SPOTLIGHT SERIES:
LEARNING AGENDA ON CLIMATE SERVICES
in Sub-Saharan Africa

Female farmers in Zinder, Niger, by Sean Sheridan, Mercy Corps

USERS AT THE CENTER OF DESIGN:
A Focus on Smallholder Farmers

To address the risks created by a variable and changing climate on household food security and livelihoods, smallholder farmers need to be centrally involved in articulating their climate information needs, shaping climate information delivery mechanisms, and improving systems as a whole.

CONTEXT

Across the world, smallholder farmers are facing devastating impacts from climate variability and change. For example, damage and losses from delayed rainy seasons, torrential storms, unexpected dry spells, persistent pests, and patchy rainfall can undermine food security and income generation. Climate services (CS) have the potential to support sustainable and resilient development in the face of these risks by providing timely, accurate, and useful climate and weather information that can enhance agricultural production, mitigate harvest losses, increase incomes, and improve food security. Unfortunately, this information is often not available to those who need it most, and when it is, users often face a number of challenges in accessing and using the information.

CLIMATE SERVICES HAVE THE POTENTIAL TO SUPPORT ***SUSTAINABLE AND RESILIENT DEVELOPMENT IN THE FACE OF RISKS*** *ASSOCIATED WITH A VARIABLE AND CHANGING CLIMATE*

For smallholder farmers to benefit from CS, their needs and perspectives must be at the heart of the conversation around CS design and delivery. This ensures that the information provided is appropriately contextualized and is accessible to and useful for those farmers. Bringing farmers' voices together with other key CS stakeholders from across the CS system, and strengthening their capacity to participate meaningfully in multi-stakeholder discussions on climate information, is critical to ensure CS are effective. With a rich array of perspectives and space for empowerment and feedback from farmers, stakeholders are better able to interrogate challenges in a holistic way, expand the range of potential solutions, and build consensus for action to improve CS.

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LEARNING HIGHLIGHTS

To address the risks created by a variable and changing climate on household food security and livelihoods, smallholder farmers need to be centrally involved in articulating their CS needs, shaping CS delivery mechanisms, and improving CS systems as a whole. This requires an inclusive, interactive approach in which participatory methods are used to facilitate farmer engagement throughout the process, from design through implementation and uptake.

As part of the Learning Agenda on Climate Services in Sub-Saharan Africa, the Climate Information Services Research Initiative piloted a **Participatory Climate Information Services Systems Development (PCISSD) methodology**. This unique methodology takes a holistic view of improving the overall effectiveness of the climate services system by bringing together key stakeholders from across the CS system, strengthening the capacity of local actors at all levels to contribute meaningfully to multi-stakeholder discussions on CS, and facilitating dialogue and consensus-building for action.

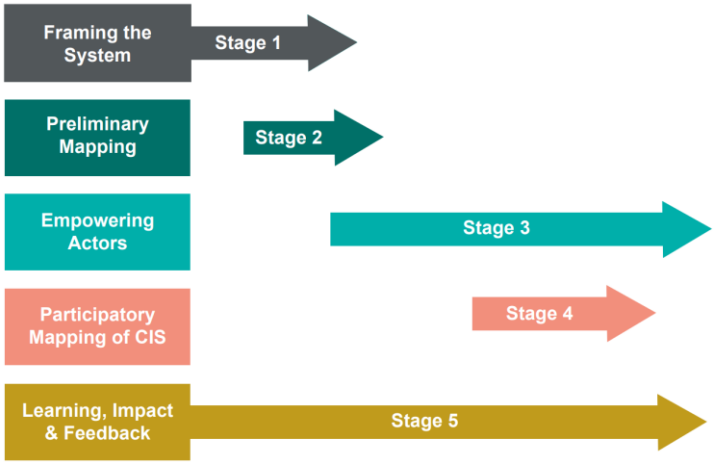

Image 1. The five stages of the Participatory CIS Systems Development methodology

The basis for this approach is grounded in the success of other participatory approaches working alongside smallholder farmers. Participatory Integrated Climate Services for Agriculture (PICSA) is a *community-level approach*, which utilizes participatory tools and processes to enable farmers to use climate information in planning and decision making. Rather than solely focusing on the ability of farmers to use climate information, the PCISSD methodology aims to take a *systems-level approach* to improving systems to more effectively support sustainable and resilient development. The methodology allows stakeholders to address the multitude of challenges that typically exist across a CS system, from data collection to analysis and communication of information to users' ability to access and apply information.

A FARMER-LED APPROACH TO SHRINKING THE CLIMATE INFORMATION GAP

After a preliminary workshop with national actors and fourteen participatory village-level workshops with over 140 farmers, a diverse group of climate services actors from across Niger, including farmers, radio broadcasters, extension agents, meteorologists, government officials, and NGO workers, came together in a culminating workshop in Niamey. Thanks to the PCISSD methodology, every actor, whether a smallholder farmer, a meteorologist, or a mayor, had the capacity to meaningfully engage in the conversation and action planning. With this diversity of voices and perspectives, participants were able to interrogate challenges and drive locally-driven improvements to climate services in Niger. By the end of the workshop, actors had exchanged contact information and made time-bound action plans for improving the system.

Image 2. **Men participating in a village mapping workshop in Zinder, Niger.**

RECOMMENDATIONS AND KEY TAKEAWAYS

There are several critical CS design recommendations and takeaways that emerged from piloting the PCISSD methodology. The following could result in better CS outcomes:

Thoughtfully-designed and thorough consultations may result in considerably different focus areas than the basic forms of consultations that CS program designers often do. The PCISSD methodology brings together a greater diversity in perspectives, which allows participants to more holistically interrogate the context-specific challenges hindering the effective functioning of the CS system. This ensures that the opportunities for improvement identified are tailored to the needs of the users. Through the PCISSD approach, CS stakeholders can identify the specific knowledge, needs, and perspectives across the system and use that information to develop a system that is more efficient and effective because it includes and responds to user feedback.

CREATING A SHARED UNDERSTANDING OF THE SYSTEM

*At the preliminary national level mapping workshops **CS PROVIDERS** often did not understand how information flowed to farmers, leaving out critical components that farmers identified in village level mapping workshops, such as village assemblies and development committees, NGO trainers, village chiefs, telephone, word of mouth, and women's groups.*

*In contrast, at the village level workshops, **FARMERS'** maps often ended with radio stations, extension agents, or NGOs, demonstrating that they did not understand the role of CS providers or national and department level actors.*

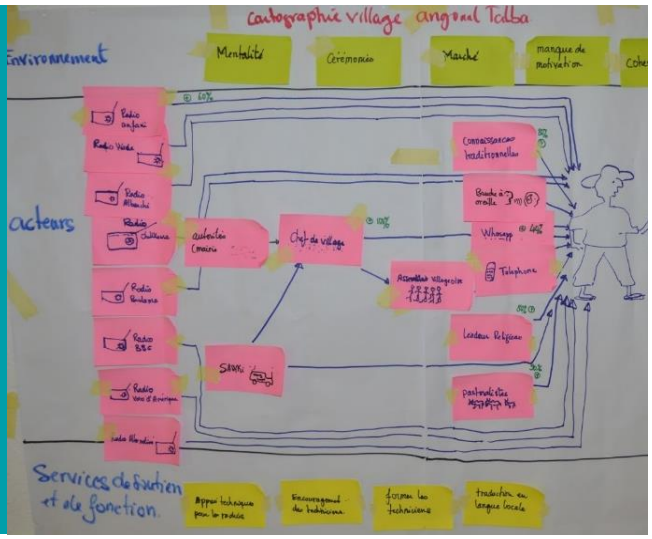

Image 3. An example of a village level climate services system map that was created by farmers in Senegal and ends with radio stations.

The most common issues that emerged were use, timeliness, and access. While participants raised various issues, several issues surfaced in all pilots and in research that should be considered in the design and delivery of CS (see also, report on Identifying CIS Users and their Needs):

- Use – Farmers are sometimes unsure of what the information means for them and their farms. Information is often not provided at the scale that is useful to farmers. Resource-poor farmers often lack the means to act on the information they receive.
- Timeliness – Climate information often arrives after critical decision-making points have passed. Reasons include: overstretched extension agents, lack of radio coverage, and poor communication between the government and other actors from the national to village level. Delays due to uncertainty of forecasts must be balanced with the need for time-sensitive information.
- Access – Information is not in the local language, broadcasts occur at inopportune times (such as when farmers are in fields or busy with domestic chores), and information does not align with farmers' needs, such as warnings of pests, winds, & dry periods.

" THE AVAILABILITY OF CLIMATE INFORMATION HELPS US TO PREPARE OUR SEEDS IN A TIMELY WAY. THE MAIN CHALLENGE RELATES TO THE LANGUAGE USED TO COMMUNICATE THE MESSAGES. "

- PRESIDENT OF A WOMEN'S GROUP IN THE NDIOGNICK COMMUNE IN SENEGAL (CISRI BULLETIN: SENEGAL)

Empowerment and inclusive stakeholder engagement across all levels of a CS system can build understanding and trust among stakeholders and subsequently catalyze substantively more effective ways of developing CS systems. While some of the solutions proposed through the workshops have been recommended in previous research, the process of collaborating to identify the solutions in an inclusive way built trust among the entire CS community and put the ownership into all of the actors' hands. For many national-level CS producing actors, such as members of the Meteorological Services, the culminating participatory mapping workshop was the first time they had sat at the same table and heard insights and challenges directly from the users themselves.

The pilots have begun to demonstrate how the PCISSD process can catalyze sustainable, locally-driven improvements in the CS system to more effectively meet smallholder farmers' needs. The approach offers a more in-depth picture of decision-making needs and processes of users. This can assist in improving monitoring and evaluation, and help to build evidence for policy makers and donors to make more informed decisions about CS.

LOCALLY-DRIVEN IMPROVEMENTS

A CS PROJECT IN THE TILLABERY REGION OF NIGER USED THE PCISSD FINAL WORKSHOP TO IDENTIFY WAYS TO IMPROVE THE DIFFUSION OF INFORMATION TO FARMERS:

A) design a method for diffusing climate information **VIA MAYORS AND COMMUNE EARLY WARNING GROUPS**

B) bring together government technical actors to synthesize seasonal forecast information and prepare short **MESSAGES TO SHARE WITH LOCAL RADIO STATIONS & VILLAGE GROUPS**

C) work with radio stations to **TRANSMIT MESSAGES IN LOCAL LANGUAGES**

Image 4. Women in Niger participating in a village mapping workshop

Gender issues, and how gender intersects with other socioeconomic attributes, are critical to explore in order to understand how subsets of populations have different needs and capacities to access and use information. For example, women farmers in the pilots in Niger stated that due to gender norms, they were more likely to lack access to extension agents or radios. Instead, they relied on information shared via word-of-mouth, which risks distortion and inaccuracy. Even if they received the information, they lacked the assets and resources, such as land, equipment, or inputs, to act on the information in a timely and useful manner. The PCISSD process ensures that these topics are addressed by including a wide range of stakeholders and perspectives (see also, What We Know about Gender and Rural Climate Services).

NEXT STEPS

The PCISSD approach, which has been piloted and refined in Niger, Senegal, and Nepal, demonstrates the value of bringing together key stakeholders from across the CS system, creating space for empowerment and more robust feedback from farmers, and facilitating consensus-building for action (see quotes below). There are several opportunities that are ripe for future learning:

Further testing of participatory methodologies and use of longer-term engagement tools. While the short-term scope of the pilots did not allow sufficient time to see longer term changes in the systems, it showed promise that bringing actors together can stimulate a dynamic exchange and create the foundations for change. Longer-term engagement could strengthen our understanding of how the PCISSD approach can be modified to be a continuous and sustainable process, resulting in a feedback mechanism between key actors across the system that consistently identifies and acts upon opportunities to improve the CS system.

Long-term monitoring and evaluation data to provide evidence of the impact and effectiveness of participatory processes. It is critical to capture data that measures the impact of participatory methodologies to better understand the ways in which they improve the effectiveness of climate services, and to what extent they could impact longer term outcomes, such as behavior change, livelihood, and resilience outcomes, differently than more traditional processes.

The Learning Agenda on Climate Services in Sub-Saharan Africa generated 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 program began in October 2016 and ran through September 2019. More information can be found at: climatelinks.org/projects/learningagendaonclimateservices.

SUGGESTED READING FROM THE LEARNING AGENDA ON CLIMATE SERVICES IN SUB-SAHARAN AFRICA

- *PARTICIPATORY CLIMATE INFORMATION SERVICES SYSTEMS DEVELOPMENT METHODOLOGY*. MARCH 2019.
- *MAPPING CLIMATE INFORMATION SERVICES IN SENEGAL: BULLETIN*. JULY 2018
- *PARTICIPATORY CLIMATE INFORMATION SERVICES SYSTEMS MAPPING IN SENEGAL.* JUNE 2018.
- *GENDER RESPONSIVE RURAL CLIMATE SERVICES: A REVIEW OF THE LITERATURE*. JUNE 2018.
- *CLIMATE INFORMATION FOR THOSE WHO NEED IT MOST: CONTRIBUTIONS OF A PARTICIPATORY SYSTEMS MAPPING APPROACH IN NIGER*. JANUARY 2018.
- *IDENTIFYING CLIMATE INFORMATION SERVICES USERS AND THEIR NEEDS IN SUB-SAHARAN AFRICA: A LEARNING AGENDA*. OCTOBER 2017.
- *INFO NOTE: WHAT WE KNOW ABOUT GENDER AND RURAL CLIMATE SERVICES*. OCTOBER 2017.

VOICES FROM ACROSS THE SYSTEM

Feedback from stakeholders across the climate services system who were involved in the workshops and action planning during the pilot of the Participatory Climate Information Services Systems Development methodology in Senegal:

FARMER

"These meetings helped me to get to know other climate information actors… we shared and came up with different pathways to solutions." -Farmer from Ndiognick commune

FIELD AGENT

"Thanks to the mapping workshops involving local communities, actors know each other better and many contacts have been made. Also, many constraints were identified, including those regarding collaboration between actors, especially receiving and reading messages." -Producer and Field Agent in Médina Sy, Dianke Souf Commune

PRIVATE SECTOR

"We have discovered a new potential market and we will analyze how to adapt our business model." -Representative from Manobi, a firm working in index insurance

LOCAL OFFICIALS

"The project succeeded in developing new behaviors in actors by putting them at the heart of activities. We welcome the local and participatory approaches that guided CISRI and we enjoyed participating in the workshops that helped identify actors and build relationships." -President of GiE "Bokk Khole", Town Counselor, Dianke Souf Commune

NATIONAL GOVERNMENT

"The actors themselves participated in the diagnosis of strengths, weaknesses and constraints…. This [mapping] approach also helped decision makers understand actors' common conceptions of issues related to climate change and how to find appropriate solutions." -Representative, Agriculture Directorate, Ministry of Agriculture & Rural Development

Image 5. Farmers, extension agents and rural radio broadcasters exchange ideas with local government officials and partner NGOs on ways to improve the CIS system in Niger