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 and stresses (e.g., droughts) and relatively low adaptive 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 with timely, accurate information on climate and weather variations can help inform decisions that enhance agricultural production and avoid harvest loss, thereby improving food security, lifting agricultural incomes, and increasing the resilience of farmers to future shocks and stresses.

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:

- Develop metrics to assess sustainable and effective provision of CIS by National Meteorological and Hydrological Services (NMHSs) and others, and conduct a baseline assessment of current gaps;
- Identify business models for CIS and options to improve the sustainability of NMHSs including collaboration with the private sector; and
- 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 https://www.climatelinks.org/projects/learningagendaonclimateservices.

THE CHALLENGE

There is a growing interest in CIS programs to strengthen the ability of rural communities to reduce their vulnerability to climate variability and change. 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 across levels – from regional and national down to local and 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 NMHSs often have 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.

"The climate has lost its memory"
Nkasala Farmer

Photo: C. Nelson, Niger 2012 | Mercy Corps

LEARNING AGENDA ON CLIMATE INFORMATION SERVICES IN SUB-SAHARAN AFRICA

The U.S. Agency for International Development is supporting a learning agenda to better understand how to develop effective, sustainable, country-led CIS programs in SSA. This learning agenda will 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. The learning agenda harnesses 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.

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 offers possible prospects for both increasing 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 user 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 rapidly evolving technologies and services for weather observation. It will also explore the role of the private sector, and CIS organizational structures, financial resources, legal and regulatory frameworks, and relationships to national, regional, and global institutions. Embedded throughout the activity is a closer examination of the gender differences in the use of and access to CIS.

The project will focus on the following activities:

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

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

Pulling the pieces together through partnership building, knowledge synthesis, and uptake of lessons learned: The consortium will build partnerships, 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.

Work will focus in the countries of Ethiopia, Malawi, Niger, Rwanda, and Senegal, and is expected to conclude by June 2018.

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 / Global Framework for Climate Services (GFCS)** provides overarching support using the GFCS 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.

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