A Case Study in Uganda; Human Security and Climate Change An International Workshop Oslo, Norway, 21–23 June 2005.

Nhambura F. 2006. Africa must address food security; *The Herald*, (Zimbabwe) 14 February 2006; <http://www.herald.co.zw/inside.aspx?sectid=448&cat=10>

Noojin, Leah. 2006. Factors that influence famine in Sub-Saharan African Countries. Website: <http://www.as.ua.edu/ant/bindon/ant476/papers/Noojin.pdf>

Nyong, A. 2005. Drought-Related Conflicts, Management and Resolution in the West African Sahel; Human Security and Climate Change An International Workshop Oslo, Norway, 21–23 June 2005.

Obioha, E. E. 2005. Climate Change, Population Drift and Violent Conflict over Land Resources in North Eastern Nigeria; Human Security and Climate Change An International Workshop Oslo, Norway, 21–23 June 2005.

Rechkemmer, Andreas (2005). Global Forest Management: What has been achieved, what comes next? Critical choices for structural, legal and financial options. Wissenschaftszentrum Berlin für Sozialforschung (WZB)

Radford, T. and Vidal, J (2005) One in six countries facing food shortage; in The Guardian; Thursday June 30, 2005; http://www.guardian.co.uk/climatechange/story/article_continue

Reich, P.F., Numbem, S.T., Almaraz, R.A. and Eswaran, H. 2001. Land resource stresses and desertification in Africa. In Bridges, E.M., Hannam, I.D., Oldeman L.R., Pening de Vries, F.W.T., Scherr, S.J., and Sompatpanit S. (eds.). Responses to Land Degradation. Proc. 2nd. International Conference on Land Degradation and Desertification, Khon Kaen, Thailand. Oxford Press, New Delhi, India.:

Website: <http://soils.usda.gov/use/worldsoils/papers/desertification-africa.html>

Republic of Benin, 2006. Report of the Republic of Benin on drought and desertification.

Republic of Chad, 2006. Republic of Chad review report on drought and desertification.

Republic of Congo, 2006. Contribution of the Republic of Congo to the Africa review report on drought and desertification.

Republic of Madagascar, 2006. Contribution of the Republic of Madagascar to the Africa review report on drought and desertification.

Republic of South Africa (Department of Environmental Affairs and Tourism), 2005. Third national country report on the implementation of the United Nations Convention to Combat Desertification (UNCCD).

Republic of the Gambia, 2003. The roadmap for the implementation of the United Nations Convention to Combat Desertification.

Republic of Togo, 2006. Report of the Republic of Togo on drought and desertification.

Republic of Zambia (Ministry of Tourism, Environment and Natural Resources), 2005. Third national report on the implementation of the national action programme (NAP) in Zambia-submitted to the United Nations Convention to Combat Desertification (UNCCD).

Rowell, D.P., Folland, C.K. Maskell, K. Owen, J.A. and M.N. Ward. (1992). Modelling the influence of global sea surface temperatures on the variability and predictability of seasonal Sahel rainfall. Geophysical Research Letters 19, 905-908,

Royaume du Maroc, 2006. Africa review report on drought and desertification- the case of Morocco.

Toulmin, Camilla (2006). If you want to get a job done, you need the right tools. Next steps for the UN Convention to Combat Desertification. IIED Sustainable Development Opinion 2006

UNCCD 2006. Implementing the United Nations Convention to Combat Desertification in Africa: Ten African experiences. UNCCD Secretariat. Bonn, Germany.

UNDP, 2005. Report of the United Nations Development Programme (UNDP) to the third session of the Committee for the Review of the Convention (CRIC 3).

UNCCD 2004. Ten years on: UN marks World Day to Combat Desertification; Observances worldwide on June 17, 2004.

Van Crowder, L., Lindley, W.I., Bruening, T.H. and Doron, N. (1998); Agricultural Education for Sustainable Rural Development: Challenges for Developing Countries in the 21st Century; Extension, Education and Communication Service (SDRE); FAO Research; Rome, Italy.

Wiggins, S. (2004); Food security options in Zimbabwe: multiple threats, multiple opportunities? Country Food Security Options Paper No. 5, Forum for Food Security in Southern Africa www.odi.org.uk/food-security-forum.

WWI (1998); A guide to the global environment; World Resources Institute, Washington DC, USA.

Yang, J. and Prince, S.D. (2000); Remote sensing of savanna vegetation changes in eastern Zambia 1972-1989. International Journal of Remote Sensing 21: 301-332.

Zaman, M.Q. (1991); "The Displaced Poor and Resettlement Policies in Bangladesh." Disasters.15(2):117-125.

Websites

Action programmes: Africa.

<http://www.unccd.int/actionprogrammes/africa/africa.php#subregional>

Climate risk management in Africa: Learning from practice.

http://iriportal.ldeo.columbia.edu/portal/server.pt/gateway/PTARGS_0_2_1170_0_0_18/policy%20brief_en.pdf

Combating desertification in Africa.

<http://www.unccd.int/publicinfo/factsheets/showFS.php?number=11>

Drought Risk and Development Policy: Discussion Paper for the UNDP-DDC/BCPR and UN - ISDR Expert Workshop *Drought Risk and Development Policy*, January 31 - February 2, 2005, Nairobi.

Press Release on Joint International Conference Algiers, Dec. 17-19, 2006.

http://www.inweh.unu.edu/inweh/drylands/Algiers_news_release-Final.pdf

UNCCD. ICCD/CRIC(3)/2/Add.4 21 March 2005. Results of the subregional workshops of affected African country Parties

UNCCD ICCD/COP(7)/CST/8 22 July 2005. Land degradation assessment in drylands. Note by the secretariat. <http://www.unccd.int/cop/officialdocs/cop7/pdf/cst8eng.pdf>

Annexes

Annexe I: Goals and targets to combat drought and desertification

	Goal/Program Area	Target	Indicators	Relevant Conference/Multilateral/Regional Agreement
1.	Develop and strengthen measures to combat desertification and mitigate effects of drought as integral components of national sustainable development /poverty reduction strategies/ programmes.	<ul style="list-style-type: none"> - Promote the implementation of the UNCCD. - Support countries to prepare and implement national action programmes to combat desertification - Mainstream measures to combat desertification and mitigate effects of drought into national development/poverty reduction programmes - Support the preparation and implementation of Africa subregional and regional desertification plans - Establish a regional network of centres of excellence for the development and implementation of national, subregional and regional action programmes to combat drought and desertification - Promote synergy between the three Rio conventions (UNCCD, UNFCCC, CBD). 	<ul style="list-style-type: none"> - Number of countries that have ratified the UNCCD - Status of development of and implementation of national and subregional desertification action plans - Status of implementation of the UNCCD annex for Africa - Number of /national sustainable development/poverty reduction programmes with desertification plans mainstreamed - Best practices/programmes in combating drought and desertification in the context of poverty eradication developed and promoted - Proportion of people engaged in alternative livelihood systems in areas prone to desertification - Area affected by drought and desertification 	NEPAD, JPOI, PFIA21, A21, UNCCD

			<ul style="list-style-type: none"> - Regional networks on drought and desertification in place and functional - Status of collaboration and coordination in the development and implementation of programmes on the UNCCD, UNFCCC, and CBD 	
2.	Strengthen the knowledge base on drought and desertification	<ul style="list-style-type: none"> - Strengthen institutional and human capacity and support programmes at national, subregional and regional levels to carry out research, anticipate and monitor, and disseminate information on land degradation, drought and desertification - Build a reliable and up-to-date information base on land degradation, drought and desertification - Establish and /or strengthen integrated national, subregional and regional information systems and networks and promote information sharing on land degradation, drought and desertification - Disseminate information on the best practices in combating land degradation, drought and desertification 	<ul style="list-style-type: none"> - Institutional frameworks on drought and desertification in place and functional - Monitoring and research programmes on drought and desertification developed and carried out - Integrated and reliable information systems and networks on drought and desertification in place and operational - Information on drought and desertification disseminated to diverse interest groups 	NEPAD, JPOI, PFIA21, A21, UNCCD
3.	Combat land degradation	<ul style="list-style-type: none"> - Develop and adopt national and regional land use guidelines and policies - Develop and promote technologies for sustainable agriculture - Develop tools and practices for sustainable land and natural management - Harness indigenous knowledge and systems for land and natural resources (especially water and soil) management 	<ul style="list-style-type: none"> - National and regional land use policies and guidelines on sustainable land management developed and implemented - Technologies and practices in land and natural resources management and sustainable agriculture identified or developed and promoted to combat drought and desertification - Drought and desertification related natural resources management programs in place 	NEPAD, JPOI, PFIA21, A21, UNCCD

			- Proportion /area of land affected by land degradation	
4.	Promoting multi-stakeholder and popular participation; and environmental education on desertification control and management of the effects of drought	<ul style="list-style-type: none"> - Increase the level of public education - Support and/or strengthen national, subregional and regional institutions and networks to enhance public education and outreach - Promote effective and gender responsive participation of the local community and civil society in drought and desertification programmes 	<ul style="list-style-type: none"> - Drought and desertification education integrated into and carried out as part of formal and non-formal education programmes - Number of national and regional awareness and education programmes on drought and desertification developed and carried out. - Multi-stakeholder forums/platforms on drought and desertification instituted and facilitated - Gender responsive programs developed and implemented 	NEPAD, JPOI, PFIA21, A21, UNCCD
5.	Develop drought preparedness and drought relief schemes and coping mechanisms	<ul style="list-style-type: none"> - Develop and /or strengthen early warning systems on drought and desertification - Improve national and regional capacity for agrometeorology and contingency agriculture - Support agrohdrology and agrometeorology programmes and drought-monitoring centres - Develop and support adaptation programmes especially for vulnerable communities. 	<ul style="list-style-type: none"> - Number of countries with monitoring and early warning systems on drought established and functional - Agrohdrology and agrometeorolgy capacity improved and programmes undertaken - Coping and adaptation programmes for drought and desertification (especially for vulnerable communities) developed, supported and implemented - Proportion of household affected by drought and desertification - Drought and desertification coping mechanisms mainstreamed into national disaster preparedness strategies 	NEPAD, JPOI, PFIA21 A21, UNCCD
6.	Support implementation of	- Mobilize and provide adequate and predictable financial resources to undertake programmes to combat drought	- Programmes to combat land degradation (desertification) funded through GEF	NEPAD, JPOI, PFIA21,

	<p>programmes on drought and desertification including the UNCCD</p>	<p>and desertification</p> <ul style="list-style-type: none"> - Designate land degradation (desertification and forests) as focal area of GEF funding - Promote the development of indigenous know-how and technology transfer - Support regional and subregional activities in technology development and dissemination, training and programme implementation to arrest dryland degradation - Develop and transfer technology for monitoring and combating drought and desertification - Carry out various training and other capacity building programmes in order to develop capacity to implement programmes on drought and desertification at all levels 	<ul style="list-style-type: none"> - Sources and level of funding mobilised and provided for drought and desertification programmes - Status of collaboration on technology development and transfer - Technologies on drought and desertification developed and applied in drought and desertification programmes - Types and number of capacity building programs developed and implemented to combat desertification and mitigate effects of drought 	<p>A21, UNCCD</p>
--	--	---	---	-------------------

Annex 2: Examples of programmes and projects being implemented in selected countries to contribute to drought and desertification control.

Country	Programme/ Project	Goal(s)/ Objective (s)
Algeria	National Agricultural Development Programme- 2000	<ul style="list-style-type: none"> • To intensify agricultural production; and • To promote sustainable development of the agriculture sector through the rational exploitation of natural resources.
Benin	Income Generating Projects (commenced in 1997) National Agriculture Sector Programme National Community Development Programme- 1998 Integrated Management of Soil Fertility	<ul style="list-style-type: none"> • To ensure an endogenous (home grown) sustainable development. • To fight against food insecurity, develop post harvest systems and promote the social and economic integration of women. • To promote food security and efficiently mitigate the impacts of climate and other constraints of production. • To promote soil and water conservation in regions that are mostly affected by desertification; and • To promote soil amendments and complementary technologies, and the development of input, crops and livestock markets.
South Africa	National Land Care Programme Working for Water Programme Working for Wetlands Programme Deserts Margins Programme	<ul style="list-style-type: none"> • To optimize and sustain resources in order to attain greater productivity, food security, job creation and a better quality of life. • To control invasive alien species while promoting resource conservation and poverty reduction. • To rehabilitate and conserve wetlands. • To address desertification through biodiversity conservation.
Togo	Support Programme to Agro Forestry And Village Forests Initiatives- 2001 Food Security Programme- 2003	<ul style="list-style-type: none"> • To promote a sustainable agriculture that addresses different environmental problems such as the indiscriminate felling of trees, slash and burn, bush fires and soil impoverishment; and • To promote natural soil enrichment techniques through inter alia, nutrient enriching plants and input reduction. • To support water control and management; and • To diversify animal production methods.

Zambia	<p>Agricultural Commercialisation Programme</p> <p>Food Security Pack Programme</p> <p>Forestry Action Plan</p> <p>Provincial Forestry Action Programme</p> <p>Integrated Land Use Assessment Project</p> <p>Water Resources Action Programme</p>	<ul style="list-style-type: none"> • To increase agricultural productivity, and stimulate agricultural diversification and commercialisation, in an environmentally sound manner. • To address food security and widespread poverty. • To provide for the rational management and conservation of forest resources in order to enhance the contribution of the forest sector to social and economic development, poverty reduction and the improvement of food security. • To promote community participation in sustainable forest management and to build the capacities of government agencies and communities in forestry planning and management at local levels. • To improve the capacities of institutions involved in land use planning and implementation of integrated land use assessment in order to generate high quality land use information at reasonable cost and to conduct long-term monitoring of the resources. • To facilitate management of water resources at catchment and sub-catchment levels with a view to reducing poverty with the full participation of all key stakeholders.
--------	---	--

Source: Country reports on drought and desertification submitted to ECA.