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RESEARCH PROGRAM ON
Climate Change, Agriculture and Food Security

CGIAR

CCAFS

Training Workshop report

Implementation of the CSA Monitoring to assess adoption of Climate Smart Agricultural options and related outcomes in Kaffrine Climate-Smart village (Senegal)

Activity 1.1 - CCAFS-EC grant reference: **2000002575**
CIAT-Program Participant contract #: **C-103-19**

Osana Bonilla-Findji and Nadine Andrieu

December 2019

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CCAFS Activity Report

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ACKNOWLEDGEMENTS:
The authors would like to thank the European Union for providing the EU-funded grant that supports this project and this specific activity aiming to build the capacities to assess adoption of Climate Smart Agricultural options and related outcomes in Kaffrine Climate-Smart village (Senegal). We would also like to thank CCAFS West Africa team, ICRAF (The World Agroforestry center) and ISRA (Institut Sénégalais de Recherche Agricole) the key local partners involved in the CSV work.

Contents

Background

Led by the International Center for Tropical Agriculture (CIAT), the Climate Change, Agriculture and Food Security (CCAFS) Program is a collaboration among all 15 CGIAR Research Centers. It brings together some of the world's best researchers in agricultural science, climate science, environmental and social sciences to identify and address the most important interactions, synergies and trade-offs between climate change and agriculture. CCAFS aims to define and implement a uniquely innovative and transformative research program to help vulnerable rural communities adjust to global changes in climate and overcome the threats posed to agriculture and food security.

Fully aligned with this global effort, CIAT together with ICRAF, ICRISAT and ILRI started implementing the EU-IFAD funded project "Building livelihoods and resilience to climate change in East & West Africa". The projects' overall goal will be achieved through supporting large-scale adoption of climate-smart agricultural (CSA) technologies and practices and fulfilling two main objectives:

(i) to derive new knowledge on scalable CSA technologies and institutional options with demonstrable benefits to women and men farmers, youth employment, climate resilience and low emissions development; and

(ii) to engage in on-going development and private sector initiatives to assist in prioritization of best bet options and in policy development.

The primary project outcome is to provide incentives (financial, technical and policy) to support 0.4 million farmers to adopt climate-smart practices and technologies, which explicitly contribute to increased resilience to climate shocks across a range of time-scales.

To address the challenge of how to transit to CSA at scale, CCAFS Flagship 2 (FP2) will produce and appropriately disseminate field-based evidence and information to support these investments. The best-bet CSA options for target geographies will be determined through collaborative work with partners aiming to test, evaluate, promote and scale up CSA technologies and practices that met the needs of farmers – including women and marginalized groups.

This first training workshop held in Ethiopia on the CSA Monitoring framework is contributing to the projects' Activity 2.2: Mainstreaming of evidence-based CSA options within the selected value chains, which involves generating CSA options for testing through multi-stakeholders innovation platforms and developing institutional options needed to support scaling up.

The training workshop aimed to build local capacities to implement the CSA Monitoring Framework order to assess i) the adoption of promising Climate Smart Agricultural options promoted in Kaffrine Climate Smart Village site and ii) their related outcomes on household's livelihoods, food security and resilience. The Monitoring framework consists of a set of robust indicators allowing tracking expected outcomes in the Productivity/Food Security and Adaptation pillars. The key research questions addressed include:

- Who in the Kaffrine CSV is adopting which CSA technologies and practices and which are their motivations or constraining factors? and

- Which are the gender-disaggregated perceived effects of CSA options on farmers' livelihood (agricultural production, income, food security, food diversity and adaptive capacity) and on key gender dimensions (participation in decision-making, participation in CSA implementation and dis-adoption, control and access over resources and labor).

Objectives

Main objective

To carry out a technical training workshop to build the capacities of the local team and key partners involved in the fieldwork in the Kaffrine Climate-Smart Village to implement the annual CSA monitoring framework in 2019 and onwards.

Specific objectives

1. To tailor the CSA Monitoring framework and ICT-based data collection tool (Geofarmer) developed by CCAFS FP2 to the Kaffrine context-specific conditions to support the assessment of adoption and effects of the key CSA options promoted in the site to enhance farmer production, food security and resilience.
2. Specifically build the capacity of a local team and supervisor to be technically able to manage/adjust the monitoring App and lead the local implementation of the Monitoring framework.
3. Support the local team (enumerators and supervisors) in the first days of field data collection in Kaffrine and ensuring a smooth transition to full implementation.

Expected outputs

- ✓ CSA monitoring App and questionnaire tailored to Kaffrine CSV site (Senegal) and ready for implementation (available upon request)
- ✓ CSA monitoring training delivered in Kaffrine (ppt presentation and Photos)
- ✓ Workshop participants list: CCAFS WA, local partners/enumerators trained and ready to start implementation (to be led by CCAFS WA/ICRISAT team)

The Kaffrine Climate-Smart Village

Kaffrine CSV site is located in the transition zone from the Sahelian towards the Sudan Savannah zone. The climate is Sudano-Sahelian with a rainy season of short duration ranging from June to July to October and a long dry season from 8 to 9 months. Precipitation in this area varies between 600 mm and 700 mm per year. When it comes to hydrography, the region is crossed by the tributary of the Saloum river, to which are added temporary ponds and small valleys fed by rainwater. The vegetation is a grassy savannah where only a few trees are encountered and shrubs, mainly in the North of the region of Kaffrine, in the zones very shallow (encrusted) or very arid soils. The monthly average temperatures minimum and maximum are respectively 18.2 ° C (January) and 40.7 ° C (April). The average annual temperature is 29.6 °C

Agriculture is the major economic activity in Kaffrine region. Income sources are predominantly agriculture, livestock sales, small businesses (small shops), remittances and farm labour. The area is characterize by extensive small-scale mixed crop-livestock farming systems with some small Jatropha and fruit areas. Cropping systems are based on pearl millet, peanut and cowpea, all generally not intensified and cropped without agricultural input. In the south, peanut is intensified using inputs, and maize, sorghum, lowland rice and sesame are also cropped. The main challenges limiting production include: land degradation and low soil fertility, high poverty levels with low access to capital, high population pressure on natural resources and no attractive markets and climate related risks such as erosion, high rainfall variability, strong winds, drought and floods.

To improve productivity, while restoring biomass for environmental benefits and carbon sequestration in ground and surface, demonstration tests combining different Climate-smart options have been put in place on community plots to serve as field-school to farmers, as well as research laboratory allowing to understand the functioning of such an integrated agro-ecosystem.

Site specific tailoring of the Monitoring framework

Prior to the Monitoring training, a preliminary tailoring phase was necessary to adjust the Survey questionnaire to Kaffrine site-specific condition. The information collected and validated with local teams is registered in Annex 1**.** It includes socio-cultural information (e.g ethnic groups), specific "hunger"months, main crops/livestock, local currency, specific villages to be surveyed etc.

Within the Kaffrine Climate-smart village, ten villages were prioritized to be covered by the CSA monitoring: Fass Sy (01), Mbane (02), Touba Taba (03), Toune Mosquée (04), Medina Ndiognick (05), Ngouye (06), Ndamboul Mboul (07), Touba Keur Cheikh (08), Djida (09), Daga-Birame (10).

Targeted CSA resilience-building options

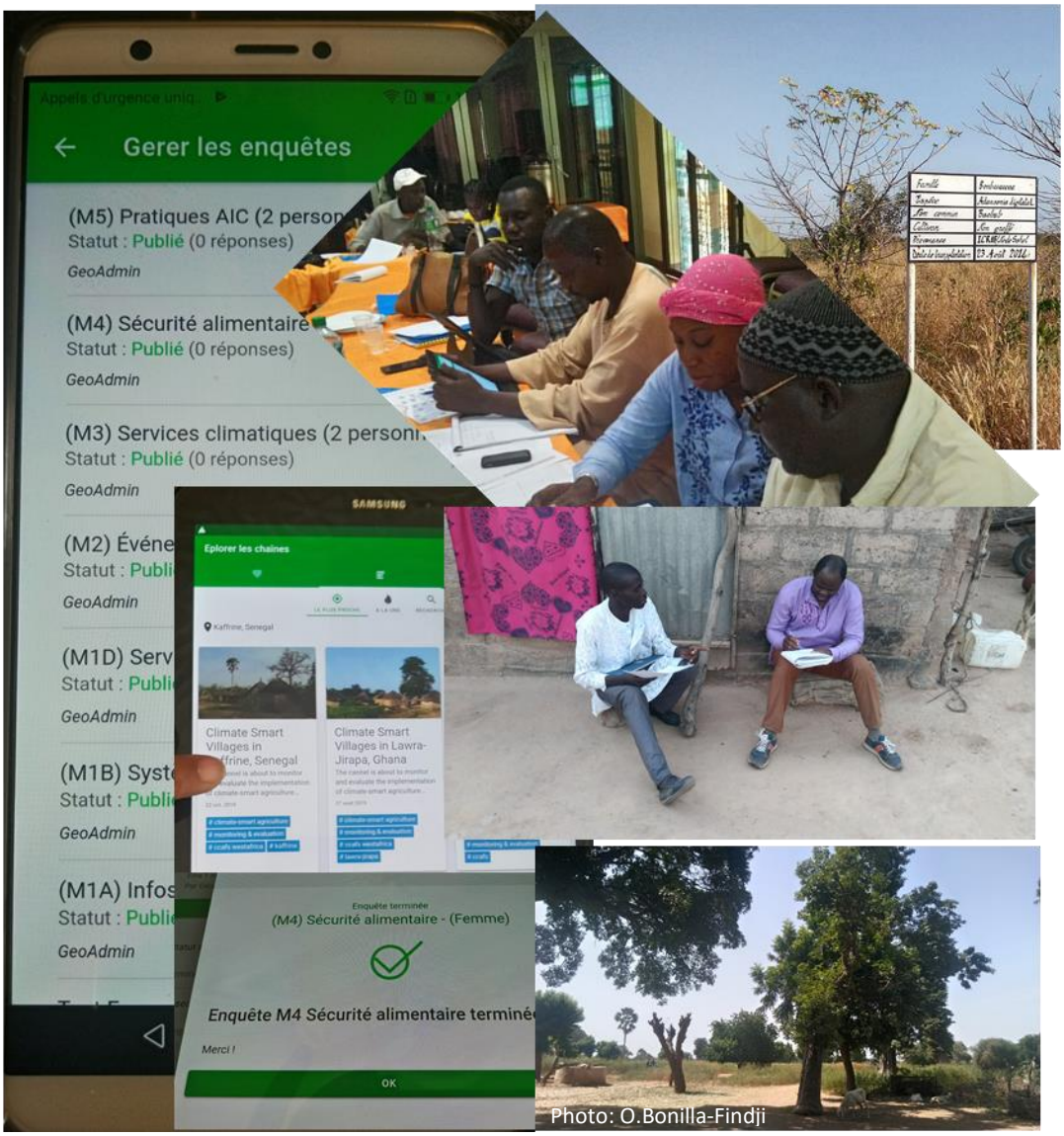
Seven promising CSA options tested in Kaffrine were prioritized for the monitoring exercise:

1. Tree planting (baobab, jujubier, tamarindus, goyava)
2. Farmer Managed Natural Regeneration
3. Drought tolorant Improved Varieties of millet, maize or groundnut
4. Reduced Tillage
5. Manure + microdose of Inorganic Fertilizer of NPK and urea
6. Microdose of inorganic Fertilizer of NPK and urea
7. Organic fertilizer (Manure, compost)

A detailed Glossary with the description of each practice and the final Kaffrine tailored questionnaire are available upon request.

CSA Monitoring Training

Between the 8th and the 14st November 2019, two CCAFS/CIAT researchers Osana Bonilla-Findji, CCAFS Flagship 2, Science Officer (CSA Monitoring Framework designer) and Nadine Andrieu, CIAT/CIRAD Scientist (expert on farm modelling and CSA) supported by the CCAFS West Africa CSV coordinator, held this one week training workshop in Kaffrine (Senegal). See detailed agenda in Annex 2.



The Introductory presentation *Monitoring adoption and effects of CSA options at household and farm level in Kaffrine* is available online.

Participants

Nine participants were trained to be able to act as monitoring enumerators and/or supervisor. They belonged to from different organizations: CCAFS WA team (CSV coordination), ICRAF, BAME/ISRA (Annex 3).

List of funded Trainers

1. Osana Bonilla-Findji, CCAFS Flagship 2, Science Officer (CSA Monitoring Framework designer)
2. Nadine Andrieu, CIAT/CIRAD Scientist (farm level modeling and CSA)

Photos

A flickr album "CSA Monitoring in Kaffrine climate-smart village, EU-IFAD project Nov. 2019" gathers the visual documentation of the Workshop.

Implementation of the CSA Monitoring framework in Kaffrine

Right after the training, from November 14th on the local team of enumerators guided by the supervisor carried out the field data collection. See activity report" Implementation of the CSA Monitoring framework in Kaffrine Climate-Smart Village, Senegal.

Contact persons

For queries or comments regarding the European funded IFAD Training workshop on 8 -14th Nov 2019 please contact Osana Bonilla-Findji, Science Officer for CCAFS Flagship 2, at o.bonilla@cgiar.org

For queries or comments regarding the project conducted in East Africa please contact Mathieu Ouedraogo, CCAFS West Africa CSV coordinator, at m.ouedraogo@cgiar.org

Annex 1. Site Specific tailoring information for Kaffrine 2019

CSV name and country

Kaffrine Climate Smart Village, Senegal

Implementation Year:

2019

1.. List Main Ethnic groups present in the CSV

Diola
Ouolof
Peuhl
Serere
Toucouleur

2. Sampling period to be covered by the monitoring questions (Select the relevant option)

During the last 12 months

3. Specific "Hunger" or most difficult month or period in the year in terms of access to enough Food (for the Food Security Module Questions)

July-August

4. List of Most frequent extreme climate events (affecting agricultural production) occuring in the region in the period to be monitored

Decrease in rainfal
Irregularity of rainfall
Strong winds
Heat waves
Dry spell
Floods

5. CSA Practices been tested in the CSV and targetted by the Monitoring

1. Tree planting (baobab, jujubier, tamarindus, goyava)
2. Farmer Managed Natural Regeneration
3. Drought tolorant Improved Varieties of millet, maize or groundnut
4. Reduced Tillage
5. Manure + microdose of Inorganic Fertilizer of NPK and urea
6. Microdose of inorganic Fertilizer of NPK and urea
7. Organic fertilizer (Manure, compost)

6. Climate information services available in the CSV in the period to be monitored (confirm)

Daily/ Weakly weather forecast (short term)
Seasonal Forecast

7. List Main Crops in the CSV

Beans
Cassava
Cowpea
Maize
Millet
Peanuts
Rice
Sorghum
Jatropha
Bambara groundnut
Hibiscus
Water melon
Other

8. List Main Animals raised (productive purpose) in the CSV

Chicken/hens
Dairy cows
Donkeys/mules
Ducks
Goats
Guinea fowl
Horses
Oxen (traditional)
Sheep

9. List main Trees growned (productive purpose) in the CSV

Mango
Goyava
Orange
Baobab tree
Tamarindus
Ziziphus
Cordyla Pinnata

10. Main units used in the CSV for(select or edit as needed):

Farm area:	Ha
Units for crop sold	Kg
Units for animal/livestock sold	Nombre de tête
Unit of organic fertilizers applied	Kg
Units for fertilizers applied	Kg
Units for pesticide applied	Litre

11. Local Currency

XOF (F CFA)

12. CSV Villages names

1. Fass Sy
2. Mbane
3. Touba Taba
4. Toune Mosquée
5. Medina Ndiognick
6. Ngouye
7. Ndamboul Mboul
8. Touba Keur Cheikh
9. Djida
10. Daga-Birame

Annex 2: Training Workshop Agenda

November 8th	Day 1
8:30 10:30 10:45 12:30 13:30- 17:00	• Opening and teams introductions • Context and background on the CSV site, CCAFS work and key partners • Introduction to CSV monitoring plan objectives and design • Detailed explanation on the prioritized CSA practices • Quizz / exercises on objective of Monitoring and identification of proper CSA practice *break* • Introduction to The Geofarmer App • Installation of the App in the enumerators cellphones • Creation of user; Subscribe into Sandbox channel; Moderator grants facilitator role to new users in Sandbox channel *Lunch break* • Navigate in the Sandbox Channel • Introduce to Facilitate surveys using Hash-Key • Introduce to Survey-Modules M1 and practical exercices • Homework: Practicing informed consent

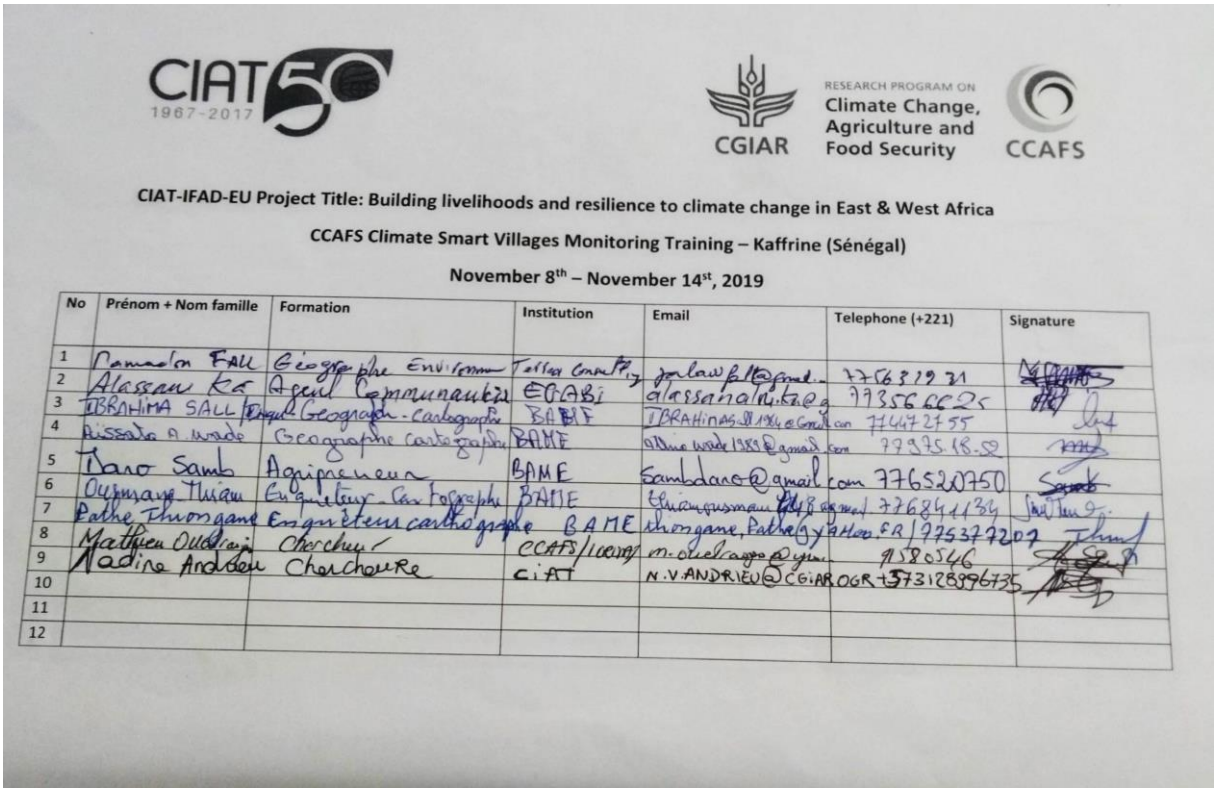
November 10th	Day 3
10:00 – 16:00	• Navigate in the Sandbox Channel Detailed presentation of M5 and practical exercices in paired teams

November 11 th	Day 4
8:30 12:30 – 17:00	• Detailed presentation of Calculator modules and practical exercices • Feedback discussions and reflections on results • Supervisor (Moderator) results checking from Sandbox *Lunch break* • Full practical training by enumerators • Adjustments/changes incorporated in CSV specific channel and Updated Sandbox cleaned and ready for field testing

November 12-13	Day 5
8:30 12:30 14:00- 17:00	• Field work in CSV to survey Dummy farmers with Sandbox Channel *Lunch break* • Dummies surveys • Look at results, feedback session at the end of the day • Moderator clears responses (from dummy farmers) • Trainers meeting with local partners and Supervisor (confirmation of communities sampling plans and enumerators distributions)

November 14	Day 6– Field work
8:30 – 16:00	Field work: Start surveys with real farmers
17:00 – 18:00	• Data synchonization and checking • De-briefing with local supervisor

Annex 3. Participants list



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CGIAR RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security CCAFS

CIAT-IFAD-EU Project Title: Building livelihoods and resilience to climate change in East & West Africa

CCAFS Climate Smart Villages Monitoring Training – Kaffrine (Sénégal)

November 8th – November 14st, 2019

No	Prénom + Nom famille	Formation	Institution	Email	Telephone (+221)	Signature
1	Ramadan FALL	Géographe Environn	Tostan Country			
2	Alassan Ka	Agent Communautaire	ECABi	alassanalou.ka@g	77356	
3	IBRAHIMA SALL	Geograph-Cartographe	BAME	IBRAHIMAS	77447255	
4	Aissata A Wade	Geographe cartographe	BAME		77975 18	
5	Daro Samb	Agripreneur	BAME	Sambdaro@gmail.com	776520750	
6	Ousmane Thiam	Enquêteur - Cartographe	BAME		776841134	
7	Pathe Thiongane	Enquêteur cartographe	BAME	thiongane.Pathe@yahoo.fr	775377207	
8	Mathieu Ollivier	Chercheur	CCAFS/IRD/M	m.ollivier@cgia	9580546	
9	Nadine Andrieu	Chercheure	CIAT	N.V.ANDRIEU@CGIAR.OGR	+573128996735	
10						
11						
12						

Annex 4. Terms of Reference Trainers

Name	**Osana Bonilla-Findji**
Role	Leading all preparation work for the CSA Monitoring framework to be tailored to Kaffrine and design for field implementation. Workshop Trainer in her quality of Science Officer, Climate-Smart Agricultural Practices and conceptual designer of the CSA monitoring framework.
Organization (public/private)	CCAFS Flagship 2/ CIAT
Dates of travel	Arrival November 6 2019 – November 15 2019
Details	None

Name	**Nadine Andrieu**
Role	Trainer, expert on the Farm system modelling
Organization (public/private)	CIAT/CIRAD
Dates of travel	Arrival November 6 2019 – November 15 2019
Details	None

Annex 5. Terms of Reference Training Workshop

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

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Terms of Reference

European Funded IFAD Training workshop: Implementation of the CSA Monitoring: Assessing adoption of Climate Smart Agricultural (CSA) options and related outcomes in Kaffrine Climate-Smart village (Senegal)

Kaffrine, Senegal, 8 - 14 November 2019

Grant number	2000002575
Project title	Building Livelihoods and Resilience to Climate Change in East and West Africa: Agricultural Research for Development (AR4D) for large-scale implementation of Climate-Smart Agriculture'
Agreement	G158

Background

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The projects' overall goal will be achieved through supporting large-scale adoption of climate-smart agricultural technologies and practices.To address the challenge of how to transit to CSA at scale, CCAFS Flagship 2 will work with partners to test, evaluate, promote and scale up CSA technologies and practices that meet the needs of farmers – including women and marginalized groups.

The project has two main objectives:

(i) to derive new knowledge on scalable CSA technologies and institutional options with demonstrable benefits to women and men farmers, youth employment, climate resilience and low emissions development; and

(ii) to engage in on-going development and private sector initiatives to assist in prioritisation of best bet options and in policy development.

The primary project outcome is to provide incentives (financial, technical and policy) to support 0.4 million farmers to adopt climate-smart practices and technologies, which explicitly contribute to increased resilience to climate shocks across a range of time-scales.

To address the challenge of how to transit to CSA at scale, CCAFS Flagship 2 (FP2) will produce and appropriately disseminate field-based evidence and information to support these investments. The best-bet CSA options for target geographies will be determined through collaborative work with partners aiming to test, evaluate, promote and scale up CSA technologies and practices that met the needs of farmers – including women and marginalized groups.

This first training workshop held in Ethiopia on the CSA Monitoring framework is contributing to the projects' Activity 2.2: Mainstreaming of evidence-based CSA options within the selected value chains, which involves generating CSA options for testing through multi-stakeholders innovation platforms and developing institutional options needed to support scaling up.

The training workshop aimed to build local capacities to implement the CSA Monitoring Framework order to assess i) the adoption of promising Climate Smart Agricultural options promoted in Kaffrine Climate Smart Village site and ii) their related outcomes on household's livelihoods, food security and resilience. The Monitoring framework consists of a set of robust indicators allowing tracking expected outcomes in the Productivity/Food Security and Adaptation pillars. The key research questions addressed include:

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Objectives

Main objective

To carry out a technical training workshop to build the capacities of the local team and key partners involved in the fieldwork in the Kaffrine Climate-Smart Village to implement the annual CSA monitoring framework in 2019 and onwards over the project timeline.

Specific objectives

1. To tailor the CSA Monitoring framework and ICT-based data collection tool (Geofarmer) developed by CCAFS FP2 to the Kaffrine context-specific conditions and identify the key CSA options promoted in the site to support the rehabilitation of degraded landscapes and ecosystems, and the enhancement of farmer resilience, and which shall be tracked with the Monitoring.

2. Specifically build the capacity of a Supervisor (future trainer of trainers) to technically be able to annually manage/adjust the monitoring App and lead the local implementation of the Monitoring framework.

3. Support the local team (enumerators and supervisors) in the first days of field data collection in Kaffrine and ensuring a smooth transition to full implementation.

Target audience

CCAFS WA CSV coordinator, key local partners: ICRAF, BAME/ISRA and enumerators.

Expected outputs

- ✓ CSA monitoring App and questionnaire tailored to Kaffrine CSV site and ready for implementation (available upon request)
- ✓ CSA monitoring training delivered in Kaffrine (ppt presentation and Photos)
- ✓ Workshop participants list: CCAFS WA, local partners/enumerators trained and ready to start implementation (to be led by CCAFS WA/ICRISAT team)

Timeline

Activity and outputs shall be delivered before December 20, 2019

Estimated budget (trainers attendance)

Description	USD
Flights	2,345
Accommodation	1,150
Per diem	1,050
Transportation	150
Total	**4,695**

Note: A budget-transfer of USD 7,850 from the travel budget from CCAFS F2 unit (G158FL16 TV1) to the CCAFS WE unit budget has been requested and is currently pending

List of funded Trainers

1. Osana Bonilla-Findji, CCAFS Flagship 2, Science Officer (CSA Monitoring Framework designer)
2. Nadine Andrieu, CIAT/CIRAD Scientist

Contact persons

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