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**Climate Change,
Agriculture and
Food Security**



Developing a methodology to evaluate
climate services for farmers in Africa and
South Asia
Workshop Report
May 19-25, 2013, Kaffrine (Senegal)

May 2013

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Abstract

This report summarizes the proceedings of the international expert roundtable on “Developing a Methodology to Evaluate Climate Services for Farmers in Africa and South Asia” held in Kaffrine, Senegal on May 19-25, 2013. The roundtable brought together global experts in the area of gender-responsive impact assessment for farmers, to develop a useable monitoring and evaluation (M&E) protocol to guide baseline data collection, identify the locally-specific function, benefits, and beneficiaries of climate services, and measure the added-value of climate services for farmers. This protocol links to and informs the climate service evaluation framework developed during the expert meetings on evaluation of the Climate Services Partnership (CSP) and the World Meteorological Organization Socio-Economic Benefits of Climate Services group.

Keywords

Evaluation; climate information; agrometeorological advisory services; farmers; Africa; South Asia.

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Acronyms

AWS	Automatic Weather Station
CCAFS	CGIAR Research Program on Climate Change, Agriculture and Food Security
CIMMYT	International Maize and Wheat Improvement Center
CREAM	Center for Research and Excellence in Agricultural Meteorology
CSP	Climate Services Partnership
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICT	Information and communications technology
IRI	International Research Institute for Climate and Society
M&E	Monitoring and Evaluation
NMS	National Meteorological Services
SMS	Short Message Service
USAID	United States Agency for International Development
WMO	World Meteorological Organization

Introduction

On May 18-25, 2013, the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), in collaboration with the United States Agency for International Development (USAID), the International Crops Research Center for the Semi-Arid Tropics (ICRISAT), the Senegal National Agency for Meteorology (ANACIM) and a number of CGIAR centres, conducted a community-level expert roundtable to develop a gender-responsive Monitoring & Evaluation (M&E) protocol to evaluate the added value of climate information and advisory services for farmer communities.

The M&E protocol was intended to have the following main features:

- 1) Gender-responsive, teasing out the differential outcomes of climate services usage for male and female farmers. Further, it will take a nuanced approach to gender, recognizing that there are often significant differences *within* gender categories that influence the utility, impact, and uptake of climate services in farmer communities.
- 2) Quantitative (aiming to put a dollar figure on the added-value of climate services) as well as qualitative (providing insights into the function, uptake, and outcomes/impacts of climate services).
- 3) Community-based and context-specific: for the development of the M&E protocol, we will be testing the developed methodology in the CCAFS benchmark site of Kaffrine, Senegal as a laboratory to understand meaningful ways to assess value-addition for farmer communities, and learn from communities about how climate services have impact.
- 4) Iterative, drawing on principles of Participatory Action Research (PAR) to capture community feedback and innovation, in various stages of the process;
- 5) Scalable: the gender-responsive M&E protocol will be applicable to a wide range of different contexts, and across CCAFS benchmark sites where climate services work will be upscaled in years ahead.

This process builds on two recent global initiatives to assess the value of climate information services:

- an expert workshop to develop a methodology to evaluate climate service projects and programs convened by the Climate Services Partnership (CSP) on March 11-12, 2013. This meeting produced guidelines for the development of subsequent concrete

and useable evaluation tools and methods for climate service evaluation. The present initiative will build on the guidelines developed out of the CSP expert meeting on assessment.

- the World Meteorological Organization (WMO) expert meeting on Socio-Economic Benefits (SEB) of Weather and Climate services, under the aegis of the Global Framework for Climate Services (GFCS), held on April 8-11, 2013.

These initiatives are complemented by a drive within CCAFS and the CGIAR to develop tools and methods to adequately measure the utility of climate information and advisory services for farmers, with ICRISAT serving as a lead in this initiative.

The objective of this roundtable was to:

- develop an approach for gender responsive M&E protocol to measure the added value of climate services for farmer communities;
- test the relevance of the assessment protocol in Kaffrine, Senegal;
- refine the proposed protocol based on results from the community engagement in Kaffrine; and
- develop gender responsive indicators for assessment.

The first three days of the roundtable were held in Kaolack, Senegal, where the group developed an M&E protocol. This was followed by two days of field-testing the proposed M&E methodology in two villages in Kaffrine, Senegal. The final two days of the roundtable were held in Saly, Senegal where the group refined and finalized the proposed M&E protocol (Appendix 1), based on analysis of inputs and feedback from target farmer communities in Kaffrine.

Roundtable agenda and roadmap

The roundtable component of this workshop took place from May 19-21 in Kaolack, Senegal, 75 kilometres away from Kaffrine. The objective of this component was to develop a gender-responsive M&E protocol to evaluate the added value of climate information and advisory services for farmers, based on previous good practice in this area.

Immediately following the roundtable, a two-day field test of the developed methodology was conducted in Kaffrine, Senegal, on May 22-23.

CCAFS research sites were visited in Kaffrine, in the arid center of Senegal, where farmer-focused climate services have been developed and communicated in collaboration with vulnerable communities since 2011. Therein researchers tested the effectiveness of developed tools in evaluating the added value of climate information and advisory services for both male and female farmers (and any other relevant socioeconomic groupings identified, e.g., small versus large landholders), learning from target local communities about how climate services impact their livelihoods.

Finally, a closing session was held at the Obama Beach hotel in Saly, Senegal, where a proposed M&E protocol was refined and finalized, based on analysis of inputs and feedback from the target farmer communities in Kaffrine.

See Appendix 2 for Round Table Agenda and Road Map.

Grand challenges to assessing climate services for farmers

On the first day of the roundtable, in order to set the stage for the task ahead, the following challenges to assessing climate services for farmers were identified:

1. Understanding how farmers make decisions and how their behaviour is impacted or changed by the use of climate information;
2. Assessing what kinds of climate information impact decisions;
3. Assessing under what circumstances and in what context climate information influences farm-level planning;
4. Identifying the audience of the conducted evaluation (farmers, policy-makers, stakeholders, donors, etc.);
5. Establishing rigor and validity in the assessment of projects;
6. Accounting for information leakage between control and treatment sites;
7. Accounting for inter-annual variability in climate (stochastic nature of the climate system);
8. Assessing quality of information communication in meeting the decision-making imperatives of farmers;
9. Building sustainable M&E efforts and the capacity of people to sustain the efforts;

10. Clear identification of what is being assessed or measured;
11. Provision of baseline, monitoring, and ex post evaluation guidelines.

Developing a methodology to evaluate climate services

Components of an effective M&E protocol

During the roundtable, the group identified four key components of an effective M&E protocol to assess climate services. These components include:

- *Science assessment*: how information is produced, if information was tailored to user's needs, quality of information and skill of forecast, existence of dialogue occurred between farmers and MET services;
- *Assessment of information and information flow*: tracking information flow and how information was communicated and transmitted;
- *Institutional assessment*: how institutions work together to produce climate information, how information is produced and whether a project or product is scaled up;
- *Assessment of use and impact of information on the end user*: how farmers use information and how information is transmitted to them.

Following further discussions the group decided to focus the roundtable on the development of an M&E protocol for the assessment of use and impact of information on the 'end user' due to the ability to have other assessment components be self-reported.

Recommended approaches to the development of an M&E protocol

Two different approaches were identified and recommended during the roundtable for ex-ante and ex-post assessment of the impacts of climate services for farmers.

Approach 1: Ex-ante assessment

Requirements for this approach:

- preliminary research is conducted and initial assumptions and hypotheses are developed in the project pre-design stage;
- an explicit behavioural model, assumptions, and hypotheses on impact are built into the project;
- baseline data is collected;

- controls can be studied.

In this approach, baseline data help provide initial guidance on what additional data should be collected during the M&E process. The monitoring process can utilize an adaptive participatory questionnaire or a survey as a tool to test the assumed impact pathways of climate services and behavioural change. Figure 1 illustrates an assumed climate services impact pathway.

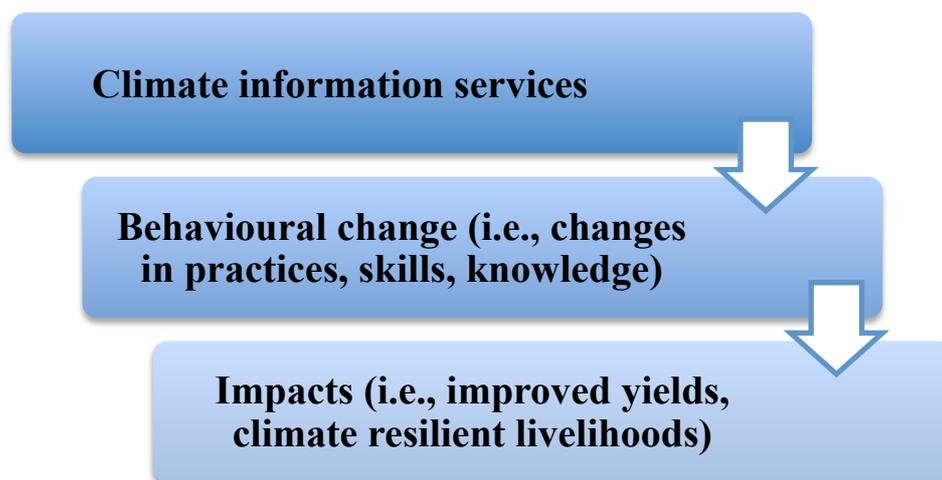


Figure 1. Proposed climate services impact pathway.

The evaluation process at the end of the project should assess the project outcomes, including behavioural change, the impact of climate services on farmers, and the economic value of climate services. Gender focused indicators of impact should also be built into this M&E approach.

Approach 2: Ex-post assessment

Requirements for this approach:

- an implicit behavioural model, assumptions, and hypotheses about what the project will achieve and how it will impact farmers lives is developed;
- controls cannot be used in this context if it has not been built into the project design.

In this approach, the M&E process focuses on developing an understanding of the decision-making context. This uses the funnel approach, which looks at climate as one part of larger set of constraints faced by farmers. Figure 2 illustrates this approach, moving from broader to more specific questions.

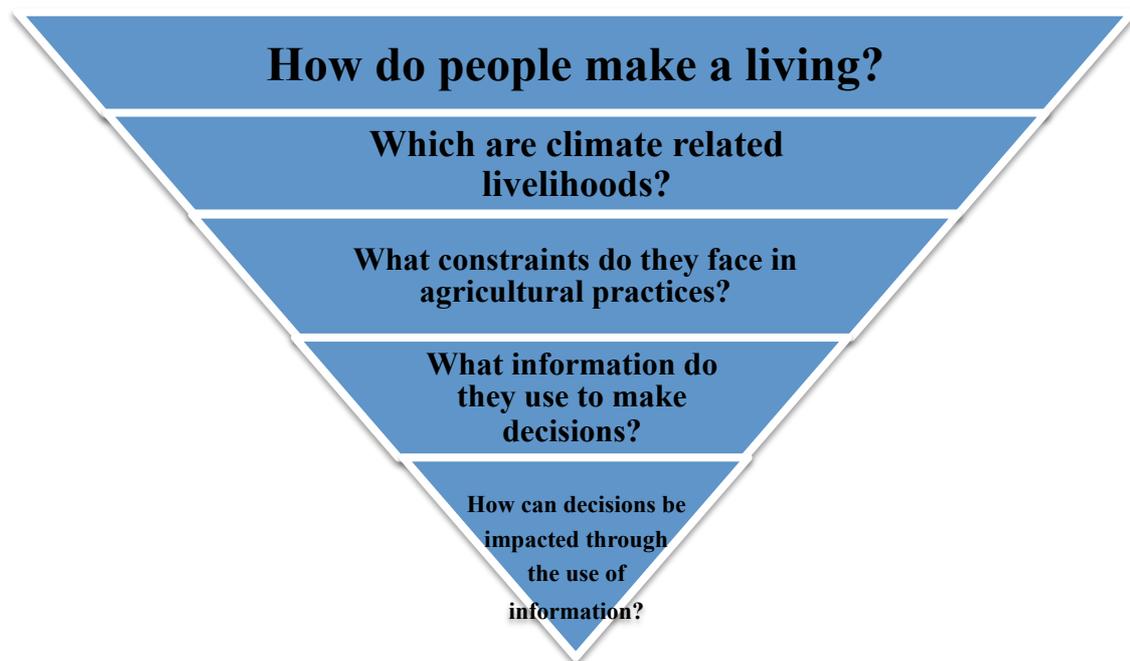


Figure 2. An example of the funnel approach.

This assumes that the initial implicit behavioural model used during the design of the climate services project was correct, and impact pathways clearly identified. When this condition obtains, project evaluators can trace back information flows to infer the use and impact of climate services and explicitly test the implicit model. A combination of qualitative and quantitative methods can be used to assess any behavioural change.

In an ideal scenario, the goals of the assessment are clearly defined and the M&E process is considered at the design stage of the project. This would allow for an ex-ante assessment approach. In the case of Kaffrine and often other climate services projects, this is not the case; therefore, the ex-post assessment approach was recommended by the group at the roundtable to assess the impact of climate services for farmers in Kaffrine.

Several key observations and considerations made during the roundtable included:

- monitoring and evaluation processes are not one of the same; they have different data needs;
- monitoring should be conducted at the end of each season and by the project team, while evaluation should be conducted at the end of the project by an external group in order to maintain rigor and validity and present a fair picture of the project's/interventions impact/outcomes; however an internal evaluation should also be conducted;

- a suite of tools (i.e. rural appraisal tools, questionnaires, semi structured interviews, focus groups, observation) should be considered during an M&E process in order to triangulate the desired information; and the data derived from an M&E process should be a combination of qualitative and quantitative information;
- piggybacking the M&E process onto ongoing or regular surveys is useful as it helps provide additional information on the sample population.

In conducting the assessment, the group highlighted the importance of being specific in assessing the impact of climate services by seeking to find out whose lives are being improved more than others, and identifying who may not be benefiting as much. The group recommended that penetration and flow of information be traced to infer use and impact of climate services in a community. Understanding the link between behavioural change and impact and understanding temperature changes and extremes, climate and shocks are also important.

In the group's consideration of rigor and validity in the assessment process, the consideration of social cleavages was highlighted as important. In term of conducting the assessment, the scope of the project will determine the duration. For example, in Kaffrine, 1-2 months is needed for a target farmer population of 5000 people. Regarding capacity building, data collectors should be properly trained and capable of characterizing the decision-making processes of farmers. Data collectors can include field extension workers who have an existing relationship with the farmers.

Development of hypothesis and questions: Kaffrine as a testing ground

To develop localized assumptions and hypotheses on the use of climate services by farmers, a basic level of information needs to be available about the sample population and the project. Hypotheses developed for the project based on baseline information can be tested and evaluated for their validity. Hypotheses should be developed for the baseline, monitoring, and impact assessment. Questions developed should be based on relevant assumed hypotheses and the anticipated behavioural model. The hypothesis and questions should be tested in the field in order to derive community input into climate services impact pathways and determine if the assumed behavioural model is correct. New possible impact pathways should be identified.

Kaffrine

The questions developed for the field test in Kaffrine focused predominantly on behavioural change but will be refined to also look at livelihood impacts. Questions sought to understand how farmers make decisions, their motivations and intentions, and the role of climate information within those contexts. Annex 1 details the draft M&E protocol taken to the field for refinement through discussion with farmers.

Fieldwork took place on May 22-23, 2013 and took expert workshop participants, divided in two groups, to two different villages in Kaffrine: Dioly and Malem Thierign, where farmers have been receiving climate services since 2011 through a CCAFS funded project to communicate downscaled value-added climate services for farmers.

Findings in Kaffrine

There was variability between the two villages, elements of protocol for interviewing (how to ask and develop questions to get the information needed), and acquired information on the decision making process.

Observations conducted in villages and developing an understanding of institutions and organizations involved in the climate services project are important elements of the needed information.

Based on these findings and daylong discussion with farmers on drafted M&E questions, the M&E protocol in Annex 1 was revised substantially. Experts agreed upon the need to gain a more insightful understanding of farmers' decision-making contexts before an appropriate evaluation framework could be developed.

Developing intelligent indicators of success

In developing indicators of success the group of experts highlighted two key principles: making the indicators gender responsive and ensuring that they are defined through participatory processes. For indicators to be defined in a participatory way farmers should be asked what would indicate to them that the climate services are a valuable investment and what they would consider a beneficial impact of using climate services. In addition, information about the target community context is key to the development of indicators.

The following indicators were developed:

Climate services

1. Did the project conduct a pre-project assessment of farmers' specific climate service and information needs or gaps?
2. Number of times farmers and forecasters meet during course of the project
3. Did project try to access the specific information needs of people?
4. Were participatory information communication technologies used to broadcast information and services to marginalized rural communities?
5. Does the information channel used ensure that information reaches the most vulnerable farmer?
6. Number of rain gauge reports from field/farmers
7. Number of calls received by the project team from farmers asking for a climate forecast/advisory
8. Number of call backs from community following information diffusion
9. Number of times local climate services team meets to develop information
10. Number of times local food security monitoring team meets in the season
11. Number of contact hours between forecasters during length of project
12. Number of dedicated forecast advisory bulletin boards in the community
13. Number of local or rural community budget allocated to disseminating climate service information and training to farmers
14. Number of new villages asking for climate services provisions
15. Percentage of income farmers are willing to spend to get value added climate services (relevant in Asia context)

Outcomes - behavioural change: change in skills, knowledge, and practices

1. Does information reach rural producers?
2. Number of information items /climate forecast advisories that reached community
3. Number of urban farmers (women and men) who utilized climate information in the past season, year, decade
4. Number of changes in farm-level processes informed by climate services?
Number of times and the stage at which climate information was used (i.e. seed planting)?

Impacts (may only be measurable in the long term)

How would farmers consider a successful impact from using climate services (i.e., on livelihoods, resilience to climate risk)? What would indicate to farmers that climate services are a value investment?

1. Percentage of planted area in cash crops and longer maturity variety
2. Number of rural development programmes that integrate climate services
3. What would help indicate whether the project was a success?
 - Number of farmers who participated
 - Number of farmers who trained others
 - When and what information did farmers share with others
 - Number of times local leader hosted meetings in their village
 - Number of times bulletins are issued

Conclusions and next steps for the Kaffrine assessment

Developing an effective M&E framework for the impact of climate services on farmer livelihoods requires local specificity. Notably, the expert group determined that a better understanding about the decision-making context of farmers in Kaffrine is needed for full development of an M&E protocol for the area. Based on information collected from additional fieldwork to be conducted in Kaffrine June-August 2013 by the University of South Carolina through a USAID grant, an assumption can be made about the behavioural change model describing climate information use and the assumed impacts of the use of such information. Only after an in-depth investigation into farmers' decision-making contexts, constraints (climate and non-climate related) under which they operate for farm-level planning and specific pathways under which climate information influences farm-level decisions, can an apt evaluation protocol be developed and the impact of climate services be studied.

Moving forward, workshop participants will continue to work with CCAFS and ANACIM to hone the methodology in the coming months, and to test it out with farmers in different parts of Kaffrine. This effort will provide lessons learned in support of potential upscaling of climate services M&E to other parts of Senegal, Africa, and South Asia. Ultimately, field-testing of the methodology in Kaffrine will improve our collective understanding of the impact of this particular climate services project, and shed new light on climate services evaluation writ large.

Appendix 1: Draft M&E protocol to assess impact of climate services

1. Assessing climate science: characteristics of climate information

- What climate information for end users is accessed locally, and what is accessed remotely?
 - Where are other products produced?
 - Why are these other products used?
- Has the data quality (historical and monitoring) been established?
 - How is the data collected, processed, delivered?
 - Do these meet general standards?
 - Could they be improved?
 - Would changing/improving these standards have a significant effect on the products needed by the targeted end user?
- Is the information as robust as can reasonably be expected?
 - Is it produced using standard methodologies?
 - Are there better methodologies that could be used?
 - Would changing/improving these methodologies have a significant effect on the products needed by the targeted end user?
- Is information about the quality and validity of forecasts available?

2. Assessing tailoring of climate information

- Is the climate information combined with agriculture and socioeconomic information that is both relevant and robust?
 - If not, why not?
- Does the information address problems that are relevant and tractable?
- Does the information address the appropriate spatial and temporal scales for the targeted users?
 - Are there other users who might benefit from this information at the same scales, or at different scales, that are worth targeting with this information?
- To what extent is climate information transformed into recommendations on actions that can take?

3. Assessing communication of climate information

- Is the information physically accessible to farmers?
- Is it understandable by farmers?
- Is the information provided in the context of training and capacity building? Do potential users have resources that they can access in order to seek more information and/or clarification regarding the meaning of information and/or possible actions?

4. Assessing institutional arrangements/governance & structure of the service

- Does the structures of the service facilitate interactions between dispersed institutional and administrative mechanisms, projects, and financial resources?
- Does it facilitate a sustained dialogue between users and providers? Has it facilitated the creation of legitimacy and trust?
- To what extent is the climate service sustainable? How is funding secured and maintained?
- To what extent does the climate service engage with the research community?

5. Assessing farmer use and impact of climate information services

Note: For this section of the assessment, it is recommended that questions be asked to male and female respondents separately.

H0: Farmers receive climate information services.

0.1 Do you receive climate information?

0.2 If so, where do you receive this information from?

H1: Seasonal climate information helps farmers determine what seeds to plant

1.1 How do you choose the seeds to plant for the season?

1.2 What information are you using to decide what seeds to plant? What is the source of these seeds?

1.3 What seeds and varieties would you wish to plant if you could have any seeds? Why?

1.4 Why aren't you planting what you wish you could plant? What constraints do you face to planting this?

H2: Climate information helps farmers determine when to plant

2.2 How do you determine when to plant each of your crops?

-When farmers want to plant and what stops them from planting certain crops

-For each crop what is their ideal strategy for planting dates – is this a complicated strategy or not?

-Do farmers use climate information to determine when to plant?

2.2 Have you been using onset forecasts/rain gauges? Do you trust these sources of information? What are these sources?

2.3 Are you satisfied with the sources of information you use to determine what to plant?

H3: Short-term rainfall forecast (knowing whether it will rain or not) help farmers decide whether or not to weed their fields

3.1 Who is responsible for weeding?

3.2 Do you use weather forecast to determine when to weed? If so what information do you use? If not, then why?

3.3 How do you determine when to weed the fields?

3.4 Do you weed all your crops and fields at the same time?

3.5 What happens when you weed at the wrong time?

H4: Extreme weather forecasts help farmers determine whether to apply fertilizer

4.1 Do you use fertilizer? Why or why not?

4.2 On which crops do you use fertilizers? Why?

4.3 When do you use fertilizers and why?

H5: Weather forecasts help farmers determine whether to apply pesticides/fungicides

5.1 Do you use pesticides/fungicides? Why or why not?

5.2 On which crops do you use pesticides/fungicides? Why?

5.3 When do you use pesticides/fungicides and why?

H6: Climate information helps farmers determine when to harvest

6.1 At what stage in the growth of your crops do you harvest? Why?

6.2 What information helps you decide what period in the season to harvest? When and where do you get this information from?

6.3 Do climate factors determine your needs for labour to harvest?

6.4 Do you have access to labour, inputs, and equipment for harvest?

H7: Climate information helps farmers determine when to conduct post-harvest operations

7.1 What determines when you decide to conduct the following post-harvest operations: drying, winnowing, and storage?

7.2 Does climate information help in your decision making during post-harvest operations?

H8: Climate information helps farmers determine how/when to store crops

8.1 What parts of your harvest do you store? Does climate information affect what you store?

8.2 If you do not store all of your harvest, why?

8.3 What is the storage process?

8.4 What are the problems/threats that affect storage?

8.5 Would climate information facilitate your decision making process for storing harvest?

H9: If farmer receives early warning information about an extreme weather event (e.g: dry or wet spell, storms, strong winds, floods), he/she can engage in preparedness activities to evade losses. Dry Spell of more than 20 days: farmer can plant alternative crops to save the season, reallocate labor time/resources to other activities. Storm/floods: Farmer can keep at home, not go to fields, protect assets, store harvest, keep cattle in shed, dig canals and manual trenches, and cover all mirrors and transmission devices (radios, telephone).

9.1 If you received early warning about a dry spell/wet spell/storm/flood coming your way, what would you do?

-How do farmers manage extreme weather events in the season?

9.2 How do you know that a dry spell/wet spell/storm/flood will occur? What are your sources of forecast information?

9.3 What makes you trust the forecast the early warning forecast for a dry spell/wet spell/storm/flood?

9.4 Even if you received an early warning alert, would you be able to engage in alternative livelihoods or recommended substitute crops? Why or why not?

9.5 Along with forecast information, do you have access to recommendation options for action to undertaken based on the received warning?

9.6 Would you be able to change seeds planted and planting activities?

9.7 What are your sources of forecasting information to find out about a dry spell?
What makes you trust forecast information on warning of a dry spell?

Appendix 2: Roundtable roadmap and agenda

Developing a Methodology to Evaluate Climate Services for Farmers in Africa and South Asia Expert Roundtable

May 18-25, 2013, Kaffrine, Senegal

Roadmap

May 17: Arrival in Dakar

May 18: Group departure for Kaolack

Departure time: 3pm

May 19-21: Expert roundtable at the *Hotel Le Relais*, in Kaolack: Development of best practice gender-responsive M&E protocol to measure the impact of climate services on farmer communities

May 22-23: Field test of proposed M&E protocol in selected Kaffrine villages

May 24: Morning: Departure for the Obama Beach Hotel, Saly

Afternoon: reflection and analysis of community feedback and comments on proposed M&E protocol

May 25: Final day of roundtable at the *Obama Beach hotel*- refinement of proposed M&E protocol

Closing session ends: 5pm.

May 25 evening: Return to Dakar (depending on departure times).

END OF WORKSHOP

Expected Outputs:

1. Minimum standards of information needed to form valid hypotheses to assess value of climate services for farmers
2. Community-tested survey questions and M&E protocol to assess value of climate services for farmers in Kaffrine
3. Gender responsive indicators of success of a climate services program that serves the needs of rural farmers / process of participatory identification of these indicators for program success and intelligent use.

Agenda

Day 1: 19 May

9:30-9:45: Introduction/icebreaker – getting to know each other

9:45-10:00: Introduction [**Arame Tall**]: Laying out the challenges of climate services for farmers

- Goal: putting assessment challenge into context

10:00-10:15: [**Ed Carr**] Challenges to Assessment encountered in Mali

10:15-11:45 [**Group discussion**] What are the grand challenges associated with assessment of climate services?

- Goal: understand how difficult the task ahead is

11:45-12:00 Break

12:00-1:30 [**TBD**] Defining Components of our good practice M&E protocol: (baseline, assessment/reassessment, final assessment)

- Goal: shared understanding of what we are providing (minimum standards, methods, approach, guidebook, detailed protocol, etc.?)

1:30-2:30: Lunch

2:30-5:30: Hypothesis building [**inclusive of break**]

- How do you form valid, useful hypotheses for the purposes of M&E of climate services?
- What constraints are farmers dealing with?
- Which of these are impacted by a changing/variable climate?
- What climate services can address these climate-related constraints?
- What behaviors and decision-making will be impacted?
- Which crops will be impacted?
- Which groups will be impacted?
- When are services needed/effective?
- Goal: Minimum standards of information needed to form valid hypotheses for each of these questions

Day 2: 20 May

9:30-10:00: Recap of Day 1: what we accomplished, where we are...

10:00-1:30 (inclusive of break): Assessment Hypothesis Building- Kaffrine as Testing Ground

- Developing hypotheses about the impact of climate services in Kaffrine [**Ousmane**]

- What constraints are farmers dealing with?
- Which of these are impacted by a changing/variable climate?
- What climate services can address these climate-related constraints?
- What behaviors and decision-making will be impacted?
- Which crops will be impacted?
- Which groups will be impacted?
- When are services needed/effective?
- Goal: Start the process of building the M&E protocol for Kaffrine

1:30-2:30 Lunch

2:30-5:30 (inclusive of break): Developing What Questions to Ask

- What questions do we ask to test these hypotheses?
- Goal: Continue building the protocol, develop questions to include in our good practice M&E Protocol to assess impact of climate services for farmers, with gender responsive indicators

Day 3: 21 May

9:30-1:30 (inclusive of break): Back to the Grand Challenges

- Linking hypotheses/questions to grand challenges
- Rigor and validity
- Sample size
- N Respondents
- Sampling method
- Shifting baselines, what constitutes a good season?
- Survey time
- Stochastic nature of climate
- Assessing impact, not output (behavioural change, not just use)

1:30-2:30 Lunch

2:30-5:00: Developing indicators to monitor & evaluate success of climate services for rural farmers

- Goal: Develop gender responsive indicators of success in provision of climate services for rural farmers / process of participatory identification of these indicators for program success and intelligent use.

Day 4-5: 22-23 May

Field test of proposed M&E protocol in:

Ngodiba, Kaffrine (group 1)

Dioly, Kaffrine (group 2)

Day 6: 24 May

Morning: Departure for the *Obama Beach hotel*, Saly

Afternoon: reflection and analysis of community feedback and comments on proposed M&E protocol

Day 7: 25 May

Closing session of roundtable at the *Obama Beach hotel*- refinement of proposed M&E protocol

CLOSE OF WORKSHOP AT 5pm

Return to Dakar

Appendix 3: Workshop participant list

Name	Institution
Socio-economists	
Edward Carr	University of South Carolina
Tshibangu Kalala	University of South Carolina
Dave Letson	University of Miami
Gender experts	
Sweta Agrawal	ICRISAT
Chanda Goodrich	ICRISAT
Patti Kristjanson	CCAFS-ICRAF
Chris Jost	CCAFS-ICRAF
Evaluation experts	
Kizito Mazmivami	ICRISAT
Madicke Niang	IPAR/Senegal
Philip Thornton	CCAFS-ILRI
Agricultural development experts	
El Hadj Moussa Seck	Agriculture and Rural Development Extension office, Kaffrine
Climate services experts	
Catherine Vaughan	Climate Services Partnership-IRI
Ousmane Ndiaye	ANACIM
Arame Tall	CCAFS-ICRISAT
Jim Hansen	CCAFS-IRI