



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

Issues

Burkina Faso is highly exposed to extreme weather and climate change impacts, most notably floods, droughts, strong winds and high variability in the duration of the rainy and dry seasons. All of these impacts have made it difficult to manage natural resource-based productive sectors including agriculture, fisheries, and forestry. They have also compounded the difficulty of planning for food security, health epidemics and water resource management, particularly dam and hydropower operations. For instance, heavy rainfall in 2009 was responsible for flooding crops, washing away 22,220 hectares of farmland, breaking 15 dams and destroying 42,000 homes (PDNA 2010). Also, during hot and dry periods, Burkina becomes victim to the spread of vector-borne diseases including meningitis and cholera, where in March 2010 alone, a meningitis outbreak caused 193 fatalities (DREF 2010).

Challenges for planning and management include a limited network of hydro-meteorological monitoring infrastructure. A lack of observing stations has meant that many important regions and populations vulnerable to climate hazards are not monitored; drought conditions (e.g., soil moisture) are not monitored for important agricultural lands and intense rainfall is not monitored in areas prone to landslides and flooding. As a result, many potentially threatening hazards have not been anticipated and some foreseen consequences have not been mitigated. A prime example is the 2009 major flood event, one of the most destructive floods in Burkina's history, where Burkina was unable to alert the population.

Where stations exist, they are often manually operated and do not

Project Summary

- Country: Burkina Faso
- Project Budget: \$4,000,000
- Project Funding Source: LDCF (GEF)
- Project Co-Financing: \$61,090,525
- Project Period: 2013-2016
- Implementing partners: Permanent Secretariat for the National Advisory on the Environment and Sustainable Development (SP / CONEDD)
- Target areas: Oursi, Boulsa, Diapaga, Nouna, Diébougou

report measurements for several weeks after the climate hazards have passed. Equipment failure is also common and regular checks and maintenance are often neglected due to insufficient funds and poor budget planning.

Capacities to strengthen adaptation during crises/catastrophes related to extreme weather are relatively limited, particularly at decentralized levels. Furthermore, although post-disaster management mechanisms exist, there is no top-down and bottom-up approach to make Burkina's socio-economic sectors less vulnerable to weather/climate-related risks. This is evident in that no standard communication system is available to warn local level populations.



Figure 1: Radar at Ouagadougou Airport, Burkina General Directorate on Meteorology (DGM) and SAAGA (Photo: Cara Tobin)

Actions

The Least Developed Country Fund (LDCF)-financed project has

the objective to build the country's capacity to plan for detrimental impacts/events, by strengthening existing Early Warning Systems (EWS) and improving Climate Information (CI) collection/transmission. In so doing, the project plans to increase the resilience of the most vulnerable populations by empowering them with knowledge on weather forecasts and climate scenarios which enables them to take preventive measures against expected impacts. In order to achieve these objectives, the following two outcomes will be delivered.

1. Enhanced capacity of national hydro-meteorological services and environmental institutions to monitor extreme weather and climate change

The existing hydro-meteorological monitoring network will be rehabilitated and expanded nationally to detect multi-risks (droughts, floods and strong winds). The non-functional radar in Ouagadougou will be repaired and another radio-sounding will be launched to take atmospheric profile data. Better integration of satellite data and Numerical Weather Models will enhance predictions and forecasts while data transmission and storage will be improved to enable timely, efficient alerts. Simultaneously, the sustainability of new investments in hydro-meteorological infrastructure will be ensured by reinforcing the capacities of national and decentralized agencies to manage the expanded networks and new services including recurring costs.

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

Through the second project Component, capacities of agencies to produce and communicate early warnings and climate information will be enhanced. The current lack of coordination amongst early warning initiatives in Burkina Faso will be addressed through the creation of a multi-agency warning synergy platform. In order to ensure sustainability of climate services, tailored forecasts, some revenue-generating, will be developed based on user-needs, both public and private. Alert dissemination will also be facilitated through the development of a Standard Operating Procedure (SOP) for communication. To ensure that alerts are received by end-users, they will be provided through multiple media outlets, targeting men and women, in all national languages.



Figure 2: Satellite receiving station at DCIME, (Departmental Division

on the Understanding of Environmental Information and Monitoring)
(Photo: Cara Tobin)

Expected Impacts

The project anticipates significantly improving climate services in Burkina Faso. By tailoring revenue-generating forecasts for various socio-economic sectors (e.g., agriculture, health, cotton, mining), the project will set the foundation for self-sustainable weather and climate monitoring. (Burkina's cotton sector has already indicated its willingness-to-pay for improved local forecasts.) Tailored climate products will also be used to detail best water management practices to help Burkina's fight against desertification.

The project will furthermore have beneficial impacts on communities by providing warnings and seasonal forecasts to support their drought and flood preparedness. The dissemination of early warnings and seasonal forecasts are expected to significantly reduce agricultural production losses, infrastructure destruction and disruption to people's livelihoods. Early warnings to communities also have the potential to have significant outreach when combined with a mobile phone-based alert relay.

Finally, the multi-agency synergy platform to be created through the project will support the coordination of the numerous on-going related initiatives thereby maximizing the use of resources between projects and eliminating the duplication of roles. Similarly, it is expected that the open-access data portal to be developed will facilitate knowledge sharing between ministries/agencies as well as with regional and international institutions.

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