Assessing Sustainability and Effectiveness of Climate Information Services in Africa

Project Overview

Africa is one of the most vulnerable continents to climate variability and change due to its high exposure to climate shocks (e.g., droughts) and relatively low resilience capacities (IPCC Fifth Assessment Report, 2014). In Sub-Saharan Africa (SSA) rain-fed agriculture, which is vital for a large percentage of the rural population and contributes significantly to GDP, is particularly vulnerable. Providing decision-makers, including farmers, with timely, accurate information on climate and weather variations can help inform decisions that enhance food security and avoid harvest loss, thereby increasing the resilience of farmers and improving social and economic outcomes.

However, the generation and delivery of climate information services (CIS) in SSA is significantly underfunded. To advance our understanding on how to bridge the funding gap this project will:

1) Develop metrics to assess sustainable and effective provision of CIS by National Meteorological and Hydrological Services (HMHSs) and conduct a baseline assessment of current gaps;
2) Identify business models for CIS and options to improve the sustainability of NMHSs including collaboration with the private sector; and
3) Build partnerships, synthesis knowledge, and ensure uptake of lessons.

A companion project – the Climate Information Services Research Initiative – will focus on factors that affect (a) the uptake and use of climate information services; and (b) effectiveness of such services in improving livelihood outcomes in rural Africa. For more information see ##add URL###

The Challenge

There is a growing interest in CIS programs to strengthen the adaptive capacity of rural communities and reduce their vulnerability to climate change and variability. CIS encapsulates both the provision of climate and weather information and related advisory services at temporal and spatial scales relevant to a range of stakeholders, including decision makers at a national (even regional) level down to smallholder farmers.

The development of effective CIS requires access to reliable climate and weather information. In most cases this involves the National Meteorological and Hydrological Services (NMHSs) as key stakeholders with a national mandate to observe, forecast, and issue warnings for pending weather, climate and water threats. However, many NMHSs in SSA are being asked to recover much of their own operational costs, as well as the costs associated with maintaining and expanding their observational networks. While the NMHS often has qualified and dedicated staff, resources are frequently grossly deficient. As a result, many NMHSs in SSA lack the capacity to provide even a basic level of services such as emergency warnings.

NMHSs do not operate in isolation. A network of public and private actors engages end-users in the co-design of climate services that meet specific decision-making needs. Combining public and private elements of CIS offer possible prospects for both increasing

"The climate has lost its memory"
(Nkasala farmer)

I.LEARN.CIS

Implementing a Learning Agenda to Record the Nuances of Climate Information Services (I.LEARN.CIS) is a research program supported by the U.S. Agency for International Development intended to implement a learning agenda to better understand how to develop effective, sustainable, country-led CIS programs in SSA. This learning agenda is taking an innovative approach to generate new information, evidence, and learning on the effective and sustainable production, delivery and use of climate information to improve rural agricultural livelihood decision-making and outcomes. I.LEARN.CIS seeks to harness a wide range of partners in order to examine CIS systems from the production of information at the National level down to the use of tailored products by individual farmers and other decision-makers.

cost-effectiveness of CIS and improving the usefulness of service delivery to rural end-users. A greater understanding of the institutional, financial and technical dimensions of sustainability in the delivery of public and private CIS for decision-makers is therefore urgently needed to develop a wider range of sustainable models and solutions for CIS.

Objectives

The *Assessing Sustainability and Effectiveness of CIS in Africa* project will seek to answer the question "what are sustainable and effective models for CIS?" To answer this the project will develop realistic models and options for sustainable delivery of CIS in SSA and consolidate and extend knowledge on existing CIS in SSA.

It is expected that if realistic models for sustainable national climate services and better-defined roles for regional institutions can be developed and implemented, then resources can be mobilized and used more effectively to meet client needs and improve decisions by women and men farmers and other decision-makers to produce better responses to climate variability and change.

Activities

The project will examine three components of CIS systems; i) financial; ii) technical; and iii) governance and partnerships. NMHSs and CIS will be examined in the context of i) rapidly evolving technologies and services for weather observation, ii) the role of the private sector, their organizational structure, financial resources, legal and regulatory framework, and relationship to national, regional and global institutions; and iii) gender aspects or considerations that need to be addressed.

The project will focus on the following activities:

Develop metrics to assess sustainable and effective provision of CIS by HMHSs, baseline assessment and approaches to bridge existing gaps: A gender-responsive baseline survey methodology will be developed following the five pillars of Global Framework for Climate Services (GFCS), to assess NHMS. We will explore cost-effective combinations of technologies for weather observation, storage and analysis, identify institutional staffing capacity and systems for communicating CIS by NHMS, and evaluate training and human development requirements for NHMS operation.

Identify options to improve the sustainability of CIS: The consortium will carry out a market assessment (using desktop review and analysis) and review private sector business models and technology innovations for communication of CIS in different country contexts. We will also assess financial models for NHMS and CIS delivery and policy implications of different financing models.

Consortium Members

Winrock International serves as the overarching consortium lead, spearheads the technical development of business and financial modeling, and builds on field presence in Sub-Saharan Africa, with a particular emphasis on gender integration and inclusiveness in the research.

The **International Research Institute for Climate and Society** leads the development of metrics and baseline assessment and provides country specific contributions to identifying sustainable models.

The **World Meteorological Organization / GFSC** provides overarching support using the GFSC five pillars framework to help to identify the gaps in NMHS capacity and delivery and will lead the team's partnership building component.

The **Climate System Analysis Group** provides technical input on methodologies for CIS systems analysis and harnesses significant field research presence in Southern Africa and contributes to all three activities.

AGRHYMET provides country-context for West Africa especially on NHMS current status, working conditions, and understanding of monitoring the meteorological, hydrological, crops and pastures conditions in countries, and contributes across all the activities.

Robert O'Sullivan
Winrock International,
robert.osullivan@winrock.org

Kathleen Hipkins
Winrock International,
kathleen.hipkins@winrock.org

Climate Links URL

Pulling the pieces together: partnership building, knowledge synthesis, and uptake of lessons learned: The consortium will build partnership amongst partners, develop monitoring and evaluation, ensure gender considerations are included, from the activities, in order to share the knowledge generated and learned with a wide audience. For more information see [www.climatelinks.org].

The work will focus in Ethiopia, Malawi, Niger, Rwanda, and Senegal and is expected to conclude by June 2018.