Capacity Building for Regional Council Members, Sector Offices, & Academic Institutions & CSOs of Oromya, Gambella and Benshangul-Gumuz National Regional States on UNCCD/NAP in Ethiopia

Workshop organized by EACD and the Drylands Coordination Group Ethiopia July 3rd and 4th 2008 at Nekemte Municipality Hall, Wollega Zone, Ethiopia.

By Ababu Anage
August 2009

DCG Proceedings No.25
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Ababu Anage

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August 2009
The Drylands Coordination Group (DCG) is an NGO-driven forum for exchange of practical experiences and knowledge on food security and natural resource management in the drylands of Africa. DCG facilitates this exchange of experiences between NGOs and research and policy-making institutions. The DCG activities, which are carried out by DCG members in Ethiopia, Eritrea, Mali and Sudan, aim to contribute to improved food security of vulnerable households and sustainable natural resource management in the drylands of Africa.

The founding DCG members consist of ADRA Norway, CARE Norway, Norwegian Church Aid, Norwegian People’s Aid, The Strømme Foundation and The Development Fund. The secretariat of DCG is located at the Environmental House (Miljøhuset G9) in Oslo and acts as a facilitating and implementing body for the DCG. The DCG’s activities are funded by NORAD (the Norwegian Agency for Development Cooperation).

This workshop was organized by EACD on behalf of the Drylands Coordination Group.

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<td>APF</td>
<td>Adaptation Policy Framework</td>
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<tr>
<td>ARDPS</td>
<td>Agricultural and Rural Development Policies and Strategies</td>
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<tr>
<td>BoA &amp; NRD</td>
<td>Bureau of Agriculture &amp; Natural Resource Development</td>
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<td>CBD</td>
<td>Convention on Biodiversity</td>
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<td>CBOs</td>
<td>Community Based Organizations</td>
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<td>CCD</td>
<td>Convention to Combat Desertification</td>
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<td>CDM</td>
<td>Clean Development Mechanism</td>
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<tr>
<td>CH4</td>
<td>Methane</td>
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<td>CO2</td>
<td>Carbon dioxide</td>
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<td>COPs</td>
<td>Conference of Parties</td>
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<td>CP</td>
<td>Contracting Party</td>
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<td>CRDA</td>
<td>Christian Relief and Development Association</td>
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<td>CSE</td>
<td>Conservation Strategy for Ethiopia</td>
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<td>CSOs</td>
<td>Civil Society Organizations</td>
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<td>CST</td>
<td>Committee on Science and Technology</td>
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<td>CRIC</td>
<td>Committee for the Review of the Implementation of the Convention</td>
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<td>Drylands Coordination Group-Ethiopia</td>
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<td>DD</td>
<td>Desert &amp; Desertification</td>
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<td>DPPA</td>
<td>Disaster Prevention and Preparedness Agency</td>
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<td>EACD</td>
<td>Ethiopian Association for Combating Desertification</td>
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<td>EFAP</td>
<td>Ethiopian Forestry Action Plan</td>
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<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<td>EIC</td>
<td>Environmental Information Center</td>
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<td>EPA</td>
<td>Environmental Protection Authority</td>
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<td>EPE</td>
<td>Environmental Policy of Ethiopia</td>
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<td>EU</td>
<td>European Union</td>
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<td>EVDSA</td>
<td>Ethiopian Valley Development Studies Authority</td>
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<tr>
<td>EWS</td>
<td>Early Warning System</td>
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<td>EWSS</td>
<td>Ethiopian Water Sector Strategy</td>
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<td>FAO</td>
<td>Food and Agriculture Organization</td>
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<td>FDRE</td>
<td>Federal Democratic Republic of Ethiopia</td>
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<td>FFE</td>
<td>Forum For Environment</td>
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<td>FS</td>
<td>Food Security</td>
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<td>FSP</td>
<td>Food Security Program</td>
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<td>FSS</td>
<td>Forum for Social Studies</td>
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<td>FSS</td>
<td>Food Security Strategy</td>
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<td>GEF</td>
<td>Global Environment Facility</td>
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<td>Global Mechanism</td>
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<td>Gos</td>
<td>Government Organizations</td>
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<td>IAR</td>
<td>Institute of Agricultural Research</td>
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<td>ICARDA</td>
<td>International Center for Agricultural Research in Dry Area</td>
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<td>ICRISAT</td>
<td>International Crop Research Institute for Semi Arid Tropics</td>
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<td>IGAD</td>
<td>Inter Governmental Authorities for Development</td>
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<td>INCE</td>
<td>Initial National Communications of Ethiopia</td>
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<td>ILRI</td>
<td>International Livestock Research Institute</td>
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<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
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<td>International Institute for Tropical Agriculture</td>
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<td>IIWJ</td>
<td>Inter Institutional Working Group.</td>
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<td>MoARD</td>
<td>Ministry of Agriculture and Rural Development</td>
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<td>MEAs</td>
<td>Multilateral Environmental Agreements</td>
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<td>MEDAC</td>
<td>Ministry of Economic Development Assistance Cooperation</td>
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<td>MEO</td>
<td>Mines and Energy Office</td>
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<td>MDG</td>
<td>Millennium Development Goal</td>
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<td>MoFA</td>
<td>Ministry of Federal Affairs</td>
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<td>MoID</td>
<td>Ministry of Infrastructure Development</td>
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<td>MoM</td>
<td>Ministry of Mines</td>
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<td>MoWR</td>
<td>Ministry of Water Resources</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>MZLSP</td>
<td>Mizan Land use Sustainable Project</td>
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<td>NAP</td>
<td>National Action Program</td>
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<td>NCA</td>
<td>Norwegian Church Aid</td>
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<td>NGOs</td>
<td>Non Governmental Organizations</td>
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<td>NMA</td>
<td>National Meteorology Agency</td>
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<td>NMSA</td>
<td>National Meteorological Services Agency</td>
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<td>N2O</td>
<td>Nitrogen per Oxide</td>
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<td>NRM</td>
<td>Natural Resource Management</td>
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<td>NSC</td>
<td>National Steering Committee</td>
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<td>NTEAP</td>
<td>Nile Trans-boundary Environmental Action Project</td>
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<td>OEPO</td>
<td>Oromya Environmental Protection Office</td>
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<tr>
<td>OARDO</td>
<td>Oromya Agricultural and Rural Development Office</td>
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<tr>
<td>PASDEP</td>
<td>Plan for Accelerated Sustainable Development to End Poverty</td>
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<td>RAP</td>
<td>Regional Action Plan</td>
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<td>REPA</td>
<td>Regional Environmental Protection Authority</td>
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<td>RGEP</td>
<td>Regional Governments Establishment Proclamation</td>
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<td>RWMERDB</td>
<td>Regional Water Mines and Energy and Rural Development Bureau</td>
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<td>SEIA</td>
<td>Strategic Environmental Impact Assessment</td>
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<td>SNNPRS</td>
<td>Southern Nations Nationalities' People's Regional State</td>
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<td>SRES</td>
<td>Special Report on Emission Scenarios</td>
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<td>TNCCD</td>
<td>Transitional NGOs/CBOs Coordination Committee for Combating Desertification</td>
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<td>UNCBD</td>
<td>United Nations Convention for Biodiversity</td>
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<td>UNCCD</td>
<td>United Nations Convention to Combat Desertification</td>
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<td>UNCED</td>
<td>United Nation Conference on Environment and Development</td>
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<td>UNDP</td>
<td>United Nations Development Program</td>
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<td>UNEP</td>
<td>United Nations Environmental Program</td>
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<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
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<td>USA</td>
<td>United States of America</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<td>USD</td>
<td>United States Dollar</td>
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<td>VAM</td>
<td>Vulnerability Analysis and Mapping</td>
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<td>VDI</td>
<td>Vulnerability Development Index</td>
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<td>VRP</td>
<td>Voluntary Resettlement Program</td>
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<td>WFP</td>
<td>World Food Program</td>
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<td>WMA</td>
<td>World Meteorological Agency</td>
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<td>WSSD</td>
<td>World Summit on Sustainable Development</td>
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EXECUTIVE SUMMARY

The workshop under the theme capacity building on UNCCD/NAP was organized for Regional Council Members, Sector Offices, & Academic Institutions & CSOs of Oromya, Gambella and Benshangul-Gumuz National Regional States. The workshop was convened on July 3-4, 2008 at Nekemte Municipality Hall, Wollega Zone, Ethiopia. The objective of the workshop was to raise awareness on the contents, principles and objectives of the United Nations Convention to Combat Desertification (UNCCD) and on the implementation status and challenges of the National Action Plan of Ethiopia. Moreover, the workshop aimed at familiarizing the participants with the linkages of combating desertification, climate change and biodiversity conservation and sustainable utilization and the role of civil society organizations towards combating desertification and mitigating the effects of drought.

A total of 57 participants drawn from Federal Parliament, Oromya, Gambella and Benshangul-gumuz Regional State, including paper presenters and workshop organizers from Addis Ababa attended the workshop.

The workshop was officially opened by the distinguished representative from East Wollega Zonal Administration. Six educative papers which are relevant for awareness raising about the Convention on Combating Desertification were presented. These are:

1. An Overview on the United Nation Convention to Combat Desertification and the Status of NAP Implementation in Ethiopia;
2. The Role of CSOs (NGOs/CBOs) in Ethiopia towards combating desertification or implementing the UNCCD/NAP- Ethiopia;
3. The Need for Synergy among the Three Rio Conventions and Synergy Strategy in Ethiopia;
4. Natural Resource Status in Ethiopia and the consequence of its degradation;
5. Gender & Environment with particular emphasis on role of women in combating desertification/land degradation; and

The presentations were discussed and an interactive dialogue was conducted and comments, suggestions and questions were raised and the respective panelists delivered responses to the issues aired out by the workshop participants.

The workshop participants divided into three groups as per their respective Regional States. The discussion point of the groups was analyzing and contextualizing the various presentations made during the workshop within their respective regions and coming up with Action Plans which can be implemented by themselves without requiring additional resources. The Action Plans prepared by the three National Regional States is attached on Annex 2 of the proceedings.

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1 Regional State is Federal decentralized regional government administrative arrangement.
1. INTRODUCTION

The drylands cover about 70% of the total landmass of the country (NAP, 1998). They are prevalent mainly in the northern, eastern, central, southern and southeastern parts of the country with very wide and diversified agricultural environments and farming systems. Drylands have got paramount importance for agricultural development and overall economic growth. Moreover, drylands are home to various types of fauna and flora biodiversity resources of the country.

However, these contributions of drylands are not well recognized. This has always been detracting proper attention that should be paid in terms of facilities and investment for the management of these ecosystems, while the species in these ecological systems are significantly affected by recurrent drought conditions and encroachment for settlement, grazing and shifting cultivation.

The challenges of poverty, food insecurity, and malnutrition will continue to be greatest in the drylands due to the vagaries of climate, pervasiveness of risk, complexity of poverty, and a degrading natural resource base. Although these are problems leading to food and feed insecurity and natural resource degradation, there are also tremendous opportunities to develop the drylands in a relatively short period of time.

Ethiopia has ratified the UNCCD in June 1997 and has prepared the National Action Plan and its Road Map in 1998 for the implementation of the convention.

These proceedings are the outcome of the workshop financed by DCG-E/DCG-Norway and organized and conducted by EACD on July 3rd to 4th 2008 in Nekemte, Wollega City Administration Meeting hall under the title: "Capacity Building for Regional Council Members, Sector Offices, & Academic Institutions & CSOs of Oromya, Gambella and Benishangul Gumuz National Regional States on UNCCD/NAP in Ethiopia".

The proceedings contain the welcome and opening speeches made during the workshop; summary of the six presentations; comments, the way forward prepared by the participants, the list of workshop participants, workshop program and references.
2. OPENING SESSION

2.1 WELCOME SPEECH

(By: Dr. Menberu Lulu (EACD Board Chairperson))

On behalf of the EACD members present here I congratulate you all for coming to attend and participate in this important awareness raising workshop on UNCCD/NAP-Ethiopia.

The issue of land degradation is quite pertinent to all mankind irrespective of geographical position. Some areas which were not under desertification in many parts of the world, including Ethiopia are now slowly converting to arid, semi arid and dry sub-humid conditions. This is attributed to a number of factors such as climate change, poor land-use practices, mismanagement of natural resources, population pressure, poverty, water scarcity, natural disaster, migrations and HIV/AIDS are now regarded as critical factors that complicate the fight against desertification.

The nature of the causes of desertification requires an integrated approach towards combating desertification in the country. I, therefore, urge workshop participants to develop synergy with other sister conventions inter alia, the Convention on Biodiversity (CBD), the United Nations Framework Convention on Climate Change, Ramsar, etc.

Funding is the key to the implementation of the UNCCD at the grassroots level where many Civil Society Organizations are operating. The Global Environment Facility (GEF), Global Mechanism (GM), European Union (EU), and all other in-country donors, including international NGOs should provide technical & financial support for the implementation of the UNCCD/NAP in Ethiopia.

Dear Workshop participants,

During April 2008, we the NGOs took the opportunity in amending/revising the National Action Program (NAP) that was developed in 1998 (10 Years back). We believe that the updated NAP will remove obstacles and bottlenecks that have posed barriers to the smooth implementation of the Convention over the past ten years.

Dear Workshop participants,

I strongly believe that this workshop provides an opportunity to all of you to know about the larger environment that influences our work and the aspiration and commitment of all actors to make a difference in the lives of the poor people. It is, therefore, with this great enthusiasm and anticipation that I kindly request you all to actively participate and add value to this awareness raising UNCCD/NAP workshop.

The workshop is planned and organized in such away that government and non-government development actors participate on their own crucial issues. Different educative papers that are relevant for the purpose of the workshop are planned to be presented so that various important knowledge and experiences exchanged among workshop participants.
Dear workshop participants,

I would like you all to join me to thank and appreciate all EACD Board Members; and Ato Solomon Retta, Executive Director of EACD for the wonderful work they did in investing their precious times while organizing this workshop.

Similarly, on behalf of EACD, I strongly thank Ato Kidanu Kebede, East Wollega Zone Administrator for giving us his very valuable time to make the key-note address for this important workshop.

In this occasion, allow me to extend my appreciation to all paper presenters who took their precious times and prepared the different educative thematic papers for learning and experience sharing purposes and make the workshop live.

My sincere thank also goes to Nekemte City Administration Office for their generous hospitality in providing workshop hall within their compound with very reasonable hall rent.

Last, but not least, EACD also takes this opportunity to thank the DCG-Ethiopia & DCG-Norway for the financial support accorded to us to undertake this important awareness raising workshop for the three regional states: viz; Oromya, Gambella & Benshangul-gumuz Regional State Policy Makers/Sector Offices & NGOs representatives.

2.2 OPENING ADDRESS

The opening address was made by East Wollega Zonal Administration representative. The opening address commenced by thanking the EACD for taking the initiative and organizing this important workshop in East Wollega Zone. The workshop which aimed at bringing together the neighboring Regional States to discuss the issues of their crucial resources degradation is very timely.

The Zonal Administration representative further stated that the impact of human beings activities/struggle for survival and the regenerative capacity of the environmental resources are unbalanced as a consequence of which human beings are exposed to extreme poverty.

Moreover, the Zonal representative has pointed out that the Ethiopian government policies, strategies and programs such as: integrated approach and community centered development strategies, land use rights, organized urban development that focus on low income groups to bring fair development distribution principles will help for the attainment of the objective of the workshop. All natural resource conservation activities need to address community needs through capacity enhancement and promoting their participation to ensure sustainability.

On the other hand, lack of awareness on the urgent need of sustainably managing natural resources coupled with unbalanced population growth aggravated the land degradation problem in the country.

Therefore, the participants should make use of the recommendations of the workshop to take concrete measures towards land degradation problems in their respective regions. The

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2 Zonal Administration is higher level government Administrative Structure next to Woreda/District.
representative also invited the participants to actively participate and contribute for the attainment of the workshop objective and declared the workshop officially opened.

2.3 WORKSHOP OBJECTIVE

The overall objective of the workshop is to contribute to the development of the country at large through enhancing Regional State decision makers' & CSOs' capacity to develop Regional Action Plans (RAPs) to implement UNCCD/NAP/RAP activities on the ground while the specific objectives are: to enhance knowledge (through awareness raising activities) of the above mentioned potential stakeholders to better understand the UNCCD and the updated National Action Program (NAP) implementation on the ground; and to enhance better coordination amongst all relevant stakeholders to effectively and efficiently implement UNCCD/NAP/RAP activities on the ground.
3. PAPER PRESENTATIONS

3.1 AN OVERVIEW ON THE UNITED NATION CONVENTION TO COMBAT DESERTIFICATION AND THE STATUS OF NAP IMPLEMENTATION IN ETHIOPIA

(By Ababu Anage, Federal Environmental Protection Authority, Addis Ababa, Ethiopia)

3.1.1 Status of land degradation in Ethiopia

The presentation started by providing an overview on the status of land degradation in Ethiopia. Land degradation, especially in the drylands, is the major cause of desertification and a serious problem for the country. Land degradation results mainly from improper and over-use of land resources, deforestation, overgrazing and the expansion of farming into unsuitable land. These problems are linked to natural factors (e.g. topography, type of soil, rainfall intensity), socioeconomic factors (e.g. population pressure, poverty, etc.).

400 tons of fertile soil per hectare are lost annually from land with insufficient vegetation cover and where no effective soil conservation measures have been carried out (SOE, 2003). It is also estimated that the amount of soil that the country loses annually due to water and wind erosion reaches 1.5 billion to 1.9 billion tons (SOR, 2003).

Women are the major victims from the spread of desertification and thus the paper elaborated their roles in natural resources management and how desertification affects them. Women are the primary managers and users of a variety of natural resources, most notably fuel wood and water. Their roles and decisions in food crop production and a variety of other agricultural activities have a direct bearing on soil erosion and fertility, water infiltration and retention, and waste and by-product recycling. Land and water resources degradation reduce the availability of water and fuel wood resources requiring women to walk long distances and carry heavy loads. This prohibits women from benefiting from other income generating activities. Therefore, the task of ensuring environmental sustainability calls for the empowerment of women especially to enable their full participation in environmental decision making, and resource ownership and management as well as to promote off-farm income generating programs which aim to alleviate poverty, especially amongst women headed households.
Following to the elaboration of land degradation problem in Ethiopia the presentation discussed the contents of the United Nations Convention to Combat Desertification.

3.1.2 Overview of the UNCCD

Objective: 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.

Principles: The principles of the Convention include among others: participation of populations and local communities; creation of enabling environment; spirit of international solidarity and partnership; develop cooperation among all levels of government, communities, non-governmental organizations; special needs and circumstances of affected developing country Parties, particularly, the least developed among them, etc.

Ratification process: In 1992, the UN General Assembly, as requested by the UN Conference of on Environment and Development, adopted resolution 47/IBB calling for the establishment of an Intergovernmental Negotiating Committee for the elaboration of a Convention to Combat desertification in the countries experiencing serious drought and/or desertification, particularly in Africa. The Convention was adopted in Paris, on 17 June 1997 and opened for signature there on 14-15 October, 1994. To date the Convention has got 191 parties.

General provisions: The general provisions which apply for the entire CP include among others: adopt an integrated approach addressing the physical, biological and socio-economic

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3 United Nations Convention to Combat Desertification in Those Countries Experiencing drought /Or Desertification particularly In Africa Text
aspects of the process of desertification and drought; integrate strategies for poverty eradication into efforts to combat desertification and mitigate the effects of drought; strengthen subregional, regional and international cooperation, give the priority to combating desertification and mitigate the effects of drought and allocate adequate resources in accordance with their circumstances and capabilities; address the underlying causes of desertification and pay special attention to the socio-economic factors contributing to desertification processes are some of the obligations of the affected country parties.

**Regional Implementation Annexes:** Regional implementation Annexes for Africa, Asia, Latin America and the Caribbean and Northern Mediterranean. The implementation Annex for Africa has been elaborated under 19 articles while Asia, Latin America and the Caribbean and Northern Mediterranean implementation Annexes are discussed under 8.7 and 10 respectively.

The paper, after discussing the overview of the UNCCD dealt with the new phenomenon in the history of the Convention, i.e. Ten years Strategic Plan of the Convention.

### 3.1.3 Ten years Strategic Plan of the UNCCD

The Ten Year Strategic Plan and Framework to enhance the implementation of the UNCCD (2008-2018) was approved in the 8th Conference of the Parties meeting held in Madrid, Spain. The Strategic Plan has got Vision, Mission Four Strategic Objectives; Five Operational Objectives, Implementation Framework and Performance Monitoring and each one of them are here under discussed in detail.

**Vision:** To forge a global partnership to reverse and prevent desertification /land degradation and mitigate the effects of drought in affected areas to support poverty reduction and environmental sustainability

**Mission:** To provide a global framework to support the development and implementation of national and regional policies, programs, and measures to prevent, control and reverse desertification /land degradation and mitigate the effects of drought through scientific and technological excellence, raising public awareness, standard setting, advocacy and resource mobilization, thereby contributing to poverty reduction

**Strategic objectives:** The four strategic objectives are: to improve the living conditions of affected populations; to improve the conditions of affected ecosystems; to generate global benefits through effective implementation of the UNCCD; to mobilize resources to support implementation of the Convention through building effective partnership between national and international actors.

**Operational objectives:** The five operational objectives are: Advocacy, Awareness Raising and Education, Policy Framework, Science, Technology and Knowledge, Capacity Building and Financing and Technology Transfer.

**Implementation frameworks:** The implementation framework elaborates the roles and responsibilities of the UNCCD institutions, partners and stakeholders in meeting the above mentioned objectives. These include among others: Committee on Science and Technology

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4 Ten Year Strategic Plan and Framework to Enhance the Implementation of the UNCCD (2008-2018)
Drylands Coordination Group (CST); the Committee for the Review of the Implementation of the Convention (CRIC), the Global Mechanism (GM), the Secretariat, Secretariat and GM Coordination.

Performance monitoring: Indicative Indicators for the attainment of the Strategic Objectives which are being selected from the GEF land degradation focal area strategic objectives, MDG and CBD 2010 Target have been developed. These global indicators will be further refined by the CST.

Operational objectives indicators pertaining to Parties implementation are to be developed within the follow up of the IIWI and reviewed by the CRIC.

Indicators pertaining to UNCCD institutions are to be developed as part of the Result Based Management frameworks to be developed by these institutions.

3.1.4 Implementation status of the convention in Ethiopia

Ratification and Implementation Status of the UNCCD/NAP-Ethiopia
Ethiopia has ratified the United Nations Convention to Combat Desertification (UNCCD) through the Proclamation No. 80/1997 in June 1997; and the Environmental Protection Authority (EPA) is the national focal institution for this Convention. Ethiopia has made significant strides to implement the convention and implementation status of the convention in the country is described hereunder.

Formulation of the National Action Program (NAP) to Combat Desertification: This program was formulated to implement the UNCCD in 1998, and the Program was prepared in three volumes namely: The State of Natural Resources in Arid, Semi-Arid and Dry Sub-Humid Areas (VOL. I), Evaluation of Measures Taken to Combat Desertification (VOL II) and Gap Analysis and Proposed Approaches to Combat Desertification (VOL III). The NAP has identified the following 10 priority areas: Promotion of people’s participation in sustainable development and management; improving knowledge on drought and desertification; improving the socio-economic environment; improving basic infrastructure; promotion of alternative livelihoods; intensification of agriculture; improving institutional organization and capacity; empowerment of women; management of natural resources leading to sustainable development and promotion of awareness on drought and desertification.

Enhancing NGO/CBO involvement in the nap process:
The Ethiopian NGOs/CBOs Network on Desertification was formally established on December 1st 2001. Currently, this Network has been legally established as an Association.

Development of gender mainstreaming strategy for the NAP:
A document to mainstream gender strategy into the NAP has been prepared.

Country reports:
Ethiopia has prepared and submitted three national reports on the implementation of the UNCCD/NAP-Ethiopia to the UNCCD Secretariat and concerned stakeholders.

Mainstreaming of the UNCCD/NAP

Environmental problems are crosscutting issues that influence a wide range of economic, social and political activities. Because of this, the Ethiopian Government has made various strides, including the adoption of the Environmental Organs Establishment Proclamation (2002) which states the need for the establishment of environmental organs both at the Federal and Regional Government organizations. This is to enable the coordination of environmental activities, including combating desertification and mitigating the effects of drought, elimination of duplication of resources, and the enhancement of dissemination of environmental information through networking. It is also to enable the integration of the sustainable development principles into policies, programs and projects and monitoring implementation with a view to reversing the loss of the environmental resources and to use them sustainably. The Federal EPA, Regional EPAs and the Environmental Units in the sectoral agencies both at the federal and regional levels are regulatory bodies and as such their main task is to ensure the environmental sustainability of various development interventions. However, due to the non-existence of the environmental units in most sectoral agencies, absence of integrated and reliable information systems and networks, there is no yet well functioning coordination mechanism through which the Federal EPA can effectively influence the public sector institutions. Cognizant of this fact, the Government of Ethiopia in its recently prepared document entitled the Plan for Accelerated Sustainable Development to End Poverty (PASDEP) has included, among others, the following interventions to address environmental issues in the next five years (2006-2010).

- Development of environmental impact assessment guidelines for major projects, plans and programs;
- Establish and/or Enhance capacity of environmental units and regional environmental bodies to ensure environmental sustainability of development initiatives;
- Mainstream the National action Plan (NAP) for combating desertification and drought into the PASDEP;
- Putting in place a system for environmental information management;
- Promote environmental education and awareness through among others environmental clubs and at the public through the mass media and publication produced for the purpose.

**National Capacity Needs Self Assessment for Environmental Management Program (2006)**

The objective of the program was to assess the required capacity for enforcing MEAs, issued environment related policies and laws and arresting major environmental problems of the country. The Program has been coordinated by the Federal Environmental Protection Authority and all Regional States and City Administrations have been involved and they have undertaken assessment on their respective capacity requirements for environmental management and produce, similar like that of the Federal Level Assessment, three volume reports, namely Stocktaking, Capacity Needs Assessment and Action Plan. The assessment was also being undertaken at the selected sectoral institutions at the Federal level and finally consolidated as National Capacity Needs Self Assessment document (Four volumes produced).

**Productive Safety Net Program: Promotion of Alternative Livelihood Systems**

The safety net program is intended to serve a dual propose One is to help bridge the income gap of chronically food-insecure households, and the second is to engage such households in community based asset building exchange for the income they earn.
The program is designed to address the needs of about 4.8 million chronically food-insecure people in 267 Woredas. The overall development objective is to improve the efficiency and productivity of transfers to food insecure households, reducing household vulnerability improving resilience to shocks, and to provide multi-annual and predictable resources. The program has two components: labor-intensive public works and direct support for labor-poor households.

Conservation of Natural Resources and Reclamation of Areas Affected by Desertification
With the participation of all concerned stakeholders, various activities have been carried out throughout the country in combating desertification and mitigate the effects of drought. The major activities are: rehabilitation of degraded patches of remnant forest areas through enrichment planting and enclosure by local communities; based on the investment policy of the country, eco-tourism based investments have been promoted by local and private investors; the introduction and dissemination of fuel saving stoves and utilization of renewable energy sources (solar, wind etc); moisture conservation and utilization, which include water harvesting, small-scale irrigation; area closure and a forestation programs in different parts of the country notably in Amhara and Tigray National Regional States being carried out.

Development and Implementation of Programs on Drought and Desertification
Various programs and projects, which directly contribute in combating desertification and mitigating the effects of drought, have been formulated and implemented. Some of the main programs are depicted here under

Food Security Program (FSP)
The food security program is financially supported through safety net program of the donor community. The food security program comprises of environmental rehabilitation schemes relevant for combating desertification, such as, area closures; water harvesting, small-scale irrigation and other labor-intensive public works.

Improving the Role of Science and Technology
The National Science and Technology Policy addresses a number of science and technology issues that promote sustainable development and proper management of the environment in the country. The government has also taken measures to create conducive environment to scientists and technologists. Incentive mechanisms for scientists and technologists have also been put in place and scientists are more encouraged to come up with different project proposals. The collection and characterization of the country’s flora and fauna, collection of the principal vegetation types, dynamic change and land use and ecological restoration of the central plateau of the country are some of the on-going projects relevant to combating desertification and mitigating the effects of drought.

Improving Agricultural Research
The Dry Land Agricultural Research Directorate established within Institute of Agricultural Research (IAR), focuses on issues of dry land agriculture that includes crop, livestock (Pastoral and agro-pastoral research programs), soil and water conservation, forestry and others in a holistic approach by conducting basic and applied research.

Strengthening National Institutional Arrangements on Drought and Desertification
National Institutional Arrangements in Government and other institutions, which have significant contributions to combat desertification and mitigate the effects of drought, has
been established. These include among others: the establishment of Environmental Protection Authority, Regional Environmental Agencies, three Sectoral Environmental Units (Proclamation No.295/2002). As per the same proclamation Environmental Council has been established which oversee EPA’s activities, as well as the activities of sectoral agencies and environmental units with respect to environmental management.

The Proclamation for the reorganization of the Executive Organs of the Federal Democratic Republic of Ethiopia, Proclamation No. 256/2002 established Ministry of Capacity Building. Under the National Capacity Building Program, there are currently 14 sub-programs.

Ministry of Federal Affairs (MoFA) assists Gambella, Afar, Benshangul and Somalia Regional States through trainings in policy issues to regional leaders as well as the public at large. It also strives to enhance their capacity, maintain peace, and promote development, conflict management, social and environmental awareness, etc.

Other Combating desertification relevant institutions have been established at the Federal and regional levels with their respective replicas at the Regional levels. These include among others: Ministry of Agriculture and Rural Development, Ministry of Infrastructure Development Ministry of Water Resources Ministry of Education, National Meteorological Agency, etc

National Policies and Legislation Measures
The most important Policies and Legislations issued by the government and which are relevant for combating desertification and mitigate the effects of drought include among others: the Constitution of the Federal Democratic Republic of Ethiopia (Proclamation No.1/1995); Agricultural and Rural Development Policies and Strategies (March 2002); Regional Governments Establishment Proclamation (RGEP) (Proclamation No. 41/1993); The Environmental Policy of Ethiopia (April 1997); Food Security Strategy (March 2002); Ethiopian Water Sector Strategy(2001); Rural Land Administration and Use Proclamation (15th July 2005); Environmental Impact Assessment (EIA) Proclamation and Guidelines(No.299/2002).

NAP and Road Map updating
The updating process mainly has focused on incorporating policies and laws changes and the alteration of institutional arrangement since the formulation of NAP and its road Map. Moreover, recently undertaken studies and relevant for combating desertification have been used for updating some national figures. These documents include among others: Woody Biomass Inventory and Strategic Planning Project deliverables, Consolidated National Capacity Needs Self Assessment for Global Environmental Management, Biodiversity Strategic Action Plan, Plan for Accelerated Sustainable Development to End Poverty, etc.

Besides to this, new policies and laws developed have been incorporated in the updated NAP and Road Map and these include among others: Rural Land Administration and Land Use Proclamation, Licensing and supervision Micro financing Institutions Proclamation, Micro and Small Enterprises Development Strategy, Wild life Development, Conservation, Utilization Policy and Strategy, etc.

Taking into account some of encouraging results from piloting exercise by EPA and Regional EPAs on Community Based Natural Resources Management, additional actions have been incorporated in volume three of NAP of which the following actions are worth mentioning:
Priority Area: to Improve Institutional Organization and Capacity

Building capacity, particularly at community levels, to make possible the planning and implementation of local level projects for combating desertification and mitigating the effects of drought as well as assessing and monitoring the impacts of drought which include among others: training farmers and pastoralists on how to organize themselves and develop community bylaws, identify environmental problems in their localities, prepare action plans, implement and assess and monitor their own local level projects. Capacity building of regional and federal institutions will also be required (e.g. early warning systems). Actions in this area include: Strengthening and making functional existing environmental and natural resources and others related institutional mechanisms for NAP implementation as well as empowering local level institutions. Defining with the communities their tasks with regard to the sustainable management of soil and water resources and promoting the development of local level community rules and regulations that deter misuse of soil and water resources; building of capacity for local decision-making through:

- The holding of workshops or community discussion sessions in which ideas about democratic processes of public formation are addressed;
- Problem-solving exercises, case studies and role-play about situations in which communities find themselves. These kinds of strategies can be very effective among women's groups and among farmers associations.

Priority Area: Promoting Alternative livelihoods

- Encourage Carbon Trading in line with the enforcement of CDM under the Kyoto Protocol;
- Development of handicrafts and local cottage industries based on local under utilized resources such as lowland bamboo, (Oxynamthera abyssinica), reeds (Phragmites communis, Papyrus sp.) dyes and tanins (Lasonia enermis), castor (Recinus communis)

Priority Area: Intensification and diversification of Agriculture

- Discourage free grazing in selected areas based on research where appropriate.
- Promoting site-specific socio-economic and technical research before incorporating innovations into local farming systems to understand the impacts of introducing innovations on local livelihood systems and the natural environment;

The updated NAP documents and Road Map have been presented at the National Consultative Workshop which has taken place on April, 2007 and the comments and suggestions being made at the workshop have been incorporated.

Finally the paper concluded by indicating critical challenges and constraints as well as conclusion.

3.1.5 Challenges and constraints

Ecological Challenges and constraints

The ecological setting of the country (i.e. mountainous landscape, undulating and gently rolling areas) and the continuous clearing of vegetation cover as well as encroachment of exotic and invasive alien specie have exacerbated the land degradation process in Ethiopia. Land degradation leads to the deterioration in the quality of soil resources, which is manifested in terms of soil nutrient depletion, fertility loss and low productivity.
Land degradation has also got an impact on the quality and quantity of water resources. Many perennial springs, streams and rivers have become seasonal; or they are in the process of drying up because of human and environmental phenomenon, including siltation and sedimentation problems. In addition, limited moisture and extreme temperature variation in the arid and semi-arid parts of the country significantly contribute to the frequent food deficit and famine in these areas.

**Socio-Economic Challenges and Constraints**

Basic infrastructural developments such as transport and market facilities, telecommunication, post offices, etc. are lacking or not sufficient in most part of the dryland areas. In addition, the risk bearing capacity of the Ethiopian farmers is very much limited, because of their knowledge and exposure to modern technology is very much restricted. In the perception of the Ethiopian farmer, increased production is still a derivative of increased acreage. Beliefs and customs deeply entrenched in rural Ethiopia exacerbate the situation. For example, keeping a high number of cattle is taken as the sign of wealth and prestige. This situation deteriorates the carrying capacity of the rangelands and forces the pastoralists to encroach into protected areas.

**Information Exchange Challenges and Constraints**

The Environmental Policy of Ethiopia has recognized the need for sufficient and credible environmental information for effective environmental protection and management. To expedite the process of establishment of the environmental information system of the country, Environmental Protection Authority has established Environmental Information Center (EIC) as one of its functional units. However, the center has not yet established its own database to avail environmental information.

Ethiopia being a federal state and big in area, establishment of environmental information system to link with the Regional States and key federal level government institutions with FEPA is very essential for monitoring and surveillance of desertification status in the country. However, this system is not yet in place in a manner to serve this purpose.

**Human Resources and Institutional Challenges and Constraints**

Availability of capable and functioning institution is a prerequisite for combating desertification and mitigating the effect of drought. The Institutions responsible for various combating desertification related activities were suffering from repeated restructuring. This has created among others: displacement of personals, loss in momentum of the already started activities, loss of documentation, etc. The other challenge in connection with the institutional arrangement is lack of strong coordination mechanism among the institutions involved in combating desertification and mitigates the effects of drought in the country.

Lack of adequate skilled manpower in the natural resources management in particular and environmental resources in general are also serious challenge in our effort of combating desertification and mitigate the effects of drought.

**Policy Challenges and Constraints**

The Environmental Policy of Ethiopia exclusively addressed the problem of land degradation and/or desertification and its impacts on the socio-economic well being of the population of Ethiopia in particular and the environment in general. As discussed in the previous chapter, the Ethiopian government has issued various combating desertification relevant cross sectoral
and sectoral policies, strategies proclamations. The major challenge is capacity constraints for enforcing the issued policies and laws.

3.1.6 Conclusion
In order to combat desertification and mitigate the effects of drought, the government of Ethiopia, in collaboration with its development partners and civil societies has undertaken various measures which include among others: policy, institutional, awareness raising, soil and water conservation, afforestation and reforestation, capacity building programs.

However, the magnitude of the problem still necessitates further coordinated efforts of the relevant stakeholders towards combating desertification and eradicating poverty. To this effect, we should work towards relaxing our multi faceted environmental management capacity building related problems to combat desertification and bringing sustainable development in the country.

Therefore, to this effect, all the stakeholders both at the Regional and Federal level should work together in alleviating the capacity gaps in the areas of environmental information and networking, environmental education and awareness, collecting and availing environmentally sound technologies and practices, development of proactive environmental management tools and empowerment of community.

Figure 2: Representative from Oromia Forest enterprise giving comments and suggestions

3.1.7 Discussion and reflections on Mr. Ababu Anagie's presentation
Question 1: How far the existing environmental policy is practically implemented?
Response: Policy by itself can not be implemented. Policy is just showing direction. What are implemented are the curious laws and programs which are developed in line with the Environmental Policy of Ethiopia. To this effect, various programs and plans are under implementation as I have discussed in my presentation. But when we compare the measures being undertaken with the extent of the problem we need to work hard and more efforts are required. The responsibility of EPA is coordination and monitoring of implementation of the regional strategy and pilot programs.

Question 2: Do you think only awareness creation will suffice for sustainable forest resources utilization in the country? What about provision of alternative energy sources?
Response: As far as demand exists for energy, construction and other uses, utilization of forest resources is a must and agricultural expansion is one of the critical issues; thus we
should look for alternative means, like use of compost, biogas, electricity. For example it is impossible to stop the use of charcoal unless we have alternatives for farmers, even we ourselves who are relatively aware of the problem used to purchase charcoals from charcoal makers and transport them to centers.

Question 3: What is planned as a way forward after the workshop?
Response: After this workshop, each region will prepare its respective action plan to be realized within its respective institutions by mobilizing financial resources and capacity enhancement.

Question 4: What is your opinion in terms of developing UNCCD implementation strategy at all levels in the country?
Response: The implementation strategy of the Convention developing NAP in a participatory manner and implement it at all levels. The NAP has been prepared in a participatory manner. However its implementation is facing various challenges as has been discussed on the challenges section of my presentation. The best strategy of implementing NAP is through community empowerment for environmental protection and improved livelihoods.

Question 5: How do we promote forest resources protection vis-a-vis investment permission?
Response: The natural forest degradation is increasing rate due to the new settlement program and other investment activities in the natural forest areas. In principle, investment and environmental protection should be complementary to bring sustainable development in the country. For this to happen Environmental Impact Assessment Proclamation has been issued. However, the lack of capacity at all levels has hindered the effective implementation of the Proclamation and therefore we need to strengthen the capacity at all levels. Promotion of Joint Forest Management approach which ensures the full involvement and benefit sharing of the local communities is very important. What has been started in the Ormia Regional state is very encouraging the establishment of Forest Enterprises.

Question 6: How do we understand the developed member countries support to the poor countries with regard to the implementation of the convention?
Response: As per the Convention the developed world should support the developing countries in their efforts of combating desertification and mitigate the effects of drought. To this effect, some developing countries are serving as chief defile for affected African Country Parties. The Sustainable Land Management Program under preparation by MoARD is an example for bringing all the Bilateral and Multi Lateral Agencies for combating land degradation and promoting Sustainable Land Management.

3.2 THE ROLE OF CSOS (NGOS/ CBOS) ON UNCCD/NAP IMPLEMENTATION IN ETHIOPIA (By: Dr. Menberu Lulu)

The paper presenter highlighted how the convention gives high leverage for the participation of Civil Society Organizations (CSOs), including Non-Governmental Organizations (NGOs) and Community Based Organizations (CBOs) for combating desertification & mitigating the effects of droughts. Environmental Protection Authority, being the Focal Institution for the convention, assisted the NGOs and CBOs to establish their own civil society networks and coalitions in the country. Accordingly, the Ethiopian Association for Combating Desertification (EACD) was established on the basis of the convention in September 2005 as NGOs/CBOs Network for combating desertification.
The paper presenter also indicated that Ethiopia has formulated the country’s National Action Program (NAP) with the involvement of relevant stakeholders in the country including NGOs and Civil Society Organizations. The EACD, the NGOs/CBOs Association, have significantly contributed and played a major role during the preparation and formulation of the NAP.

3.2.1 Principles of the CCD
The paper presenter highlighted Article 3 of the Convention that states, among others, the following principles of the convention:

*Local participation and the creation of an enabling environment.*
The Parties should ensure that decisions on the design and implementation of programs to combat desertification and/or mitigate the effects of drought are taken with the participation of populations and local communities and that an enabling environment is created at higher levels to facilitate action at national and local levels;

*Cooperation and coordination at all levels.*
The Parties should, in a spirit of international solidarity and partnership, improve cooperation and coordination at sub-regional, regional and international levels and better focus financial, human organizational and technical resources where they are needed;

*Cooperation among all stakeholders.*
The Parties should develop, in a spirit of partnership, cooperation among all levels of government, communities, non-governmental organizations (NGOs) and landholders to establish a better understanding of the nature and value of land and scarce water resources in affected areas and to work towards their sustainable use.

The paper also emphasized that as far as local communities and other stakeholders participation is concerned in implementing the UNCCD/NAP, the Convention clearly states that:

- The NAP must adopt a democratic, bottom-up approach.
- This focus is based on the lessons learned of past programs that often failed because their design made little reference to the perceptions and capacities of local people,
- Full and active participation of local communities, both men and women, at all levels in the country’s action programs, including:
  - The programs should focus on popular participation and the creation of an enabling environment designed to allow men and women smallholders, pastoralists, and other local land users who have the most intimate contact with the land to help themselves to reverse land degradation.
  - Decisions on the design and implementation of programs should be taken with the participation of local communities.
  - An enabling environment is created at higher levels to facilitate action at national and local levels.
  - Non-Governmental Organizations (NGOs) could play a key role in the country’s action programs, as the NGOs have generally extensive experiences working at grassroots level and supporting communities in implementing local projects and in building their technical and organizational capacities playing a key role in the country’s action programs.
3.2.2 Ethiopia’s national and regional action programs: lessons learnt

The NAP is mainly limited to the national level without deep penetration into regional and local levels as expected. It was also further stated that the NAP implementation is limited by a significant lack of funds from donors and other sources and an inadequate identification of the roles and responsibilities of different stakeholders, such as Government Organizations (GOs), NGOs and Community Based Organizations (CBOs).

DCG evaluation/study in 2001 under the title: “Civil Societies”

Participation in the NAP to Combat Desertification & mitigate the effects of drought in Ethiopia reveals that local rural communities should not only be the main beneficiaries but also the main decision-makers and implementers of the UNCCD/NAP and RAP at local community level in Ethiopia.

In view of the above, the 2001 DCG study recommended that the local rural communities should be the most important target groups in the UNCCD/ NAP process. Therefore, they should:

- Receive information about NAP actions and appropriate technologies for combating desertification;
- Get assistance from local administration (Woreda/District), technical staff from Sector Development Offices and relevant NGOs;
- Decide, with the assistance of technical services and NGOs, on types of technical assistance required for project design, implementation, and monitoring and evaluation; and
- Receive technical training for project design, implementation, and monitoring and evaluation.

3.2.3 Environmental networks/forums/associations vis-à-vis UNCCD activities

The paper highlighted that in order to foster NGO participation in UNCCD related activities, currently; several NGOs have established Environmental Networks in Ethiopia. Important Networks, include among others: the Drylands Coordination Group (DCG-Ethiopia); Ethiopian Association for Combating Desertification (EACD); Forum for Environment (FFE); and Forum for Social Studies (FSS).

The role of EACD and its relation to the UNCCD

EACD was established as an Association through the active involvement and support of the UNCCD as Ethiopian Government Focal Point, the Environmental Protection Authority (EPA). Since its establishment, EACD has actively participated in the formulation of the National Action Program (NAP) being a member of the National Steering Committee (NSC) of NAP preparation and is also currently working closely with the EPA as well as DCG-Ethiopia.

EACD is currently serving as the National UNCCD Focal Point for Ethiopia’s NGOs and CBOs with the aim to assure an increased involvement of relevant NGOs and CBOs in the

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6 Woreda Administration is the higher level government Administrative Unit equivalent to District or next to Kebele Administration and Kebele Administration is the lowest government Administrative Unit in Ethiopia.
implementation of the UNCCD/NAP activities. It serves also as Focal Point for the IGAD Sub-Region Riod.

Future role of NGOs & CBOs in the NAP & RAPs in Ethiopia

According to the DCG study made on "CSOs participation in the NAP to Combat Desertification & mitigate the effects of drought in Ethiopia-Assessment & Recommendations, DCG Evaluation, 2001", the roles and responsibilities of NGOs at community level should be:

- Provide local communities with information about the UNCCD and appropriate technologies to combat dryland degradation and desertification; and
- Assist local communities and Woreda/District technical services in the identification of the types and methodologies of technical assistance required, and support them in project design, implementation, and M & E.
- Strengthen the National Focal Point of the NGOs /CBOs, the EACD, by mobilizing funds to strengthen their organizational capacities to implement NAP;
- Strengthen its Networking activities that will promote participation of all relevant NGOs and CBOs in NAP implementation at all levels;
- Create Forums for learning & experience sharing on UNCCD/NAP implementation,
- Establish an effective information exchange system to promote NAP awareness as well as NAP implementation capacity within the NGO community; and
- Assist in the promotion and strengthening of the development of CBOs and include these in the NGO/CBO National Focal Point, the EACD.

3.2.4 Discussion and reflections on Dr. Menberu’s presentation

Question 1: How could EACD support, in awareness creation, to government and other stakeholders on the current status of natural resources condition in Ethiopia? And how could we go beyond awareness creation and get funds for practical work, otherwise, farmers still continue cutting trees in search of farmlands?

Response: CSOs in general can play great role in community mobilization as well as both technical and financial resources mobilization through creation of linkages and networking efforts. EACD can also play its great role in awareness raising activities on natural resources conservation starting from top to down (from parliament to local or vice versa) through self initiation and cooperation with other like minded organizations. The use of media is also very vital to strengthen and disseminate further the awareness creation outcomes and increase the outreach in this regard.

3.3 THE NEED FOR SYNERGY AMONG THE THREE RIO CONVENTIONS AND SYNERGY STRATEGY IN ETHIOPIA

(By: Shimelis Fekadu Head, Planning and Programming and GEF Coordinator Federal Environmental Protection Authority)

The paper started by reiterating the objectives of the three Rio Conventions. Accordingly, the objectives of the Convention on Biological Diversity are the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising from commercial and other utilization of genetic resources. The UNCCD aims to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective actions at all levels, supported by international co-operation and partnership arrangements, in the framework of an
Workshop on Capacity Building for Regional Council Members

integrated approach which is consistent with Agenda 21, with a view to contributing to the achievements of sustainable development in affected areas. The UNFCCC objectives are to stabilize greenhouse-gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, within a time-frame sufficient to allow ecosystems to adapt naturally to climate change; to ensure that food production is not threatened; to enable economic development to proceed in a sustainable manner.

Following the elaboration of the three Rio Conventions, the paper discussed the different forms of challenges and constraints for the synergistic implementation of the three Rio Conventions in the country and the need for synergy.

3.3 Challenges and constraints

Available and Access to Quality Environmental Information

Even though the Environmental information is incorporated as one of the cross sectoral policy provisions in the Environmental Policy of Ethiopia which was approved in 1997, there is no approved national environmental indicator. System of collection, analysis, storage and dissemination is lacking. Interagency network of environmental information exchange and national environmental reporting is poor. Therefore, it is utterly difficult to tell the state of environment of the country with any level of accuracy. Likewise, information exchange between the Convention Focal Points and the implementing key partners is not adequate. Thus, there is hardly a coordinated action at national and local levels.

Institutional Challenges and Constraints

Ironically, the institutions responsible for various components of the conventions often suffer of restructuring. Displacing personnel, merging or splitting of institution or functional units, often time leads to loosing momentum of the process of implementation conventions, loss of documentation may lead to difficulties in resuming. Issues pertinent to each convention have been addressed in fragmented and narrowly focused manner. The conventions are not yet fully mainstreamed into the National Development Programs/Projects. This in turn has affected the process of fulfilling the country’s obligations.

Enforcement Challenges

Policy implementation is a standing challenge in Ethiopia. Action plans for the implementation and domestication of the Rio Conventions are poorly implemented. Poor integration of the conventions into the broader national and regional development plans and programs postures the conventions implementation as standalone objective. Polices and action plans are poorly popularized and mainstreamed into the existing relevant policies at all levels of government and, thus, failed to bring about active involvement of the regional governments and sector institutions.

3.3.2 The need for synergy

The conceptual grounds for Synergy

It is possible to illustrate synergy among the three Rio Conventions considering the environment from system perspective. The environment (natural, social, political or other) is a system. A system has components, interactions/linkages, interfaces, a boundary, and other characteristics and so does the natural environment. Land, water and atmosphere are components of the environment that interact in a variety of ways manifested in process such as desertification, the hydrological cycle, weather, photosynthesis, the carbon cycle, etc. A system has sub-systems too, which by themselves could be systems on their own. The climate system, ecosystem, biosphere, hydrosphere, cryosphere, lithosphere, geosphere or any other
sub-system of the natural environment is clear manifestations of that. Therefore, with the system's approach, it is apparent that there is a natural cause for seeking/having synergies among the different components of the environment.

**Desertification and Biodiversity**
Land degradation is the major factor for the spread of desertification and one of the principal causes of the loss of biodiversity resources. Some of the manifestations and derivers of land degradation such as destruction of natural vegetation, particularly forests, woodlands and other wildlife resources, leading to the loss of both flora and fauna. Some wild relatives of cultivated crops are also threatened by such habitat destruction. Loss of vegetation is one of the major factors for desertification, and desertification prevents regeneration of the vegetation and which in turn is a threat to the conservation of biodiversity resources. These phenomena represent both the mechanisms of biodiversity loss and desertification.

**Desertification and Climate Change**
Forests comprise the largest carbon reservoir per unit area of soil surface, and their sink function is very effective. On the other hand, one of the mechanisms of desertification, deforestation, functions as source of emission for carbon dioxide and reduces the potential of vegetative cover for CO₂ storage. By removing this cover, deforestation reduces the water retention capacity of the soil and increases soil erosion. This, in turn, can lead to changes in the weather patterns of surrounding areas, and increases the risks associated with climate change. Thus, the sustainable management and use of forest could, among other things, help limit global warming. On the other hand, frequent drought and increasing temperature will accelerate the process of desertification and exacerbate the effect of drought and desertification.

**Climate Change and Biodiversity**
Many observations and analysis have confirmed that changes in climate over the last few decades of the 20th century have already affected biodiversity. According to the UNDP Human Development Report (2007), all predicted species extinction rates accelerate beyond the 2°C threshold increase of global temperature, with 3°C marking the point at which 20–30 percent of species would be at ‘high risk’ of extinction. Coral reef systems, already in decline, would suffer extensive ‘bleaching’ leading to the transformation of marine ecologies, with large losses of biodiversity and ecosystem services. This would adversely affect hundreds of millions of people dependent upon fish for their livelihoods and nutrition.

**Institutional Rationale**
At the top of the political hierarchy of Ethiopia “House of Peoples Representatives”, there is a Standing Committee for “National Resources and Environmental Protection Affairs”. The Committee is entrusted with the power, among others, to approve laws and policies, closely follow-up and monitor the annual plans of four federal institutions (EPA, MoWR, MoM and Ethiopia Geological Survey).

The “Environmental Council”, which is chaired by the Prime Minister, looks after the review of proposed environmental polices, strategies, and laws. It also review and approve directives, guidelines, and standards prepared by the Environmental Protection Authority (Federal Negarit Gazeta, 9th year, No, 7, 295/2002). The Council comprises relevant federal sector ministries, National Regional Representatives, NGOs, and private sector representative. While environmental units and regional environmental organs are also part of the national environmental institution, this will provide an ideal platform for cross sectoral coordination of environmental affaires including synergy of the conventions.
Operational Rationale

Operational rationale focuses on the practical measures to address synergy among the three conventions during implementation. Some of the operational concerns include those expected during conservation; mitigation, adaptation, as response to changing environment. However, it is primarily important to grasp the central idea that these concepts convey. According to the 'Conservation Strategy for Ethiopia' (CSE), conservation is understood as to keep natural resources from being lost by using them to produce more resources so that we may afford to give them their due protection"-(EPA and MEDAC, 1997). Therefore, at the core of conservation, there is sustainable utilization, while sustainability is the most preferred action by all the three conventions.

In the context of climate change, adaptation is described as, "Any actions and policy measures undertaken to adjust to or ease the adverse impacts of climate change" (GEF/C21/Inf.10, April 29/2003). The same model can be applied to addressing biodiversity or desertification issues. The same actions and resources are equally important to address the challenges in the biodiversity conservation or combating desertification and mitigating its effect.

In order to bring the synergistic implementation of the three Rio Conventions the paper has summarized the common provisions from the Conventions texts as follows:

3.3.3 Common provisions of the three conventions

The Rio conventions share common concerns for many environmental and sustainable development issues, the conventions also contain numerous mutually reinforcing provisions. In particular, they have similarity in terms of standard obligations required by their Parties such as requirements for research, reporting, training and public education and awareness. The need for capacity building stands out also as an important crosscutting theme among conventions. Advocated measures by the conventions include the elaboration of national and regional programs, scientific data collection, and involvement of the same actors in the participatory process can also duplicate each other.

This initiative is being developed with the understanding that country Parties to the three Rio conventions have time and again called for avoidance of duplication of efforts and a more efficient and cost-effective implementation process.
### Table 1: Linkages and complementarities: Overlapping requirements of the parties to the Rio Conventions

<table>
<thead>
<tr>
<th>Thematic Area</th>
<th>Climate Change</th>
<th>Biological Diversity</th>
<th>Desertification</th>
</tr>
</thead>
<tbody>
<tr>
<td>National and Regional Action Plans</td>
<td>Article 4.1 (b), (e) &amp; (f)</td>
<td>&quot;Strategies: Article 6&quot;</td>
<td>Articles 9,10</td>
</tr>
<tr>
<td>Identification, National Inventories, Data Collection and Monitoring</td>
<td>Articles 4.1(a), and 5(a) &amp; (b)</td>
<td>Article 7</td>
<td>Article 16</td>
</tr>
<tr>
<td>Areas of Special Concern /Develop Protected Areas</td>
<td>Article 4.8</td>
<td>Article 8</td>
<td>Articles 2 and 7</td>
</tr>
<tr>
<td>Legislation</td>
<td>Preamble (Para. 10), and Article 16.3 &amp; 16.4</td>
<td>Articles 8 (k), and 15.7</td>
<td>Article 5(e)</td>
</tr>
<tr>
<td>Research</td>
<td>Article 5</td>
<td>Article 12(b)</td>
<td>Articles 17, and 19.1 (b)</td>
</tr>
<tr>
<td>Public Education</td>
<td>Article 6</td>
<td>Article 13</td>
<td>Articles 5 (d), and 19.6</td>
</tr>
<tr>
<td>Environmental Impact Assessment</td>
<td>Article 4.1 (e)</td>
<td>Article 14</td>
<td></td>
</tr>
<tr>
<td>Clearinghouse for technical information</td>
<td>IPCC[7]</td>
<td>Article 18</td>
<td>Article 18.1 (a)</td>
</tr>
<tr>
<td>Public participation</td>
<td>Article 6 (a) (iii)</td>
<td>Article 9</td>
<td>Article 19.3 &amp; 19.4</td>
</tr>
<tr>
<td>Conference of parties (COP)/ regular reviews</td>
<td>Article 7</td>
<td>Article 23</td>
<td>Article 22</td>
</tr>
<tr>
<td>Exchange of information</td>
<td>Article 7.1 (b)</td>
<td>Article 17</td>
<td>Article 16</td>
</tr>
<tr>
<td>Training</td>
<td>Article 6</td>
<td>Article 12(a)</td>
<td>Article 19.1, 19.2 &amp; 19.4</td>
</tr>
<tr>
<td>Reports</td>
<td>Article 12</td>
<td>Article 26</td>
<td>Article 26</td>
</tr>
<tr>
<td>Financial Mechanism</td>
<td>Article 11 (GEF[8])</td>
<td>Article 21 (GEF)</td>
<td>Article 20 (GEF)</td>
</tr>
</tbody>
</table>

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[7] IPCC: Intergovernmental Panel on Climate Change, an international body formed by UNEP & WMO which serves as a clearing house mechanism on climate change matters

3.3.4 Synergetic implementation of the three Conventions in Ethiopia

**Analysis of the common provisions and proposed strategies**

It is necessary to establish the logical linkages among the conventions for the realization of their respective objectives in synergy. The content analysis of the three conventions and various literatures on the subject revealed that, there are 16 common thematic areas. These thematic areas constitute potential areas for bringing synergy when implementing the convention at country level. Some of these thematic areas are in need of actions at strategic level; i.e. at federal and regional levels, while the others have to be implemented at the grassroots level.

**Table 2: Analysis of common provisions**

<table>
<thead>
<tr>
<th>Thematic Areas</th>
<th>Country context of the provisions of the three conventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulation of National and Regional Strategy and Action Plans</td>
<td>Natural resources and environmental management activities including combating desertification, conserve and sustainable utilization of biological resources, to mitigate and adapt to climate change shall be integrated to the development activities laterally across all sectoral and vertically among all levels of organizations.</td>
</tr>
<tr>
<td>Identification, data collection and systematic observation</td>
<td>Starting with the Kebele° community Environmental program implementation and aggregating upwards through the appropriate level (i.e. offices at federal, regional and Woreda levels) reviews the status of natural resources and the environment, including evaluation of the implementation of the strategies and action plans for the implementation of the three conventions.</td>
</tr>
<tr>
<td>Develop Protected Areas</td>
<td>Establish a system of protected areas, which integrate with strategic land use, plans, local level plans and sustainable agricultural and pastoral production strategies. Protected areas should also include as wide a range of ecosystems possible and allow for part of any economic benefit derived from these activities to be channeled to local communities affected by such programs. The involvement of local communities inside and outside protected areas in the planning and management of such areas should be ensured.</td>
</tr>
</tbody>
</table>

°Kebele Administration is the lowest government Administrative Unit in Ethiopia.
<table>
<thead>
<tr>
<th>Thematic Areas</th>
<th>Country context of the provisions of the three conventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislation and related measures</td>
<td>Provide an enabling environment by strengthening, as appropriate, relevant existing legislation and, where they do not exist, enacting new laws and establishing long-term policies encouraging participation by the people of Ethiopia in the development of federal and regional policies, laws and plans for the sustainable use and management of the natural resources including the fulfillment of the objectives of the three Rio conventions</td>
</tr>
<tr>
<td>Research</td>
<td>Support research activities that contribute to increased knowledge of the processes leading to desertification and drought as well as support research on appropriate technologies for environmental management and sustainable development through a partnership between scientists and potential end users</td>
</tr>
<tr>
<td>Environmental education, training and public awareness</td>
<td>Establish and maintain programs, scientific and technical education and training, public awareness measures to promote the teaching of environmental education on a multi disciplinary base and to integrate it into the ongoing curricula of schools and colleges and not treat it as a separate or additional subject; training of decision makers, managers, and personnel</td>
</tr>
<tr>
<td>Environmental Impact Assessment</td>
<td>Introduce appropriate procedures requiring environmental impact assessment that consider not only physical and biological impacts but also address social, socio-economic, political and cultural conditions that also includes mitigation plans for environmental management problems and contingency plans in case of accidents</td>
</tr>
<tr>
<td>Clearing House Mechanism</td>
<td>Promote international technical and scientific cooperation by putting in place an appropriate information exchange system and institutional structure which make available environmental information to all interested parties</td>
</tr>
<tr>
<td>Partnership and cooperation between governmental and non-governmental actors</td>
<td>Partnership, cooperation among all levels of government, communities, non-governmental organizations and the public at large to ensure that all phases of environmental and resource development and management undertaken based on the decisions of the resource users and managers and develop effective methods of popular participation in environmental management activities integrated laterally across all sectors and vertically among all levels of organization</td>
</tr>
<tr>
<td>Reports</td>
<td>To ensure that, starting with the Kebele/community Environmental program implementation committee and aggregating upwards through the appropriate level reviews of the status of natural resources and the environment, including reports on measures, which have been taken for the implementation of the provision of these conventions</td>
</tr>
<tr>
<td>Joint Action Program Implementation</td>
<td>Recognizing Regional and international environmental interdependence, Cooperate with other Contracting Parties for the conservation and sustainable use of biological diversity, combating desertification and</td>
</tr>
</tbody>
</table>

24
Workshop on Capacity Building for Regional Council Members

<table>
<thead>
<tr>
<th>Thematic Areas</th>
<th>Country context of the provisions of the three conventions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mitigate/adapt the impacts of climate change.</td>
</tr>
<tr>
<td>Institutional Mechanism</td>
<td>Determine institutional arrangements for the conservation and natural resources development and management by taking into account conformity with the constitution, harmonization of sectoral interests, integration of environmental planning with development planning, minimization of incremental financial requirements.</td>
</tr>
<tr>
<td>Access to resources</td>
<td>Adopt measures relating to the use of natural resources, as well as on protecting and encouraging their customary use including uninterrupted continuing access to the same piece(s) of land and natural resources and to create by law a system for the protection of community intellectual property rights.</td>
</tr>
<tr>
<td>Precautionary measures</td>
<td>Take precautionary measures to anticipate, prevent or minimize the causes of climate change and to mitigate its adverse effects, as well as to ensure bio-safety.</td>
</tr>
<tr>
<td>Resource allocation</td>
<td>Allocate adequate resources to combat desertification, conserve biodiversity and adapt/mitigate to the effect of climate change</td>
</tr>
<tr>
<td>Technology Transfer</td>
<td>Promote and cooperate in the development, application and diffusion, including transfer of technologies, practices and processes which are biologically stable, appropriate under the prevailing environmental and socio-cultural conditions for farmers, economically viable and environmentally beneficial as well as contribute to the achievement of the objectives of the three conventions</td>
</tr>
</tbody>
</table>

Actions, proposed strategy and proposed actions

Based on the new text on the Country context of the provisions of the three conventions, strategies for synergy at thematic issue level are identified. For each strategy, actions are proposed for the field implementation of the strategies. They constitute the proposals of National Biodiversity Strategies and Action Plan, National Action Plan to Combat Desertification as well as the guideline for the preparation of National Adaptation Plan for climate change. Accordingly, for each thematic area, strategy and action proposed for each strategy is presented below.

Thematic Area: 1 National and Regional Strategies and Action Plans
Strategy 1: Develop National/Regional Strategies, action plans, programs to combat desertification, conserve and sustainable utilization of biological resources, to mitigate and adapt to climate change by integrating into national policies, long term strategies and programs.

Proposed Actions: Review and update Regional Conservation Strategies in light of the synergetic implementation of the three conventions; develop model Woreda/district and local/Kebele conservation strategies; initiate and/or finalize Regional Action Plans to combat desertification by integrating the objectives of the three conventions; integrate combating
Drylands Coordination Group

desertification, conservation and sustainable use of biological resources and addressing climate change and mitigate/adapt its effect into Woreda development plan; mainstream the strategies and action plans for biodiversity conservation, combating desertification and adapting/mitigating climate change effects into national development plans and strategies.

Strategy 2: Adopt an integrated approach addressing the physical, biological and socio-economic aspects of the processes of desertification and drought; as well as conservation and sustainable use of biological diversity and addressing climate change and its effects.

Proposed Actions: Demonstrate the synergetic implementation of the joint action plans through pilot projects implementation; implement integrated watershed management, which include among others, agro forestry practices, runoff harvesting, soil and water conservation measures, a forestation programs etc.; carry out intensive but sustainable cropping; implement water harvesting including roof water harvesting for agriculture forestry, and water supply; establish and Develop community-based in situ conservation sites of biological resources including wild life conservation and enhance eco-tourism; develop alternative energy sources like solar and wind at community level as well as the use of energy efficient technologies.

Thematic Area 2: Identification, Data Collection and Systematic Observation

Strategy 1: Develop and/or revitalize existing information & monitoring system and networks for assessment of trends in conservation and sustainable use of natural resources at Woreda, regional and national levels.

Proposed Actions: Assess/review the existing relevant information (meta database) found in the various agencies, which are important for the conservation and sustainable use of natural resources with a view of benchmarking for monitoring purposes; identify the relevant institutions at federal, regional and Woreda levels for regular natural resources monitoring; and establish information system for regularly updating the coordination and networking mechanisms at all levels; capacity building for producing periodic State of the Environment Report at Woreda, regional and national levels; review or develop as appropriate, criteria and indicators for monitoring status of biodiversity resources, desertification and climate change; develop monitoring and evaluation mechanism for the synergistic implementation of the three conventions.

Thematic Area 3: Develop Protected Areas

Strategy 1: Recognizing the fact that, Ethiopia's biodiversity hotspots and considerable number of protected areas are within the desertification vulnerable areas of the country, establish protected area systems by involving local communities and ensuring their benefit sharing thereof.

Proposed Actions: Establish human-centered protected area systems management and/or update the existing management plans of the protected areas; decentralize protected area management systems, which involve among other, NGOs, private sectors, communities and government institutions; expand the existing protected areas and/or establish new ones to include terrestrial and freshwater biodiversity hotspots as well as areas important for climate change mitigation/adaptation and combating desertification.

Thematic Area 4: Legislation and related Measures

Strategy 1: Initiate/strengthen national and regional legislative instruments for the implementation of strategies and action plans of the three conventions.
Proposed actions: Review the existing legislations to encourage the implementation of the three conventions and formulate legislations and policies as deemed necessary. Enhance the capacity of relevant law enforcing agencies; develop legislative measures that constitute both incentive and disincentive measures for conservation and sustainable use of biodiversity, addressing climate change and combating desertification; promote and strengthen traditional customary laws and practices, which discourage the unsustainable use and encourage sustainable practices.

Strategy 2: Ensure adequate protection for traditional knowledge and Intellectual Property rights and provide benefits derived from it, on an equitable basis and on mutually agreed terms, to the local populations concerned.

Proposed actions: Strengthen/provide legal backing to communities to value and protect their traditional knowledge, which have been with them for generations; ensure fair and equitable sharing of benefits from the commercialization of traditional knowledge and practices; register traditional knowledge and practices, which are proved useful for biodiversity conservation and sustainable utilization, combating desertification and mitigating/adapting the effect of climate change.

Strategy 3: Devise financial mechanisms for financing incentive schemes as well as develop appropriate policies and institutions that facilitate benefit sharing.

Proposed actions: Establish community support funds as well as benefit sharing mechanisms; mobilize resources from national and international financial mechanism.

Thematic Area 5: Research
Strategy 1: Initiate research and development that enhance knowledge on climate and climate variability (including drought), desertification process, and conservation and sustainable use of biodiversity resources.

Proposed actions: Initiate research programs that gives adequate attention to the issues and problems faced by farmers and pastoralists; review existing relevant research system to identify barriers to research and development; identify proper entry points in the existing research system, as far as possible, which promote natural resource management and conservation; establish and strengthen research grant fund to finance research projects

Strategy 2: Adapt and/or adopt and generate technologies which contribute for combating desertification and sustainable utilization of biodiversity resources and mitigate and adapt to the effect of climate change.

Proposed actions: Identify knowledge gap in the area of sustainable natural resource management and initiate research in priority areas thereof; disseminate proofed and community tested technologies for the realization of the implementation strategies and action plans of the three conventions; identify, adapt, adopt and pilot technologies; build research and development capacity at various levels

Thematic Area 6: Environmental Training and Public Awareness
Strategy 1: Cooperate with other states and international organizations for undertaking and supporting education, training and public awareness programs.

Proposed actions: Carryout study tour programs for relevant stakeholders abroad or within the country; solicit funding and channel resources for the establishment and strengthening
focused training programs in the selected institutions and ensure its self-sustainability; promote community-to-community exchange program.

**Strategy 2:** Promote awareness raising in public education programs which recognize ecological, social, economic advantages of synergistic implementation of the three conventions.

**Proposed actions:** Initiate and/or review the formal and informal education curriculum development to integrate the basic principles of the three conventions; conduct sensitization programs for targeted groups for easy facilitation of implementation of the conventions; initiate and implement regular sensitization program to policy makers at regional and federal levels.

**Strategy 3:** Awareness programs tailored to the need of farmers, pastoralists and concerned sector of the society, with particular attention to understanding the causes and effects of desertification and climate change as well as the importance of biological diversity and their conservation shall be delivered at various levels via various Medias.

**Proposed actions:** Prepare and disseminate awareness materials such as leaflets, posters, films, etc targeted, especially to the farmers, pastoralists, and the concerned sector of the society; establish and strengthen community level environment associations, youth environment clubs, and outdoor groups and involve them in practical conservation activities.

**Thematic Area 7: Environmental Impact Assessment**

**Strategy:** Build capacity to administer Environmental Impact Assessment (EIA) process in order to protect important sinks, and ecosystem components for conservation of biodiversity and combat desertification.

**Proposed actions:** Capacity building support to relevant federal and regional environmental organs; develop/enhance sectoral guidelines for Environmental Impact Assessment; develop Strategic Environmental Impact Assessment (SEA); develop awareness raising program for general public, private sector, civil society, government organs at federal, regional and Woreda level. Develop Regional EIA guidelines.

**Thematic Area 8: Clearing House Mechanism**

**Strategy 1:** Establish national Clearing House Mechanism as well as Metadata Base that involve different key institutions.

**Proposed actions:** Strengthen the capacity of relevant government institutions at federal, regional and Woreda levels to collect, analyze, disseminate and exchange information which have got paramount importance for synergistic implementation of the three conventions; establish/strengthen national clearing-house mechanism for the three conventions; establish or strengthen or reinvigorate Meta database for environmental information; establish and/or strengthen national environmental information center with a view of enhancing environmental monitoring capability and to fulfill reporting obligations; establish network for exchange of information on research outputs and feedback, as well on emerging environmental problems among key stakeholders at various level.

**Thematic Area 9: Partnership and Cooperation between Governmental and Non Governmental Actors**

**Strategy:** In realizing the three conventions, ensure the involvement of concerned actors in planning, implementation, monitoring, and evaluation and benefit sharing.
Workshop on Capacity Building for Regional Council Members

Proposed actions: Promote gender equality and women empowerment at all levels; develop and implement mechanisms and modalities of cooperation among the various actors; develop guideline for effective public participation and gender mainstreaming.

Thematic Area 10: Reports
Strategy: Establish standard reporting mechanism.

Proposed actions: Develop guideline/manual for collection, analysis, storage and exchange of relevant data for preparation of report; develop conceptual model for information-communication technology based reporting and implement it; capacity building support to participating agencies in reporting; devise formal reporting mechanism that consists of regional and federal actors.

Thematic Area 11: Joint Action Program
Strategies: Develop and implement cooperation modalities on equitable basis with contracting parties especially with the neighboring countries in the implementation of the three conventions; develop and implement operations modalities on equitable basis with existing national level programs for the implementation of the three conventions.

Proposed actions: Identify cooperation areas in relation to biodiversity conservation, combating desertification and mitigate/adapt the effects of climate change with neighboring countries; design and launch joint work program with neighboring countries and other contracting parties; design and launch joint work program with governmental and non governmental stakeholders institutions at federal and regional levels,

Thematic Area 12: Institutional Measures
Strategies: Design institutional mechanism and build necessary Capacity. Articulate the duties and responsibilities of the federal/regional/Woreda institutions in the process of field implementation, monitoring, evaluation, regulation, mobilization, financing and research.

Proposed actions: Identify and analyze mandates of the federal, regional and Woreda institutions with potential role for implementing the three conventions; put in place proper institutional mechanism for the implementation of the three conventions at federal/regional/Woreda level with clearly stated responsibility for coordination, monitoring and evaluation, field implementation of actions, reporting, mobilizing of resources and information package preparation, etc assess the implementing capacity of each institution; identify the gaps and devise capacity building programs.

Strategy 2: Ensure the sustainability of implementation mechanisms installed in the institutions involved with regard to the implementation of the three conventions

Proposed actions: Identify activities to be performed by the identified institutions; sign responsible institution which coordinates the involved institutions based on the identified activities and agreed upon coordinating mechanisms; undertake periodic monitoring to further strengthen the coordination activities and expedite the implementation of the duties and responsibilities vested in the institutions

Strategy 3: Strengthen traditional institutions of communities to enable them to incorporate programs for the implementation of the conventions.

Proposed actions: Identify existing traditional institutions that can incorporate issues of the convention into their programs; assess the capacity of the identified traditional institutions, strengthen and build their capacity.
Thematic Area 13: Access to Natural Resource

**Strategies:** Adopt legislation on access to natural resources that articulate the right and obligation of the user in using natural resources with a view to ensure equitable sharing of benefit.

**Proposed actions:** Develop and adopt legal instruments that ensure access to natural resources and benefit sharing that arise from the conservation of natural resource and commercialization of traditional knowledge; popularize right and obligations of the communities enshrined in the constitution and other laws; launch resource inventory and bio-prospecting as well as repatriation biological resource to be able to explore existing and potential opportunities; strengthening and revitalizing community organization and build their capacity to effectively represent as well as mobilize their community.

Thematic Area 14: Precautionary Measures

**Strategies 1:** Develop precautionary strategy for adaptation/mitigation to the effects of climate change; to combat desertification; to conserve biological diversity building on lessons learnt from prevailing natural disaster prevention and preparedness interventions.

**Proposed actions:** Review existing policies and strategies on disaster prevention and preparedness at federal/regional level to draw complementary strategy to mitigate the effect of climate change and drought; develop local level disaster prevention and early warning system as well as coping strategies. Pilot and scale it up; develop national adaptation and mitigation framework strategy for the effects of climate change and drought

**Strategy 2:** Develop conservation strategy at lowest administrative unit (Woreda) level that integrates adaptation to and mitigation of the effects of climate change and desertification with Woreda integrated development plan.

**Proposed actions:** Develop conservation strategy at Woreda level; develop model Woreda and Kebele conservation strategy, taking into consideration the diverse conditions in the country.

**Strategy 3:** Develop national and regional instruments for bio-safety and build necessary capacity for monitoring biological pollution and state of biological diversity.

**Proposed Actions:** Develop national and regional instruments for bio-safety; build a capacity to ensure bio safety and to monitor biological pollution.

Thematic Area 15: Financial, Material and Human Resource

**Strategy:** Design and implement a mechanism for establishing and operating a stakeholder managed environmental fund, which can be accessed by communities to implement community level projects

**Proposed actions:** Explore international and national experiences on establishing and management of environmental fund and prepare strategy document; Establish environmental fund and mobilize resources and channel to the target groups; and Develop resource mobilization strategy.

**Strategy 2:** Build the capacity of stakeholders including farmers and pastoralists to effectively utilize and manage the established environmental fund and global environmental support.
Proposed actions: Give training and awareness to the stakeholders on the purpose of the establishment of Environmental Fund; develop practicable monitoring and evaluation system that involve all stakeholders in effectively managing the Environment Fund; undertake capacity need assessment and develop proper action plan to enhance capacity.

**Thematic Area 16: Technology Transfer**

**Strategy:** Establish network with existing global regional and sub-regional institutions; develop national capacity to generate environmentally sound technologies and ensure the protection of the intellectual property right of the developers; adopt and/or adapt environmentally sound technologies; strengthen national research institutions to create capacity to adopt/adopt environmentally sound technologies; promote appropriate technologies and practices through incentive mechanism.

Proposed actions: Identify appropriate technologies for conservation and sustainable management of environmental resources; create linkages with various environmental clearing house mechanism around the globe as well as with various international and national research organizations and NGOs to identify and procure technologies; develop national capacity to generate technology including biotechnology and bio-safety, sustainable land management, water resource conservation, renewable energy development technology, biodiversity conservation, etc.; inventory of existing technologies and indigenous practices; capacity building support to communities and their institutions; enforce and/or develop intellectual property right law/regulation; identify, import, pilot, and defuse environmental sound technologies; identify capacity needs; devise capacity building program and implement; elaborate national research priority and technology needs; identify, list and categorize appropriate technologies; set appropriate incentive schemes and enforce the same.

3.3.5 Discussion and Reflections on Shimelis Fekadu's presentation

**Question 1** What are the opportunities to create synergy?

Response: There are many opportunities that could be capitalized on. The most important one is that the logical linkage between the three Rio conventions and the roadmap that was prepared by EPA. This is an important instrument to ensure synergy. Moreover, the interagency environment council will help to coordinate interagency activities.

**Question 2** Most regions lack proper institutional setup. This is a challenge to champion environmental protection at regional level. What is EPA's plan to solve the problem?

Response: There is an institutional constraint in most regions. Putting the proper institutions in place is the responsibility of the respective regional governments. However, we are not saying that EPA does not have any role. EPA can encourage regional government to establish their respective environmental institution. EPA has been trying to provide capacity building support. More importantly, EPA is now elaborating medium term strategic plan. This will provide a clearly direction and define the activities of the regional environmental agencies. With a clear strategy and defined role of the regional organs, it is expected that regional government will be encouraged to establish their respective regional environmental organization.

**Question 3** The state of the environment is continuously deteriorating. What are you planning to curb the problem?

Response: Since its establishment, EPA has been engaged in putting in place various measures to create enabling environment. Among these, Environment Policy of Ethiopia,
Conservation Strategy of Ethiopia, National Action Plan to Combat Desertification, National Implementation Plan for the Stockholm Convention on POP, ratified various conventions and implemented various projects that target priority environmental problems of the country, and developed four Environmental Proclamations. These instruments are now encouraging various actors to respond to environmental problems. A comprehensive strategic plan is also undergoing. Partnership with concerned partners is also expected to peak.

**Question 4** Some of the issued policies and laws are contradictory and they are not complementary, the typical example of this is Investment Policy and the Environmental Impact Assessment (EIA) Proclamation. The EIA proclamation requires the undertaking of Environmental Impact Statement (EIS) prior to the commencement of the project. However, most development projects are implemented without preparing the EIS and getting approval from the appropriate environmental agencies. This has resulted in loss of environmental resources, specially, the forest resources. What is the opinion of the EPA in this regard and what is the mechanism for resolving this conflict of laws and regulation?

**Response:** The concern is right. As per the EIA proclamation, Regional EPAs are mandated to review and certify Environmental Impact Statements of development within their respective jurisdictions. However, the Regional EPAs capacity is very inadequate to carry out this activity effectively and efficiently. The collaboration of the sectoral bureaus and the public at large with regional EPAs is very vital. The concern of environmental protection should not be limited to one institution. The same problem is prevailing at Federal EPA level too. Recognizing this EPA has initiated National Capacity Needs Self Assessment (NCSA) study and the major capacity gaps have been identified. The remaining task is working towards fulfilling those gaps.

**Comment:** The strategy developed for the synergistic implementation of the three RIO Conventions in Ethiopia in addition to what has been said includes the consideration of the implementation of Environmental Policy of Ethiopia. To this effect, the common provisions (16) of the three RIO conventions have been analyzed from the EPE provisions perspective and new provisions have been written and strategies and actions have been suggested.

### 3.4 NATURAL RESOURCE STATUS IN ETHIOPIA AND THE CONSEQUENCE OF ITS DEGRADATION

**By: Siraj Bekeli, Head, Environmental Protection Office, Oromya Region**

The paper has elaborated on the general trend and status of the different natural resources, threats and selected best experiences towards arresting the land degradation problems.

#### 3.4.1 The trend and status of forest resources

FAO (1981) and many other publications state that closed forest covered 40 percent of the country. This figure has been derived from the work of the forester (Brieter Bach 1962) who considered the effect of climatic factors to determine the extent that the climax forest vegetation cover must have had. Other studies indicated that 30 to 35 per cent of the country’s land was covered by high forest of either the coniferous or the broad leaf type.

Due to several factors affecting the forest, by early 1950s high forests were reduced to 16 per cent of the total land area and by the early 1970s it was declined to an area of 6 per cent and by 1980s to 4 per cent. According to FAO 2001 report, the area coverage of the high forest resource was 4.2 per cent or 4.59 million hectares by the year 2000. The satellite image
analysis report of 1998 shows that in the 1970's natural high forest cover of the country was 6%; covering 6.96 million hectares of the country. According to this analysis, mix of broadleaf and conifer forests were left as a remnant, mainly in inaccessible areas in the South Western and Southern part of the country.

According to Ethiopian Forestry Action Plan (EFAP) estimation, the annual deforestation ranges between 150,000 and 200,000 hectares while the Environmental Policy of Ethiopia (1997) estimates the deforestation rate of 80,000 to 200,000 hectares per annum.

The remaining high forest resource, covering about 3.9 million hectares of the total land area of the country is found in Southern Nations’ Nationalities and People’s Regional States and Oromya and Gambela National Regional States (WBISPP, 2004).

Fishery resources
The Rift valley lakes basin has over 25 fish species and accounts for about 50 per cent of the total inland fish production. According to the Ethiopian wildlife Conservation Organization (1989), Ethiopian fresh water bodies are known to contain 101 species fish among which four are endemic to the country. The most important commercial types of fish are Tilapia, Nile Perch and catfish. The population of these fishes is decreasing from time to time from Zeway, Chamo, Tana and Abijata lakes. Most of their harvests are juveniles. This may lead to the total loss of these fishes. The reasons for their decline in number are the habitat disturbances, catchments degradation and over fishing.

Apiculture resources
Ethiopia has very rich resource for the production of honey and bee wax as the large variation in the physical environment produces and equal large variation in plants and, thus, also in flowers for foraging by honey bees. An estimate indicates that over 4.2 million traditional hives, 60 percent occupied by bees, exist in Ethiopia giving the country the largest bee population in Africa, where the total is estimated to be more than 5 million colonies (Ethiopian valley, Development studies Authority, 1991). Even though, apiculture has got such high economic importance; their abundance is decreasing with the loss of vegetation as a result of deforestation.

Biodiversity Resource
Ethiopia is well known for its biodiversity resources it owns the diversity in physical features, climatic types, topography, habitat, vegetation types and animals (domesticated or wild).

The large diversity of ecological conditions determined by topography ranging from 110m below sea level at Kobar Sink in Afar depression to a peak of 4,620 meters above sea level at Ras Dejen, have created diverse and conductive environments for the development of a wide variety of fauna and flora.

The Semen and Bale Mountains have been identified as areas of plant endemism of continental importance and provide the best examples of high altitude vegetation in Ethiopia. Their flora is diverse and the afromontane representative show affinities to South African, and Himalayan elements.

Out of the total bird species known to occur in the country 36 are globally threatened and, 2 species are red-listed as endangered, while 14 are in the vulnerable category and 16 are near threatened (Ethiopian Civil Society, Book two, 2000).

The challenges to conserve and sustainable use of Ethiopia’s biodiversity are very complicated and interlinked. One of the most destructive factors is deforestation caused by
agricultural expansion and fuel wood scavenging. It is important to note that, the loss of one kind of species affects the chain of interrelated and inter dependent variety of other divers species through food webs.

**Water Resources**
Ethiopia is the “water tower” of Northern Africa. Except for the Awash and Omo, all the largest rivers originating in Ethiopia flow into neighboring countries. Surface water resources in the country flow into 12 major river basins. It was estimated that on average 122.19 billion \( m^3 \) of water is annually discharged from these basins (Status of Environment Report for Ethiopia, EPA, 2003).

Data from runoff shows that 74 percent of the annual runoff of more than 110 billion cubic meters goes in to the rivers that flow in to the Sudan, Egypt, Somalia and Kenya; the amount that remains in the country is not more than 9 percent (CSE, Vol. I, 1997). In addition to rivers and streams of surface water, there is a total of 7500 km² of 18 National and artificial lakes in the country. Seven of the eight major national lakes are found in the Rift Valley. The ground water resources are estimated to be around 2-6 billion \( m^3 \) (CSE, Vol. I, 1997).

**Wetland resources**
According to Ramsar Convention Bureau, 1997, wetlands are defined as “areas of marsh, fen, peat land or water whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas or marine water the depth of which at low tide does not exceed six meters”.

Wetlands are often seen as wasteland. However, wetlands are very important parts of environmental resources. They provide ecological as well as socio-economic benefits in their natural state, which contribute to the well being of rural communities and environmental security. Based on the Directory of African wetlands, Ethiopia’s wetlands are classified into ten major groups. These are: lake Tana and associated wetlands; Ashange and Hayke Lakes; wetlands of Bale Mountains; Wetlands of the western Highlands; Lakes of Bishoftu; Lakes and the associated wetlands of the south west Rift valley; Lakes and Swamps of the Awash River system; Lakes of the Afar Depression; Western River floodplains and Artificial Impoundments and micro Dams.

The hydraulically and ecological functions of wetlands support various economic activities, life support systems and human welfare, ground water recharges, flood control, nutrient cycling, erosion control and sediment traps, climate regulation, habitat for migratory birds and other lives and pest control. Wetlands also produce an ecological equilibrium in the environment by maintaining the integrity of life supports systems for sustainable socio-economic development.

Most of the wetlands of Ethiopia are drained for the expansion of unsustainable Agriculture. Lake Zeway affected by unregulated water pumps for irrigation based agriculture. Lake Abijata, which is selected to be the first Ramsar site, is affected by the soda ash factory for the extraction of soda and by the water diverted from Bulbula River for agriculture.

Moreover, the ecological equilibrium is destroyed by sediment deposited in the wetlands system which is caused by catchments degradation/deforestation. Therefore, to avert these damaging effects, it is advisable to use integrated planning strategies which would maintain the ecological and economical balance of the functions of wetlands.
Mineral resources
There are several kinds of metallic and non-metallic minerals distributed all over the country. The precious metals are gold, platinum and silver which are mainly found in Oromya National Regional State. Though the economic benefit of mining is high, the environmental impact is also not negligible. Most of the lands from which minerals are harvested are not rehabilitated.

3.4.2 Threats to the natural resource bases of the country

Land Degradation/Desertification
Globally, an estimated 1.5 to 3.5 million hectares of irrigated land, 3.5 to 4 hectares of rainfed agriculture land, and about 35 million hectares of range land lose all or part of their productivity due to land degradation/desertification (UNEP, World Environment Day, 2006).

The Consequences of desertification include: diminished food production, reduced soil productivity and a decrease in the land natural resilience; increased downstream flooding, reduced water quality, sedimentation in rivers and lakes, and the siltation of reservoirs and navigation channels; aggravated health problems due to wind-blown dust, including eye infections, respiratory illnesses, allergies and mental stress and loss of livelihood, forcing affected people to migrate etc.

It has been estimated that in 1986 half of the arable land in the highlands of Ethiopia was moderately or seriously eroded and of the remaining 50 per cent had soils susceptible to erosion which are in need of proper management (EFAP Volume II, 1994). The same source has indicated that erosion causes cropped areas to lose on average of 100 tons of soil per hectare annually, and the highlands to lose annually a total of 1.9 to 3.5 billions tons of soil as a result of erosion.

It was also estimated that the burning of animal dung and crop residues for energy represents a loss in crop production of 700,000 tons of grain (Environmental Policy of Ethiopia, 1997). At the same time, about 20,000 to 30,000 ha of crop land in the highlands is being abandoned annually, because cropping can no longer be supported by the soils (EFAP Vol. II, 1994). Land degradation is resulting in the deterioration of the rangelands as well. The deterioration of pastures is directly related to the low quality of animals, inadequate feeding systems, and the breakdown of traditional system for management of cattle grazing.

3.4.3 Selected experiences towards reversing land degradation problems

Dryland management program supported by UNDP in Oromya
Community based projects in 16 districts of Oromya were conducted for four years. To mention few, among many, Boset in East Shewa Zone, Doba, in West Hararge Zone are some of the best worth mentioning.

In Boset Elders, women and youth groups had planted trees on the hills and protected them from destructive human interference. They used the grass as a source of income generation by cutting and selling. They also used to cover the roofs of their newly constructed houses by the grass collected from protected hills. The farmers constructed soil and stone bunds against runoff (slope). Formerly, the farmers were suffering from the runoff which eroded the soil from the hills and the farm plots, and mixed the sawed seeds from one plot with the other seed in the other plots. The seed quality was affected by the mix and need to exert labor to separate the mixed seeds after harvesting. After the construction of soil and stone bunds against runoff, they are able to obtain pure seed from their farm plots. Since the soil erosion is stopped, they are now able to obtain more products from their farm plots which were formerly of low
productivity. The women and youth groups learned that they can generate income from the protected and properly managed dry land hills without cutting trees and exposing the land to the soil erosion, which affects the production and productivity of their land.

In Doba, west Hararghe Zone, the hills were bare and the farm activities were banned due to land degradation as a result of deforestation and soil loss. Their rivers and streams remain dry gorge during dry season. After the hills are properly managed, the vegetation cover is improved, indigenous trees are coming up, the wild animals are getting into the area, and soil erosion has stopped. As a result of improved vegetation cover and percolation of rain water, the springs are coming up. The down stream dwelling farmers are using the spring water for domestic and traditional irrigation.

**Participatory Forest Management**

There are around 77 Forest Dwelling Associations (WAJIB in Oromifa) inside 77 forest management blocks of 35000 hectares using the forest in Dodola Adabba Forest area. They have their own by-laws and signed agreement with the government. The agreement states that the forest dwellers associations shall manage the forest in such a way that the vegetation cover must not be below the time when the agreement was signed.

Currently, the forest cover is increasing by 15.6% from year to year (Proceeding of Policy Workshop by EEPFE and EDRI, 2008). Juniperus tree species and other indigenous species are amazingly coming up. The increasing vegetation cover is attracting the wild animals including Mountain Nyala (Proceeding of Policy Workshop by EEPFE and EDRI, 2008. The WAJIB approach is also under implementation in Chilimo forest, Belete-Gera forest, coffee forest (Bonga), Mojo fuel wood plantations, West Hararge and Chilalo Galama areas.

The Associations are so far benefiting from the forest through controlled grazing inside the forest area, and selling fuel and construction woods prepared from the old trees at individual forest dwellers association level. To avoid the conflict that may arise among the individual associations, the cooperative union of the forest dwellers is established. The union shall manage the hunting process and the income. The Union is also planning to have small sawmills to produce timber (lumber) from the exotic plantation. This may help the farmers to be transformed to another income generating scheme.

**Woizero Ayelech Experience**

The experience of Ayelech Fikre, 61 years old farmer, living in Ankober Woreda (district), North Shewa Administrative Zone of Amhara National Regional State, who initiated to apply various indigenous land husbandry practices such as stone bund conservation, soil fertility management and rain water harvesting. Ayelech has recognized that heavy rainstorm was damaging her farm land by washing the soil and the agricultural seed sown. She improved the existing cut of drain by improving its width and depth with stone bund, using her family’s labor first and then by organizing her neighbors and other people. The bund was single lined and double-lined, which Ayelech called in Amharic “anjet” and “hulet-anget” respectively. She did this construction with out any professional surveying instrument.

She also applied different soil fertility management practices including composting, intercropping, crop rotation and mulching, etc. Ayelech did not stop her effort on conserving the soil and managing the fertility of her farmland. She also developed her own experience in the area of water conservation. She started collecting water from runoff and her house roof and used it to irrigate her coffee plot. She collected the runoff by diverting it into pits and the roofing into a pond. What makes Ayelech’s work unique is that her creativity without expert’s assistance and her own means to solve the problem. It became an excellent learning
experience for her neighbors and other farmers to protect their farmland from degradation and maintain its fertility and productivity.

3.4.4 Discussion & reflections on Siraj's presentation

Question 1: Is there enough awareness on the effect of deforestation on soil and rainfall irregularity as well as local climate change at all level?
Response: People at different level have different awareness. The local communities recognize the effect of deforestation on soil and rainfall irregularity as well as local climate change. The government authorities do also recognize well the problem. However, the measures taken are not as sufficient as expected to be. There is lack of coordination and integration among different stakeholders to obtain effective result. Hence, it requires still further work on awareness raising at all level to bring the fragmented efforts together.

Question 2: Is it not possible to expand the WAJIB (forest dwellers practice) to other areas?
Response: It is possible to do so. Some of the examples are already stated inside the body of the main document.

Question 3: How much is the population pressure controlled?
Response: Population pressure has direct effect on natural resources utilization, especially in poor countries like Ethiopia. Therefore, regulating the population pressure through family planning program is essential. Several efforts are made to control population pressure by different stakeholders (government and non-governmental organizations), which needs to be further strengthened.

Question 4: To what extent EIA is implemented in Ethiopia?
Response: Though EIA regulation is in place, it is not well enforced practically as it is required to be. Only very few projects pass through EIA. There is a need that Investment Agencies and respective government licensing institutions need to pay attention to EIA implementation so that sustainability of any development is ensured.

3.5 GENDER & ENVIRONMENT WITH PARTICULAR EMPHASIS ON ROLE OF WOMEN ON COMBATING DESERTIFICATION/LAND DEGRADATION

(By: Mulumebet Melaku, Head of Women Affair's Department, MoARD)

Gender refers to women’s and men’s roles and relationships in a specific society or culture, whereas sex refers to universal biological characteristics of women and men. Sex roles refer to biological functions that are limited to one particular sex. For example, pregnancy and breast-feeding are a female sex role because only women can give birth and breast-feed a child. Gender division of labor refers to the allocation of roles and responsibilities to women and men. The way labor is allocated by gender takes the form of social rules. Productive roles refer to activities performed to produce goods and services for consumption and trade and it is an activity, which generates income while reproductive role refers to the care and maintenance of the household and its members. The community role is activities that are undertaken for the social, economical and political benefit and well-beings of the community.
The paper also further elaborated gender equality and gender gaps. Gender equality means that women and men experience equal conditions for realizing their human rights, and have an opportunity to contribute to and benefit from national political, social, economic and cultural development. Gender equality will be realized when discrimination on the grounds of a person’s sex is eliminated and women and men enjoy equal opportunity in accessing all forms of resources; land, education, credit, extension services, healthcare facilities, job opportunities, assuming decision-making positions. Gender Gaps indicate the unequal participation of women and men in socio-economic and political activities. Gender gap is created by discrimination. This discrimination will be manifested in various forms of human life.

After clarifying the basic concepts of gender, the paper has analyzed the specific situation of women in Ethiopia from social, economic and political perspectives and measures taken by the government to close the gaps. Furthermore, the paper dealt with gender issues in the environment and development, impacts of desertification on gender and finally the paper concluded by indicating the need to mainstream gender in the environment.

In rural areas, families tend to devote themselves to educate a boy rather than a girl. The girl child is expected to help her mother in the household activities and thereby learn to be a perfect wife. In most Ethiopian rural areas teenage girls are forced for early marriage that deprived them from going to school. Women's participation in education is constrained by economic, socio-cultural familial, personal and school factors. The economic problems relate to parents’ inability to send their children to school especially if schools are far, and dropout as a result of lack of finances. The problem is especially serious in rural areas. The traditional division of labor in homes, and parents' unequal treatment of their sons and daughters in terms of assigning chores and study time are constraints to girls' successful education.

“Women play an important role in harmful traditional practices (HTP) as victims and perpetuators. They play key roles in HTP as is practiced now, and will clearly play the most important role in any change in the future”. (National Survey on Harmful traditional Practices in Ethiopia February 2008, Addis Ababa).

Although the constitution and the land administration and management proclamations had put in place favorable conditions for women’s land use rights, the traditional way of practice still persists. According to Central Statistics Agency (CSA) survey of 2003, out of the total land owners only 18% are women. Other studies, in different parts of the country, showed that there are significantly fewer female landholders than men; and smaller size holdings among women. Women usually lack the necessary knowledge and bargain power to defend their land use rights. Women farmers also have less information, knowledge and skill in modern agriculture and management of natural resources because the agricultural extension service tends to focus on male farmer.

Women are under represented in decision-making positions at all levels. For example, political appointees (Minister/V/minister) 13 % and in the Civil Service at different levels only 15.96 %. Presently the number of women parliamentarians in the House of Representative is 117, which is 21.43% of the total seat.

The promulgation of the National Policy of Ethiopian Women issued on September 1993 was the first basic step for promoting gender equality. Women’s equal right with men has been ensured by the constitution. Article 35 of the constitution, with 9 sub articles addresses many issues of women, affirmative actions in education, employment, maternity leave and others.
The establishment of the Ministry of Women’s Affairs (MoWA), Bureau of Women’s Affairs (BOWA’s) at regional level and Women’s Affairs Departments (WAD’s) in sector ministries for the implementation of the policy a major step forward in addressing gender issues in an effort to combat poverty, food insecurity and natural resource degradation.

The National Action Plan for Gender-Equality which is a strategic action plan for the implementation of the Women’s Policy has been incorporated in the country’s five year strategic development plan, PASDEP, 2006 and the concern for women’s empowerment is strongly stated in the PASDEP vision. Moreover, other different legal and social actions have been taken including the revision of Penal code, Family law, Civil Service Proclamation and Labor Law, etc.

Furthermore, the Government signed and ratified different International Conventions that promote and respect human rights of women: the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW,), International Conference on Population and Development Action Plan (ICPD), the Beijing Platform for Action, MDGs, etc.

“The relationship between human society and the physical environment is not gender-neutral” (Centre for Science and Environment (CSE), 1985). Women and men’s linkage to the natural environment vary on the bases of their gender roles and responsibilities. Therefore, women and men have different experiential knowledge and perception about their environment. As women have the role to sustain family they come into continuous interaction with the natural environment more than men. Women’s daily activities such as fetching water, collecting fuel wood and fodder, participation in agricultural activities, raising small livestock and growing food plants at homestead, make them to be so close with the physical environment.

Women have special knowledge on the value and diverse use of plants for nutrition, and healthcare. They preserve and grow those indigenous plants, thereby, contributing to the conservation of the biodiversity which, in turn, have an impact in sustaining the natural resource and combating desertification so as to effect sustainable development and food security.

Women have significant indigenous knowledge and experience in the management of natural environment but they don’t get the opportunity to develop their knowledge and skill in this regard and above all their knowledge and experience are not recognized or utilized. They are also excluded from playing their appropriate roles in the natural resource conservation and management, as they don’t get the opportunity to participate in the decision-making process. Women have little or no formal authority in decision-making at family and community level on the use and management of resources.

Different scholars define poverty in different terms, but the concept has been expressed in a broader context by UN as “a human condition characterized by the sustained or chronic deprivation of resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights.”

From the definition it is obvious that the persistence of gender inequality is a symbol of poverty. If women who constitute half of the population are deprived of resources and lack the capacity and power to enjoy an adequate standard of life in a given society, it wouldn’t be possible to think of development but poverty.
UN also defines development as, "Development means total development, including development in the political, economic, social, cultural and other dimensions of human life, as well as the development of the economic and other material resources and physical, moral, intellectual and cultural growth of human beings. Development also requires a moral dimension to ensure that it is just and responsive to the needs and rights of the individual and that science and technology are applied within a social and economic framework that ensures environmental safety for all forms of life on our planet."

The above two comprehensive definitions show that environment is a base for sustainable development and sustainable development cannot be realized without gender equality. As both women and men are actors of development and women constitute almost half of the population, ignoring half of the development actors will not lead to sustainable development. As women and men have different roles to play, land degradation and desertification has different impacts on them. "Probably no other group is more affected by environmental destruction than poor village women. Every dawn brings with it a long march in search of fuel, fodder and water. It does not matter if the women are old, young or pregnant: crucial household needs have to be met every day, every time longer and more tiresome" (Centre for Science and Environment-CSE, 1985). Desertification intensifies women's workload and increases their responsibility. At times of drought, when the agricultural production decreases, men usually migrate to other areas to look for off-farm employment possibilities mostly in the near by towns, leaving their wives behind with children and elderly family members. Then, women will be over burdened by doing every thing to sustain the family.

The Convention on Desertification highlights the importance of ensuring the full participation of both women and men at all levels to combat desertification and mitigate the effects of drought. Therefore, "as key actors in natural resource use and management, women shall be treated equally with men and empowered to be totally involved in policy, program and project design, and decision-making and implementation" of environment conservation and management. (Lebesech Tsega, 2003).

Gender mainstreaming is not mentioning the importance of addressing the issue or adding gender components to an existing activity, it involves more than that. Gender mainstreaming situates gender equality issues at the centre of policy decisions, medium-term plans, program budgets, and institutional structures and processes. Mainstreaming can reveal a need for changes in goals, strategies and actions. As environment and gender issues are central to sustain development it needs real commitment to do the mainstreaming in the policy, implementation and monitoring and evaluation processes of development endeavors. Mainstreaming environment in development endeavors and gender in the environment conservation and management is ensuring sustainable development and environmental safety for all forms of life on our planet.

3.5.1 Discussions and reflections on Mulumebet's presentation

Question 1 Why mainstreaming Gender in Environment Policies and Strategies?

Response: This is very crucial when one observe the consequence of gender in equality on resource allocation and use right especially in rural parts of the country. The rural women are victims in multifaceted ways as a result implementing policies and strategies which are not gender sensitive and therefore gender mainstreaming in policies and Strategies is very crucial. That is why the implementation of National Action Plan of Gender has been incorporated in
Question 2 Do Environmental policies and Strategies mainstream Gender adequately?

Response: Environmental Policy of Ethiopia which was issued in 1997, recognizes the urgent need of mainstreaming the gender issues in government policies and strategies. Moreover, the Environmental Policy in its Cross Sectoral Policy Provisions has entertained the gender issue under the title “Social and Gender issues”

Comment 1: “Sustainable Development is not possible without Gender Equality”. Therefore gender has to be mainstreamed in environment conservation policies and strategies and implementation, monitoring & evaluation processes to achieve sustainable development and food security.

Comment 2 When we are discussing the gender issue we need to focus on collecting and analyzing of any development and conservation information in a disaggregated manner which has got paramount importance for decision makers.

3.6 LINKAGE OF CLIMATE CHANGE AND THE SPREAD OF DESERTIFICATION

(By: Abebe Tadege, Head, Meteorological Research and Studies Department, NMA)

The paper has started by highlighting the importance of climatic resources on the interactions in the ecosystems followed by the major elements of climatic resources and climate change impacts.

The earth’s climate is a result of the complex interactions among the atmosphere, the hydrosphere, the cryosphere, lithosphere, the biosphere and energy from the sun. The patterns that emerge from these interacting processes act on a variety of time and space scales. Climate is a key natural resource on which others depend. It influences food production, water and energy availability as well as disease distribution. It sets the stage for the establishment of habitats, affects the pace of primary productivity, and influences species density and distribution.

Climate is often described by the statistical interpretation of precipitation and temperature data recorded over a long period of time for a given region. Climate, whether manifested as extreme events or persistent conditions, is experienced first as a physical phenomenon. Temperature, wind and rain all affect the biophysical environment. When extreme events such as droughts and floods occur, people suffer injuries, habitats are destroyed and the built environment is damaged. Socioeconomic systems are sensitive to the frequency, intensity and persistence of these conditions, as well as potential changes in long-term trends.

3.6.1 The United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol

The UNFCCC was signed at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992. Its ultimate objective (Article 2) is “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a timeframe sufficient to allow ecosystems to adapt naturally to climate
change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner.' The UNFCCC also explicitly acknowledges a number of principles (Article 3), such as the precautionary principle, protection of the climate system on the basis of equity, the need for developed countries to take the lead in combating climate change and its adverse effects, full consideration of the specific needs and special circumstances of developing countries, and the need for pursuance of sustainable development.

The Kyoto Protocol was agreed on in 1997 after 5 years of negotiations. This Protocol has legally binding obligations, e.g. 'The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.' The Protocol also includes three international mechanisms to facilitate its implementation: International Emissions Trading, Joint Implementation and the Clean Development Mechanism. According to the UNFCCC Secretariat, 126 countries had ratified the Kyoto Protocol by mid 2004, representing over 44 per cent of total global emissions in 1990. With the subsequent ratification in October 2004, by Russia (representing 17 per cent of emissions), the Kyoto Protocol took effect in February 2005, despite the absence of the USA.

There are two major strategies that countries need to take under the Convention. The first one is mitigation i.e. reducing greenhouse gases to meet the objective of the UNFCCC (article 2), while the second one is adaptation i.e. preparing for a changing climate. Adaptation is recognized as a critical response to the impacts of climate change, because current agreements to limit emissions, even if implemented, will not stabilize atmospheric concentrations of greenhouse gas emissions and climate change. Adaptation can reduce present and future losses from climate variability and change. It is neither a one-off intervention nor a stand-alone activity. It is rather a process that needs to be incorporated in overall development planning, including the design and implementation of projects and programs across all sectors.

Following the elaboration of the UNFCCC, the paper has dealt with the interlinkages of desertification and climate change, causes and evidences of climate change as well as impacts of climate change and variability.

3.6.2 Desertification and Climate Change
Climate change and desertification remain inextricably linked through feedbacks between land degradation and precipitation (Hulme, Mike and Mick Kelly, 1993, IPCC, 2001). Climate change might exacerbate desertification through alteration of spatial and temporal patterns in temperature, rainfall, solar insolation, and winds. Conversely, desertification aggravates carbon dioxide (CO$_2$)-induced climate change through the release of CO$_2$ from cleared and dead vegetation and reduction of the carbon sequestration potential of desertified land. Although the relative importance of climatic and anthropogenic factors in causing desertification remains unresolved, evidence shows that certain arid, semi-arid, and dry sub-humid areas have experienced declines in rainfall, resulting in decreases in soil fertility and agricultural, livestock, forest, and rangeland production. Ultimately, these adverse impacts lead to socioeconomic and political instability. Potential increases in the frequency and severity of drought are likely to exacerbate desertification.
Natural climate variability can accelerate the process of desertification. Changes in the frequency and severity of drought contribute substantially to dryland degradation and desertification. Declining rainfall can also cause changes in vegetation, with, for example, perennial grasses giving way to annual growth, and shrubs giving way to grass cover. Long periods of high winds can remove fertile top-soils causing soil erosion. In tropical sub-humid regions, fields bare of vegetative cover may be eroded by excessive runoff at the start of the rainy season.

Desertification contributes to both regional and global climate change. Reduced vegetation cover and soil quality can affect local climate by raising temperatures and reducing moisture levels. These effects may extend beyond the decertified area, resulting in regional changes in climate and atmospheric circulation, which in turn may accelerate the process of dryland degradation. Desertification (and efforts to combat it) may also influence global climate change by altering the emission and absorption of greenhouse gases. Declining vegetation and soil quality can result in the release of carbon, while re-vegetation can lead to more carbon being absorbed from the air and stored in biomass. Cattle fed on poor-quality desert scrub may produce more methane, while dry soils can absorb methane from the atmosphere, acting as "sinks". Nitrous oxide emissions may rise if more fertilizer is used to reclaim lands.

The links between climate change and desertification are recognized by the UN Framework Convention on Climate Change. The Convention states that countries with "arid and semi-arid areas or areas vulnerable to floods, drought and desertification" are "particularly vulnerable to the adverse effects of climate change" (Preamble). It also commits developed countries to cooperate in "the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification" (Article 4).

The definition of desertification adopted by the United Nations Conference on Environment and Development in 1992 is land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors including climatic variations and human activities. This definition cites climate variation as a direct causal factor and it implicitly links climate change and the assessment of the extent of desertification.

Since arid, semi-arid and dry sub-humid areas are climatically defined, any change in climate which results in an expansion or contraction of these areas will alter the extent of the area in which desertification can be considered to occur. For example, if an arid area converts to hyper-arid because of climate change, then the area in which desertification may occur will decrease. Hyper-arid areas are not included in the accepted definition. If a humid area converts to sub-humid, then the potential area within which desertification may occur will increase.

3.6.3 Causes of climate change
The composition of the atmosphere plays a key role in the exchange of radiation energy between the earth and the sun. The so called greenhouse gases present naturally in the atmosphere have a special property of being transparent for short wave solar radiation while absorbing long wave radiation emitted from the earth. This heat trapping property of the atmosphere is known as "the greenhouse effect" and keeps the annual average surface air temperature of the earth at about 15°C (Figure 3). Without these natural phenomena the earth's annual average temperature would be -18°C and life would not exist in such a cold situation. That means the greenhouse effect warms the Earth's surface by about 33°C. The greenhouse effect also applies to other planets. On Mars, where the greenhouse gases are
almost totally non-existent in the atmosphere, the temperature is about -60°C. On the other hand, Venus has an extremely high concentration of greenhouse gases and the temperature is around 480°C.

The atmospheric concentrations of greenhouse gases such as CO₂, CH₄, N₂O have been maintained for centuries at constant levels by a balance of natural fluxes in and out of the atmosphere. However scientific measurements have shown that the concentrations of these and other greenhouse gases are now rising as a direct result of human activities.

Global atmospheric concentrations of CO₂, CH₄ and N₂O have increased markedly as a result of human activities since 1750 and now far exceed pre-industrial values determined from ice cores spanning many thousands of years. The global increases in CO₂ concentrations are due primarily to fossil fuel use and land-use change, while those of CH₄ and N₂O are due primarily to agriculture (IPCC 2007).

The global atmospheric concentration of CO₂ increased from a pre-industrial value of about 280 ppm to 379 ppm in 2005. The annual CO₂ concentration growth-rate was larger during the last 10 years (1995-2005 average: 1.9 ppm per year), than it has been since the beginning of continuous direct atmospheric measurements (1960-2005 average: 1.4 ppm per year) although there is year-to-year variability in growth rates. The global atmospheric concentration of CH₄ has increased from a pre-industrial value of about 715 ppb to 1732 ppb in the early 1990s, and was 1774 ppb in 2005. Growth rates have declined since the early 1990s. The global atmospheric N₂O concentration increased from a pre-industrial value of about 270 ppb to 319 ppb in 2005.

A change in the natural composition of the atmosphere causes a change in the radiative energy balance of the earth-atmosphere system. Increased heat trapping ability of the atmosphere causes enhanced greenhouse effect. It is important to distinguish between the natural greenhouse effect, which is beneficial, and the enhanced greenhouse effect, which is harmful. The action of the greenhouse gases in increasing the temperature is sometimes described as radiative forcing. The belief that additional greenhouse gases in the atmosphere affect the energy balance of the earth atmosphere system and that the climate must respond in some way to this perturbation, rests on well established physics and is largely beyond dispute. In fact the warming effect of greenhouse gases in the atmosphere was first recognized in 1827 by the French scientist Jean-Baptiste Fourier. In 1896 the Swedish scientist Svante Arrhenius made the first calculation of the effect of doubling atmospheric concentration of CO₂.

3.6.4 Evidences of climate change

Global level evidences

According to the fourth assessment of the IPCC (IPCC 2007), warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.

Current climate variability and observed trends in Ethiopia

Mean annual rainfall distribution over Ethiopia is characterized by large spatial variations which range from about 2000 mm over some pocket areas in the Southwest to less than 250 mm over the Afar and Ogaden low lands (NMSA, 1996, NMSA 2001). Rainfall during a year occurs in different seasons. Unlike most of the tropics where two seasons are common (one wet season and one dry season), three seasons are known in Ethiopia, namely Bega (October-January), a dry season, Belg (February-May), a short rain season, and Kiremt (June-September), a long rain season. Temperatures are also very much modified by the varied
altitude of the country. In general the country experiences mild temperatures for its tropical
latitude because of topography. Mean annual temperature distribution over the country varies
from about 10°C over the high lands of Northwest, Central and Southeast to about 35°C over
North-eastern lowlands.

Mean annual minimum temperature and annual rainfall variability and trend observed over
the country in the period 1951-2006 are shown in figures 3 and 4 respectively. Annual
minimum temperatures are expressed in terms of temperature differences from the mean and
averaged for 40 stations. Figure 3 clearly reveals that there has been a warming trend in the
annual minimum temperature over the past 55 years. It has been increasing by about 0.37°C
every ten years.

The country has experienced both dry and wet years over the last 55 years as depicted in
Figure 3. The trend analysis of annual rainfall shows that rainfall remained more or less
constant when averaged over the whole country (Fig 4).

![Figure 3 Year to year variability of annual minimum temperature over Ethiopia expressed in
temperature difference (source NMA, 2007).](image3)

![Figure 4 Year to Year Variability of Annual Rainfall and trend over Ethiopia expressed in
Normalized Deviation (source NMA, 2007).](image4)
Drylands Coordination Group

Expected Climate Change

Global change
What is even more worrying is the future. Human influences will continue to change atmospheric composition throughout the 21st Century and anthropogenic climate change will persist for many centuries to come. Models have been used to make projections of atmospheric concentrations of greenhouse gases and aerosols, and hence of future climate, based upon emission scenarios from the IPCC Special Report on Emission Scenarios (SRES). Global average temperature and sea level are projected to rise under all IPCC SRES scenarios.

Projected Climate Change over Ethiopia
Climate projections for Ethiopia have been generated using the software MAGICC/SCENGEN (Model for the Assessment of Greenhouse-gas Induced Climate Change)/ (Regional and global Climate SCENario GENerator) coupled model (Version 4.1) for three periods centered on the years 2030, 2050 and 2080. Compared to the 1961-1990 normal the mean annual temperature will increase by about 0.9-1.1 °C by 2030, from 1.7-2.1 °C by 2050 and 2.7-3.4 °C by 2080 over Ethiopia for the IPCC mid-range (A1B) emission scenario (Figure 5).

![Temperature change](image)

Figure 5 Composite (average of 19 GCMs) change in temperature (°C) relative to 1961-1990 normal for A1B emission scenario.

![Rainfall change](image)
3.6.5 Impacts of climate variability and change

Understanding how social systems respond to climate change and variability requires knowledge of how they are affected by those conditions today and how they might respond in the future if those conditions change. Historical analogs give us some insight into climate changes and corresponding social responses.

The major adverse impacts of climate variability in Ethiopia include:

- Food insecurity arising from occurrences of droughts and floods;
- Outbreak of diseases such as malaria, dengue fever, water borne diseases (such as cholera, dysentery) associated with floods and respiratory diseases associated with droughts;
- Heavy rainfalls which tend to accelerate land degradation;
- Damage to communication, road and other infrastructure by floods.

Climate related hazards in Ethiopia include drought, floods, heavy rains, strong winds, frost, heat waves (high temperatures), lightning, etc. Though the historical social and economic impacts of all of these hazards is not systematically well documented the impact of the most important ones namely droughts and floods is discussed.

The other climate related hazard that affects Ethiopia from time to time is flood. Major floods occurred in different parts of the country in 1988, 1993, 1994, 1995, 1996 and in 2006 which caused loss of life and property.

Causes for vulnerability of Ethiopia to climate variability and change include very high dependence on rain-fed agriculture which is very sensitive to climate variability and change, under-development of water resources, low health service coverage, high population growth rate, low economic development level, low adaptive capacity, inadequate road infrastructure in drought prone areas, weak institutions, lack of awareness, etc.

Vulnerability assessment based on existing information has indicated that the most vulnerable sectors to climate variability and change are agriculture, water and human health. In terms of livelihood approach smallholder rain-fed farmers and pastoralists are found to be the most vulnerable. The arid, semiarid and the dry sub-humid parts of the country are affected most by drought.

Climate change is expected to have adverse ecological, social and economic impacts. Quantitative climate change impact assessments made so far on various socio-economic sectors is limited in the country. However, an effort is made to compile information on climate change impacts from various sources such as the Initial National Communications of Ethiopia to the UNFCCC, the IPCC reports and other sources.

3.6.2 Discussions and reflections on Abebe's presentation

Question 1 What are some of the roles of climate change adaptation for combating desertification?
Responses: Adaptation measures taken to cope up the impacts of climate change can aggravate or combat the spread of desertification. Therefore, there is a need for caution while selecting adaptation measures, as far as possible it is important to take adaptation measures for all climate change related problems.

Question 2: How far is reliable the seasonal forecasts issued by the National Meteorological Service Agency (NMSA) forecasted that this year. The amount of rainfall will be over normal. However, there is no rain in Gambella National Regional State.

Responses: Understanding the causes for fluctuation in temperature and precipitation is very important for reliable seasonal weather forecasting. Studies indicate that the amount in rainfall we get during winter is highly linked with Sea Surface Temperature. For example, Occurrence of ELINO (temperature increase) and LANINA (decrease in temperature) in Pacific Ocean is causing flood or drought in Ethiopia. Therefore, our seasonal forecasting has got scientific basis and it is reliable. However, further research and studies are required to make more reliable.

Question 3: What are the developed countries doing with regard to emission of green house gasses?

Responses: The main objective of the UNFCCC is decreasing emission level of green house gasses. Those countries who are signatories to the UNFCCC and the Kyoto protocol are taking various measures to fulfill their obligation as per the Kyoto Protocol. European Countries are exemplary in this regard. Even though, United States of America and Australia, measure polluters, are not signatory to the Kyoto Protocol; others are trying to reduce their emissions using various mechanisms.

Question 4: What is the contribution of biofuel in mitigating the impacts of climate change? What are the pros and cons of biofuel?

Responses: Biofuel development can contribute in ameliorating climate change impacts. However, there are issues to be carefully looked into while developing biofuel among which taking precautionary measures not to develop biofuel on agricultural lands so as to avoid competition on crop and livestock production.

Question 5: How far is Ethiopia benefited by ratifying the UNFCCC?

Responses: UNFCCC has set obligations on the developed countries to provide financial and technological supports for developing countries. To this effect, Global Environmental Facility-GEF has been established to serve as financial mechanism for the implementation of CBD, UNFCCC, Basel Convention, etc. Ethiopia is some how benefited from the GEF. For example we got financial support for the preparation of Initial National Communication of Ethiopia to the UNFCCC, National Adaptation Plan of Action (NAPA) and Climate Change Technology Needs Assessment (TNA) documents. Moreover, we got support for training and attend international conferences. However, we did not make use of the GEF mechanism as we should.
4. CONCLUDING REMARKS AND THE WAY FORWARD

4.1 CLOSING REMARKS

The closing remark was given by Dr. Menberu Lulu inviting the three Regional State workshop representatives to express their feelings on lessons gained from the workshop and wrap-up the two day workshop deliberations. In sum, the three Regional State workshop representatives gave the following remarks.

They stated: “we have got very useful information and awareness on the different Conventions and National Actions with regard to natural resources status and its implementation. In addition we have got lessons, by sharing experiences amongst ourselves, that enables us to know our region based desertification related problems which regions themselves could not solve alone unless and otherwise supported by higher bodies and financing institutions both financially and technically.”

Last, but not least, workshop participants requested workshop organizers that such kind of awareness creation should continue in the future for further communication, information sharing and learning.

The workshop participants extended their sincere appreciation and highly thanked EACD for taking the initiative and organizing such kind of vital workshop bringing together the three neighboring Region State participants to discuss on their common problems and exchange ideas/views and opinions to learn and share experiences from each other.

The two days workshop was closed by Dr. Menberu through extending sincere thanks and appreciations to all workshop participants for their active and diligent participation and valuable contributions coming all the way from different corners and distances.

4.2 THE WAY FORWARD

On the topic further explanation was given on how each region could prepare its action plan as a way forward. Following this, the purpose or objective of the Action Plan preparation was briefed by Dr. Menberu Lulu and Solomon Retta, Executive Director of EACD that the action plans should base each region’s potential and capacity (technical plus financial) in order to make the action plans practical at the implementation stage. The exercise was meant to identify major problems in their area and prepare an action plan that is relevant to desertification and can only be implemented within their domain and the project period, i.e. November/December 2008. The assignment was also further meant to help create integration amongst stakeholders including CSOs while exercising to implement the action plan in their respective areas.
In view of the above, the three Regional State (Benshangul-Gumuz, Gambella and Oromya) workshop participants did a separate group work discussion and finally came up with their respective action plans. Each region presented its own action plan on a flip chart to workshop participants and a plenary discussion was held on each presentation. After hearing each region reporters' presentation, feedback/comments and suggestions were given by workshop participants on each Region's Action Plan presentations.
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ANNEXES

ANNEX 1: PROPOSED ACTION PLAN BY EACH REGIONAL STATE

Gambella National Regional state

<table>
<thead>
<tr>
<th>S/N</th>
<th>Challenges</th>
<th>Solutions to overcome the challenges</th>
<th>Planned activities</th>
<th>Time/schedule</th>
<th>Responsible body</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lack of awareness on the environmental protection and natural resources management by the concerned bodies</td>
<td>Promote awareness creation</td>
<td>- prepare proposal to NGOs to conduct awareness workshop</td>
<td>July - October 2008</td>
<td>EP and NR development sectors, FEPA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- strengthen the school environmental clubs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Lack of awareness of the three Rio Conventions by policy makers and general public</td>
<td>Awareness creation on Rio Conventions</td>
<td>* Conduct awareness creation workshops to policy makers at regional level.</td>
<td>July 2008</td>
<td>MZLSP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* prepare workshop on the three Conventions with other natural resources management.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Lack of environmental policies implementation on natural resources management and land use planning development</td>
<td>Trainings, technical support and experience sharing.</td>
<td>* provide trainings.</td>
<td>July - August 2008</td>
<td>By sectors team collaboration</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* provide technical support to experts.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>* develop experience sharing tours to concerned bodies.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>* conduct monitoring.</td>
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</tr>
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</table>
### Drylands Coordination Group

<table>
<thead>
<tr>
<th>No.</th>
<th>Challenges</th>
<th>Solutions to overcome the challenges</th>
<th>Planned activities</th>
<th>Time/schedule</th>
<th>Responsible body</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Lack of alternative energy resources use</td>
<td>Hunt for supporting agents</td>
<td>* encourage and share ideas with NGOs and energy department to work on alternative energy sources</td>
<td>July 2008</td>
<td>Environmental protection and natural resources development sectors and BoA.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Make effective the Association that can run environmental activities</td>
<td>Strengthen the existing Association for environmental management</td>
<td>Encourage ideas through conducting trainings.</td>
<td>August-December 2008</td>
<td>BoA</td>
</tr>
</tbody>
</table>

### Oromya National Regional State

<table>
<thead>
<tr>
<th>S/N</th>
<th>Challenges</th>
<th>Solutions to overcome the challenges</th>
<th>Planned activities</th>
<th>Time/schedule</th>
<th>Responsible body</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lack of awareness on Conventions of UNCCD</td>
<td>Creating awareness at different levels.</td>
<td>Conduct awareness at regional Zonal Woreda levels by selecting specific places.</td>
<td>August - September 2008</td>
<td>OEPO/FEPA</td>
</tr>
<tr>
<td>2</td>
<td>Lack of sound land use plan</td>
<td>Implementing current land use planning</td>
<td>Develop land use planning</td>
<td>October 2008</td>
<td>OARDO</td>
</tr>
<tr>
<td>3</td>
<td>Misuse of forest product/unwise forest product utilization</td>
<td>Use of alternative energy sources</td>
<td>Identify energy sources to exploit</td>
<td>September 2008</td>
<td>OARDO+MEO</td>
</tr>
</tbody>
</table>
### Workshop on Capacity Building for Regional Council Members

<table>
<thead>
<tr>
<th></th>
<th>Weak institutional coordination and arrangement</th>
<th>Improving existing institutional arrangements and interrelation with others.</th>
<th>Strengthening institutional arrangement and interrelation.</th>
<th>November - October 2008</th>
<th>OEPO/Oromya Regional government</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Lack of/Inadequate technology for dissemination</td>
<td>Introduction and dissemination of new technology</td>
<td>Prepare/select appropriate technology for introduction and demonstration</td>
<td>December 2008</td>
<td>OEPO/FEPA</td>
</tr>
</tbody>
</table>

### Benshangul Gumuz National Regional State

<table>
<thead>
<tr>
<th>S/N</th>
<th>Challenges</th>
<th>Solutions to overcome the challenges</th>
<th>Planned activities</th>
<th>Time/schedule</th>
<th>Responsible body</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lack of awareness on UNCCD at higher officials</td>
<td>Creating awareness for higher officials and stakeholders</td>
<td>Submit report and conduct trainings</td>
<td>July 2008</td>
<td>REPA/FEPA</td>
</tr>
<tr>
<td>2</td>
<td>Lack of access to alternative for Household energy sources</td>
<td>Awareness creation for Kebeles and Woredas.</td>
<td>Promote trainings</td>
<td>August 2008</td>
<td>RWMERDB</td>
</tr>
<tr>
<td>3</td>
<td>Lack of integrity amongst the concerned stakeholders</td>
<td>Formation of platform amongst stakeholders to create integrity</td>
<td>Establish committees and forums</td>
<td>October 2008</td>
<td>Regional EPA</td>
</tr>
<tr>
<td>4</td>
<td>Poor organizational structure at regional level and even absence of Zonal and Woreda level</td>
<td>Empower institutions with adequate human power and formation of feasible organogram</td>
<td>Communicate with regional councils Coordination Offices and other stakeholders</td>
<td>November 2008</td>
<td>Regional Councils Offices and Administration</td>
</tr>
</tbody>
</table>
## ANNEX 2: WORKSHOP PROGRAM

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Activity/Program</th>
<th>Presenter</th>
<th>Position</th>
<th>Facilitator</th>
</tr>
</thead>
<tbody>
<tr>
<td>26/06/08</td>
<td>8:30 - 9:00 am</td>
<td>Registration</td>
<td>Organizers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9:00 - 9:15 am</td>
<td>Program introduction</td>
<td>Solomon Reta</td>
<td>EACD, Executive Director</td>
<td>Ato Tekle Weldegerima</td>
</tr>
<tr>
<td></td>
<td>9:15 - 9:30 am</td>
<td>Welcome speech</td>
<td>Dr. Menberu Lulu</td>
<td>EACD Board Chairperson</td>
<td>&lt;&lt;</td>
</tr>
<tr>
<td></td>
<td>9:30 - 9:45 am</td>
<td>Opening speech</td>
<td>Kidanu Kebede</td>
<td>East Wolega Zone Administrator</td>
<td>&lt;&lt;</td>
</tr>
<tr>
<td></td>
<td>9:45 - 9:55 am</td>
<td>Participants introduction</td>
<td>Participants</td>
<td></td>
<td>Ato Tekle Weldegrim</td>
</tr>
<tr>
<td></td>
<td>9:55 - 10:20 am</td>
<td>Tea break</td>
<td>Organizers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:20 - 10:55 am</td>
<td>An overview of the history and objective, principles, etc of the UNCCD with particular emphasis to land degradation and desertification, special updating on the process and outcome of recently revised/amended NAP document.</td>
<td>Ababu Anage</td>
<td>Head, Eco Systems Department, FEPA</td>
<td>&lt;&lt;</td>
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<tr>
<td></td>
<td>10:55 - 12:30 pm</td>
<td>Discussion</td>
<td>Participants/Plenary</td>
<td></td>
<td>&lt;&lt;</td>
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<tr>
<td></td>
<td>12:30 - 1:30 pm</td>
<td>Lunch break</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>1:30 - 2:00 pm</td>
<td>An overview: The Role of CSOs(NGOs/CBOs) in Ethiopia towards combating desertification or implementing the UNCCD/NAP-Ethiopia</td>
<td>Dr. Menberu Lulu</td>
<td>EACD Board Chairperson</td>
<td>&lt;&lt;</td>
</tr>
<tr>
<td></td>
<td>2:00 - 2:20 pm</td>
<td>Discussion</td>
<td>Participants</td>
<td></td>
<td>&lt;&lt;</td>
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<tr>
<td></td>
<td>2:20 - 2:50 pm</td>
<td>The Need for Synergy among the Three Rio Conventions and Synergy Strategy in Ethiopia</td>
<td>Shimelis Fekadu</td>
<td>FEPA</td>
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<tr>
<td></td>
<td>2:50 - 3:10 pm</td>
<td>Discussion</td>
<td>Participants</td>
<td></td>
<td>&lt;&lt;</td>
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<tr>
<td>Time</td>
<td>Activity</td>
<td>Presenter(s)</td>
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<tr>
<td>27/06/08</td>
<td><strong>Workshop on Capacity Building for Regional Council Members</strong></td>
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<tr>
<td>8:30 - 9:00am</td>
<td>Registration</td>
<td>Organizers</td>
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<tr>
<td>9:00 - 9:30am</td>
<td>Natural Resource Status in Ethiopia and the consequence of its degradation</td>
<td>Siraj Bekeli (Head, Regional Environmental Protection Office)</td>
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<tr>
<td>9:30 - 10:00am</td>
<td>Discussion</td>
<td>Participants</td>
<td></td>
<td></td>
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<tr>
<td>10:00 - 10:20am</td>
<td>Tea break</td>
<td>Organizers</td>
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<tr>
<td>10:20 - 10:45am</td>
<td>Gender &amp; Environment with particular emphasis on role of women on combating desertification/land degradation</td>
<td>Mulumebet Melaku (Head, Women Affairs Department, MoARD)</td>
<td></td>
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<tr>
<td>10:45 - 11:00am</td>
<td>Discussion</td>
<td>Participants</td>
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<tr>
<td>11:00 - 11:30am</td>
<td>Linkage of climate change and the spread of desertification</td>
<td>Abebe Tadege (Head, Meteorological Research &amp; Studies, NMSA)</td>
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<tr>
<td>11:30 - 11:45am</td>
<td>Discussion</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>11:45 - 12:30pm</td>
<td>The way forward action plan preparation for respective regions</td>
<td>Participants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30 - 1:30pm</td>
<td>Lunch break</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1:30 - 3:20pm</td>
<td>Action plan preparation continue</td>
<td>Participants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:20 - 4:00pm</td>
<td>Discussion on action plan presented</td>
<td>Plenary</td>
<td></td>
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</tr>
<tr>
<td>4:00 - 4:20pm</td>
<td>Tea break</td>
<td>Organizers</td>
<td></td>
<td></td>
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<tr>
<td>4:20 - 4:40pm</td>
<td>Over all session</td>
<td>Plenary</td>
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### ANNEX 3: LIST OF WORKSHOP PARTICIPANTS

<table>
<thead>
<tr>
<th>S/N</th>
<th>Full name</th>
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<th>Position</th>
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<tbody>
<tr>
<td>1</td>
<td>Hayelom Kiros</td>
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<tr>
<td>2</td>
<td>Gathuau Nhiae</td>
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<td>Ojulu Okello</td>
<td>ARDB/DPPFS</td>
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<td>Researcher</td>
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<td>8</td>
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<td>13</td>
<td>Yared Awgichew</td>
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List of Publications

Reports:


1 B. Synnevåg, G. and Halassy, S. 1998: "Food Security Indicators in Two Sites of Norwegian Church Aid’s Intervention Zone in Mali: Bambara Maoudé and N’Daki (Malian Gourma)", Drylands Coordination Group and Noragric, Agricultural University of Norway.


4 A. Sydness, M., Ba, B. 1999: "Processus de décentralisation, développement institutionnel et réorganisation des ONG financées par la Norvège au Mali", Groupe de Coordination des Zones Arides et Noragric, Agricultural University of Norway.


43B. Ask, V. 2006. « La CCD et la Sécurité Alimentaire des Pasteurs Dans le Contexte des Droits de l’Homme ». Drylands Coordination Group, Milj0huset G9, Norway


45. Araia, W., Haile, A. 2006. “Baseline study on crop husbandry, in-situ conservation and informal seed supply system in Eritrea”. Drylands Coordination Group, Milj0huset G9, Norway.


Proceedings:


Drylands Coordination Group


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*69
Drylands Coordination Group Addresses in Norway:

Secretariat of the Drylands Coordination Group
Grensen 9b, 0159 Oslo, Norway
Tel: +47 23 10 94 90, Fax: +47 23 10 94 94
E-mail: dcg@drylands-group.org

ADRA Norge
Postboks 124, 3529 Røyse, Norway
Tel.: +47 32 16 16 90, Fax: +47 32 16 16 71
E-mail: 102555.2157@compuserve.com

CARE Norge
Universitetsgt. 12, 0164 Oslo, Norway
Tel: +47 22 20 39 30, Fax: +47 22 20 39 36
E-mail: care.norge@online.no

Development Fund
Grensen 9b, 0159 Oslo, Norway
Tel: +47 23 10 96 00, Fax: +47 23 10 96 01
E-mail: u-fondet@u-fondet.no

Norwegian Church Aid
Postboks 7100, St. Olavs plass, 0130 Oslo, Norway
Tel: + 47 22 09 27 00, Fax: + 47 22 09 27 20
E-mail: nca-oslo@sn.no

Norwegian People’s Aid
P.O. Box 8844 Youngstorget, 0028 Oslo, Norway
Tel: + 47 22 03 77 00, Fax: + 47 22 17 70 82
E-mail: norsk.folkehjelp@npaid.no

Noragric, Department for International Environment and Development Studies
University of Life Sciences, P.O. Box 5003, 1432 As, Norway
Tel: +47 64 94 99 50, Fax: +47 64 94 07 60
E-mail: noragric@noragric.umb.no