STRENGTHENING LIBERIA'S CAPABILITY TO PROVIDE CLIMATE INFORMATION AND SERVICES TO ENHANCE CLIMATE RESILIENT DEVELOPMENT AND ADAPTATION TO CLIMATE CHANGE

Issues

The main economic sectors of Liberia, including agriculture, fisheries, forestry, are highly vulnerable to climate variability and change. The agricultural sector contributes over 66% to Liberia's Gross Domestic Product (GDP) andover 90% of subsistence farmers are dependent on rain. Recent changes in rainfall patterns have made it increasingly difficult to identify the optimal time to plant crops. The onset and duration of seasonal rainfall is becoming unpredictable, aggravating pest and disease problems. Any climate change impact on fisheries will affect food security, because fisheries provide the main source of animal protein in the typical Liberian diet. . Climate change will impact forestry by affecting tree growth, as well as tree survival and timber quality, which will also be negatively impacted by pests and diseases. In addition, changes in rainfall and temperature patterns are expected to result in an increased incidence of water-borne diseases, such as malaria, cholera and dysentery. The Liberian hydro-meteorological services have a limited capacity to monitor, forecast, archive, analyse and communicate information on water resources and climate.

Figure 1: Forecasters at Roberts International Airport with the AMESD satellite receiver.

Project Summary

- Country: Liberia
- Project Budget: US$ 6,730,000
- Project Funding Source: GEF/LDCF
- Project Co-Financing: US$ 11,859,700
- Project Period: 2013–2017
- Implementing Partners: Government of Liberia (GoL): Environmental Protection Agency (EPA), Ministry of Transport (MoT)
- Target Areas: Grand Gedeh or Bong County (Interior); Grand Cape Mount, Montserrado or Grand Bassa County (Coastal)

This includes forecasting the impact of extreme weatherevents and disasters. Consequently, a coordinated and complete climate information (including weather monitoring and forecasting) system and Early Warning System (EWS) in Liberia does not yet exist. This limits the effectiveness of long-term development planning and the delivery of timely warnings to key sectors and communities vulnerable to climate change impacts.

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 and EWS is required. This Least Developed Country Fund (LDCF)-financed project will realise the long-term development planning benefits of a streamlined, customised and consolidated EWS, informed by accurate climate information. The geographic distribution of meteorological monitoring stations will be increased at a national level. In addition, communication channels will be established to disseminate climate information and early warnings. The dissemination of early warnings will be tested in two target districts which will be determined during the project implementation phase. The following three outcomes will be delivered through this GoL-led initiative:

1. Increased capacity of hydro-meteorological services and associated networks to monitor and predict extreme weather, climate-related hazards and climate trends.

This outcome will address the infrastructure and human resource shortages that currently inhibit the effective collection of relevant climate-related information. The generation of climate information for risk analyses will be improved. The installation and rehabilitation of meteorological and hydrological monitoring stations will generate weather and climate data in areas that are not currently monitored.

2. Efficient and effective use of tailored climate, environmental and socio-economic data to produce appropriate information, which can be communicated to government entities and communities to enable informed decision-making.

Hydro-meteorological and satellite-derived information generated in Outcome 1 will be analysed in conjunction with existing socio-economic information to assess current and predicted climate risks. A suite of information packages that convey early warning messages in an appropriate format for specific targeted end-users will be developed. Effective channels of communication will be identified, including mobile phones, radio and word-of-mouth. The dissemination of early warning messages tailored to the agricultural and coastal sectors, respectively, will be tested in selected districts. Feedback from end-users and lessons from pilot activities will be used to improve and develop the packages for other EWSs.

3. Increased awareness in government, the private sector and local communities of the major risks associated with climate change, and use of available information when formulating development policies and strategies.

The capacity of the GoL to assess the impacts of climate change on vulnerable sectors and communities will be strengthened. EWS information generated in Outcome 1 and 2 will be used as a basis for discussing climate change-related vulnerabilities and their likely effects on local communities. Furthermore, information generated by the LDCF project will guide the development of policies which will further strengthen the climate change resilience of vulnerable socio-economic sectors. The LDCF project will engage with the private sector and government to identify potential opportunities to finance the operation and maintenance of the enhanced hydro-meteorological observation network and EWSs. This will include the identification of potential paid-for services which package climate information tailored to specific sectors.

Expected Impacts

The project anticipates achieving a significant and measurable reduction in food insecurity and climate vulnerability amongst the local communities in the targeted areas. This will be achieved through 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 allow small-scale farmers, business owners and vulnerable communities to prepare for rapid-onset climate change impacts that could result in damage to agricultural 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.

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

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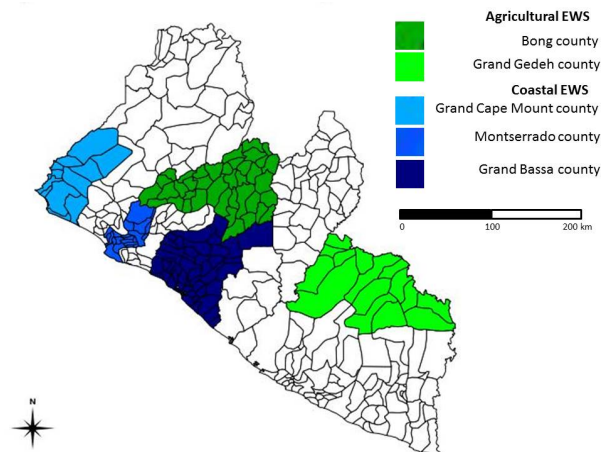

Figure 2: Counties for the agricultural and coastal EWSs to be implemented through the LDCF project.