PROJECT BRIEF

United Nations Development Programme

ENVIRONMENT AND ENERGY

ETHIOPIA: STRENGTHENING CLIMATE INFORMATION AND EARLY WARNING SYSTEMS IN AFRICA FOR CLIMATE RESILIENT DEVELOPMENT AND ADAPTATION TO CLIMATE CHANGE

Issues

Climate changes and the limited availability of climate information pose significant challenges for managing, planning and responding to severe weather events in Ethiopia. A combination of insufficient observational infrastructure (e.g. automatic weather stations and hydrology gauging stations) and a low capacity to analyse and model the weather, climate and environment, leads to inadequate information being available to support climate-related decision making. This weak observational and analytical capability compounds the difficulty to foresee and manage extreme weather events, and to plan to mitigate the long-term impacts of climate change on society and the economy.

Figure 1: Ethiopians are vulnerable to climate change because they are very dependent on natural resources, particularly water.

Climate change is of critical importance to Ethiopia. Its economy remains reliant on climate sensitive agriculture and rainfall (42% of GDP emanates from and 85% of employment is in the agriculture sector), as well as natural resource dependent energy (biomass and hydropower). Recent assessments have estimated that economic growth could be hit by up to 2.5% per year unless measures are taken to build capacity to adapt to the opportunities and constraints changes in climate may bring (World Bank 2008). Climate Change is also expected to increase the fraction of people living in poverty, in turn increasing income inequality (Mideksa 2010), which is likely to decrease economic growth and fuel poverty.

Project Summary

- Country: Ethiopia
- Project Budget: $4,900,000
- Project Funding Source: LDCF (GEF)
- Project Co-Financing: $33,336,410
- Project Period: 2013-2016
- Implementing partners: National Meteorological Agency
- Target area: Oromia and Affar region, Lake Tana, Awash River, Amahara

Actions

Working in several flood and drought prone regions the project is reducing vulnerability to climate change risks and impacts by strengthening the capacity of the Government of Ethiopia to observe, analyse and forecast climate information to enhance their early warning systems and inform climate resilient development and adaptation to climate change.

For more information: **www.undp.org/**
United Nations Development Programme
One United Nations Plaza • New York, NY 10017 USA

1. Enhanced capacity of the National Meteorology Agency (NMA) and the Hydrology and Water Quality Directorate to monitor extreme weather and climate change

The project will enhance the capacity of hydro-meteorological services to monitor and predict weather events and climate changes by installing and rehabilitating observing equipment (weather and hydrological stations, upper air stations and satellite monitoring equipment), as well as providing training and capacity development for the operations and maintenance of equipment and for using available data for weather and climate forecasting . Improving access to climate information and the speed with which it is communicated (using mobile phone and other networks) will enable the early warning system to be more effective and efficient. In turn this will improve the ability of different sectors, particularly the Disaster Risk Management and Food Security Sector, to forecast climate-related risks and vulnerabilities in a timely manner and for areas where information was previously unavailable.

2. Efficient and effective use of hydro-meteorological and environmental information for early warnings and long-term adaptation

Strengthened observational infrastructure and weather/climate information in itself will not improve the EWS and use of climate information. Climate information needs to be clearly understandable, provide the required information for decision making and tailored for use in particular sectors such as agrometeorological advisories, flood early warnings and alerts (see figure 2) and severe weather warnings. Alerts and forecasts will therefore be tailored and designed so that they are more easily understood and useable by different sectors. This involves a number of activities, including: enabling NMA to make and use weather/climate forecasts (on daily to seasonal, as well as medium- to long-term timescales); Identifying user needs to provide tailor made sector-specific early warning products that link climate, environment and socio-economic information on a range of timescales; Strengthening the national capacity to assimilate forecasts and incorporate them into long term planning and poverty reduction strategies; Enabling and improving communication channels for disseminating early warnings to people and communities; Creating public-private partnerships for the long-term sustainable financing of the EWS and climate information system. This initiative will additionally support the use of gender-sensitive products and communication strategies, largely through the preparation of sector-specific early warning products and using a range of media to target men and women.

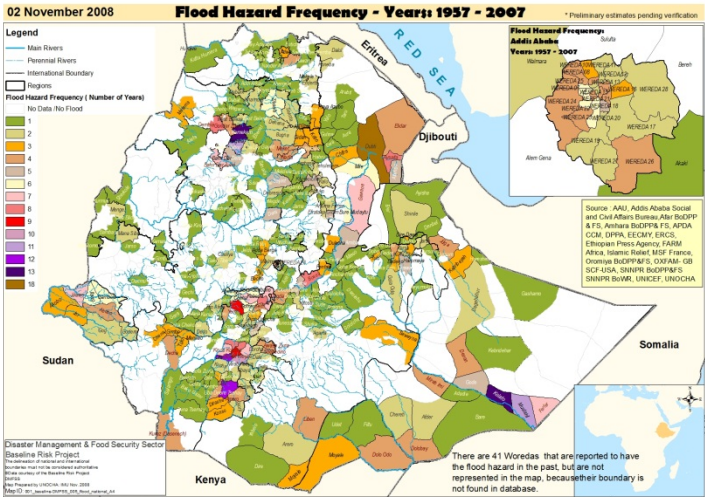

Figure 2: Flood distribution and frequency map

Expected Impacts

The project anticipates achieving significant and measureable improvements in the capacity of Ethiopia to monitor extreme weather, climate change and reduce the impact of weather related disasters such as floods and droughts. It will provide Ethiopia with the capacity to develop and enhance: (i) an early warning system for severe weather; (ii) real-time weather and hydrological monitoring capabilities; (iii) weather/climate forecasting capabilities; (iv) agro-meteorological information and services (including integrated crop and pest management); (v) applications related to building and management of infrastructure; (vi) land and air transport management; (vii) integrated water resources management; and (ix) planning and policy making processes. The use of climate information for risk management and long-term planning will be enhanced across a range of sectors and communities.

Contact Information: Mark Tadross, Technical Advisor, mark.tadross@undp.org

We would like to recognise the partners that have contributed financially and otherwise, these include the Government of Ethiopia and the Global Environment Facility (GEF).