STRENGTHENING CLIMATE INFORMATION AND EARLY WARNING SYSTEMS IN EASTERN AND SOUTHERN AFRICA FOR CLIMATE RESILIENT DEVELOPMENT AND ADAPTATION TO CLIMATE CHANGE – UGANDA

Issues

Uganda’s economy is closely linked to its natural resources because a large proportion of its economy is based on rain-fed agriculture. Over the past three decades, increasing temperatures, shifting rainfall patterns and climate-related hazards – in particular droughts, floods and severe storms – have undermined social and economic development in Uganda. Climate hazards have negatively affected the livelihoods of some 150,000 people and caused an average of 74 deaths per year. The economic impact of climate hazards on the agriculture sector is estimated to be in excess of 120 billion Ugandan Shillings (US$ 46.9 million). There is limited data available to estimate the projected economic costs of climate change to Uganda, but studies from similar African countries indicate an annual loss in GDP of 1.5–3% by 2030 under a business-as-usual scenario. A large proportion of the Ugandan population has a low capacity to adapt to climate change. This is compounded by limited infrastructure in sectors such as water, sanitation, and health services. Uganda’s capacity to adapt to climate-related hazards should therefore be developed to limit the negative impacts of climate change and address the country’s socio-economic and developmental challenges effectively.

Actions

To support effective adaptation planning – in particular for an increase in the intensity and frequency of droughts, floods and severe storms – an enhanced climate monitoring network and an Early Warning System (EWS) is required. This LDCF-financed project will establish a functional network of meteorological and hydrological monitoring stations and associated infrastructure. This will be achieved by delivering two integrated and complementary outcomes:

1. Enhanced capacity of the Department of Meteorology (DoM) and Department of Water Resource Monitoring and Assessment (DWRM) to monitor and forecast extreme weather, hydrology and climate change.

New infrastructure, including weather stations and forecasting facilities, will build upon and be integrated into existing DoM and DWRM infrastructure and capacity. Operators and managers will be trained to ensure efficient use of the facilities. A protocol and agreement will be developed between the DoM and DWRM to ensure collaborative management and operation of automatic and manual stations. Agreements will also be developed regarding data collection, data exchange, data processing, data analysis and water resource assessments (in particular those dealing with flood, drought and severe
capacity development will be undertaken to sustain the enhanced observation network during and beyond the lifetime of the LDCF project. LDCF project activities under this outcome will also complement and enhance existing meteorological and hydrological support programmes being funded by the World Bank and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The outcome will enhance the coverage of spatial variability that exists, especially for rainfall, to ensure that weather and climate data is collected within climate change vulnerable areas.

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

Technical capacity of DoM and DWRM will be strengthened by training forecasters to produce standard and customised weather and climate forecasts. They will also learn to package hydro-meteorological data and information into a suitable format. Tailored weather and climate information (including colour-coded alerts for flood, drought, severe weather and agricultural stresses, integrated cost-benefit analyses and sector-specific risk and vulnerability maps) will be made accessible to decision makers in government, private sector, civil society, development partners and local communities in the Teso and Mt Elgon sub-region. Weather and climate information will be mainstreamed into national policies, annual workplans and local development. This includes the National Policy for Disaster Preparedness and Management, as well as district and sub-county development plans in priority districts in the Bukedi, Busoga, Elgon, Teso, Acholi, Karamoja and Lango sub-regions. Governmental and non-governmental communication channels and procedures for issuing alerts including advisories, watches and warnings will be strengthened. This includes the development of an early warning system dissemination toolbox and mobile-based alert platforms in the Teso and Mt Elgon sub-regions. Sustainable financing options will be identified, developed and implemented for the operation and maintenance of the installed systems. This will support the timely sharing and dissemination of relevant weather and climate information with users at both the national and district levels. Standard Operating Procedures for disseminating and responding to weather and climate forecasts will be developed and demonstrated.

Expected Impacts

The project anticipates achieving a significant and measurable reduction in food insecurity and climate vulnerability amongst the local communities in the target areas. This will be achieved through installing an enhanced national hydro-meteorological network that generates and disseminates reliable climate and weather data. This network will provide information to generate tailored, sector-specific EWSs. Early warning messages will enable small-scale farmers, business owners and vulnerable communities to prepare for rapid-onset climate change impacts such as damage to fields and property. It will also give government information on slow-onset climate hazards that will require a transformational shift in economic development and risk-reduction efforts.

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