1. Activity Reporting.

Activity 854-2014

Planning for climate-smart investment to benefit smallholder farmers in three agricultural sectors in Senegal, Burkina and Niger (SIA)

Status	Extended	Milestone	1.3.2 2014
Start date	2014 Jan	End date	2014 Dec

Description: CCAFS WA is partnering with national stakeholders and farmers at site to develop climate-smart technologies and practices that will increase their adaptive capacity. This is done since 2011 through the farmer action research work with the goal to develop scalable climate-smart village models in these countries. Some promizing options can be already be brought to scale; this includes for instance the communication of dowscaled seasonal climate forecast to guide farm management decision making in Kaffrine (Senegal), the use of farmer managed natural tree regeneration in intercropping systems with micro-dosing in Fakara (Niger), the zaï and half-moon techniques combined with crop diversification for land rehabilitation and increased cereal production in Yatenga (Burkina Faso). Climate-smart options identified during the farmer-to-farmer exchange visits between analogue sites in these countries are also beneficial to communities planning for climate-smart agriculture implementation in accordance with their defined vision. Some country projects, are interested to mainstream these CSA options and practices into some of their agricultural sectors (e.g. Bissap, sorghum, livestock in Senegal; cowpea and millet in Burkina Faso). This offer a unique opportunity for CCAFS to scale-up the above mentioned CSA options to a larger number of farmers involved in these projects and to assess the contribution of these CSA options into the value chain of these commodities.

Status: Extended. This activity aimed at scale-up promising climate-smart agriculture options developed from the CSVs into agricultural commodity chains. This has been fully conducted in Burkina Faso through the IFAD funded program PROFIL (Value chain development project) with cowpea and sesame as focused crops. Two groups of farmers were considered: a group that recieved the seasonal forecast information on top of the best agricultural practices and a group that did not get the climate information on top of the best agricultural practices for the two value chain crops.
In Senegal, a similar activity entitled "The CSA technologies and practices: Added value, cost-benefits and dissemination mechanism of transferring tailored climatic information to farmers in PAFA network" has been initiated. The design of samples farmers from the PAFA program, another IFAD funded program on value chain, in order to allow for a rational comparison between farmers who received the CSA technologies and those who did not, has been successfully realized. However, due to last minutes changes in the project plans, the training of farmers who must receive the climate

information could not take place. The activity is planned to be pursued this year.

Gender Component: For each agricultural sector, the specific needs of participating men and women farmers will be considered and taken into account at each step of the implementation of the value chain approach.
In Burkina, about 2500 women farmers are involved in the cowpea and sesame production.

Objectives:

1. To evaluate the added value (productivity, reduced risk) of using climate-smart agriculture technologies and practices within the Framework of agricultural sectors production for country projects (PAFA, PASADEM, PAFASP)
2. To assess the cost-benefits of implementing CSA options for the various agricultural sectors (value chain approach)
3. To document lessons learnt for the scaling up of CSA options within agricultural sectors and approaches for smart investment planning

Deliverables:

Description	Type	Year	Status	Justification
3 reports on the effectiveness of using climate-smart technologies and approches to inform agricultural production planning	Research report (i.e. workshop report, consultant's report, discussion paper, project report, student thesis, etc.)	2014	On going	An abstract has been submitted for poster presentation at the CSA conference in Montpellier and a full paper is expected out of this research work.

Partners:

1- Projet d'Appui aux Filieres Agricoles (PROFIL):
Hervé Zoungrana <herve_zoungrana@hotmail.com>

2- Projet d'Appui aux Filieres Agricoles (PAFA):
Djiby Dia <djibydia@gmail.com>

3- Institut de l'Environnement et de Recherches Agricoles (INERA):
Leopold Some <bsomel@yahoo.fr>

Location(s):
Countries: Burkina Faso, Niger, Senegal,
Benchmark Site: Yatenga (Tougou), Kollo (Fakara), Kaffrine,

Activity 855-2014

Mainstreaming climate science (scenarios, CSA-technologies and practices...) into the national sectorial policy plan for agriculture in Mali, Senegal and Burkina Faso.

Status	Cancelled	Milestone	1.3.2 2014
Start date	2014 Jan	End date	2014 Dec

Description: CCAFS supported the setting of national science-policy dialogue platforms to foster knowledge sharing among key national stakeholders involved in the advisory or decision making of national policies for climate change adaptation and mitigation. Through these platforms, key priority needs have been identified (technologies and practices, approaches for effective policy making...) for the mainstreaming of climate change into national agricultural strategies. Senegal, Mali, and Burkina Faso are particularly interested to develop a sectoral policy plan for agriculture, the aim being to define focused policies and mechanisms to concretely and effectively implement informed investment planning.

Status: Cancelled. Two initiatives have been implemented in the Framework of this activity:
(1) The prioritization of climate-smart agriculture technologies and practices for effective investment planning in Mali. This activity is seen as a first step towards profiling climate-smart agriculture options that could be be considered for strategic investment planning through national agricultural development programs.
(2) The initiation of a project by the Ghana science-Policy dialogue Platform in order to "developing Climate-smart agriculture and food security action plan to operationalize Ghana national climate change Policy". This will be done using the agriculture and food strategies outlined in the National Climate Change Policy (NCCP) launched by His Excellency, the President of Ghana last 22nd July 2014, in combination with available proven climate smart agriculture and food security interventions and experiences across Ghana and elsewhere. The Development of the action plan is underway is is planned to be launched at the course of 2015.

Gender Component: Specific attention will be given to gender related policies for the effective use of CSA within the sectoral Policy.

Objectives:

1. To use climate change knowledge, data and information generated by CCAFS and partners (scenarios, CSA technologies and practices, Tools...) to inform the sectoral policy plan for agriculture in countries

Deliverables:

Description	Type	Year	Status	Justification
3 country proposals of sectoral Policy plans for agriculture	Policy briefs - Briefing paper	2014	On going	Process still underway for a launch in the course of 2015
Countries Policy plans for agriculture	Policy briefs - Briefing paper	2014	Extended	Work on going

Partners:

1- Agence de l'Environnement et du Développement Durable (Mali) (AEDD):
Mohamed Adideye Maïga <adideye@yahoo.fr>

2- The Council for Scientific and Industrial Research (CSIR):
Naaminong Karbo <minongkordam@yahoo.com>

Location(s):

Countries: Burkina Faso, Mali, Senegal,

Activity 856-2014

Climate change science informing the revision of the ROPPA strategic plan for agricultural development

Status	Extended	Milestone	1.3.2 2014
Start date	2014 Jan	End date	2014 Dec

Description: CCAFS WA is partnering since 2012 with ROPPA, the West Africa farmers organization network in order to promote the use of CSA within the family farm development. CCAFS WA and ROPPA co-organized in 2012 a regional farmer forum on "Food sovereignty in the context of Climate Change: Regional policymakers responses" where CCAFS and its partners presented various promising options (technologies, approaches, practices, Tools, etc.) that can be used by farmers across the sub-region to implement CSA. As a follow-up, ROPPA is interested to revised its strategic plan for agricultural development in a way to mainstream climate change more effectively. CCAFS has been identified as a major partner to do support this initiative.

Status: Extended. This activity was planned to start with the contribution of CCAFS to the Farmers' University that ROPPA is organizing every year. The CCAFS contribution was to train ROPPA lead farmers on various topics of CSA including (1) the concept of CSA (2) CSA approaches and Tools for increased resilience of farmers: Climate-smart villages, Farm of the future approach, Communicating seasonal forecast to guide farm management decision making). By training the lead farmers, the goal is to ensure a cascaiding training from lead farmers to their 13 country-level constituencies. The expectation is that the new knowledge on CSA acquired by farmers would capacitate them to advocate the mainstreaming of CSA into ROPPA strategic plan for agriculture.
The University was planned to take place on November 2014. Because of the Ebola outbreak in the sub-region and especially in Mali, this training could not be organised and is now postponed to the next ROPPA University. Also, ROPPA is planning to conduct pilot tests of the CSVs in at least 3 countries Under the ambrella of its national platforms and with the support of CCAFS. This will constitutes the starting of a scaling up process of the CSVs to ROPPA local constutiencies in the 13 member-countries.

Gender Component: Trainees are selected with a gender lens.

Objectives:

1. To use up-to-date knowledge and information generated through CCAFS and partners research and development activities to revise ROPPA strategic plan for agricultural development
2. To explore opportunities for the scaling out of CSA through ROPPA and its national constituencies

Deliverables:

Description	Type	Year	Status	Justification
Revised ROPPA strategic plan for agriculture mentioning climate-smart agriculture as the base source for achieving family farm sovereignty	Policy briefs - Briefing paper	2014	On going	Work on going

Partners:

1- Reseau des organisations paysannes et des producteurs agricoles de l'Afrique de l'Ouest (ROPPA):

Andre TIORO <atioro@yahoo.fr>

Location(s):

Regions: West Africa (WA),

Activity 857-2014

Scaling-up donwscaled seasonal forecast information through the multidisciplinary working group approach in 3 countries in West Africa (Senegal, Mali, Ghana)

Status	Extended	Milestone	2.3.1 2014
Start date	2014 Jan	End date	2014 Dec

Description: CCAFS is partnering with AGRHYMET and national met offices to develop downscaled probabilistic seasonal forecast at sub-national levels (district, villages...) and to communicate the climate information to farmers and their supporting organizations in the form of agro-advisories that will guide farm management decision making. After 2-3 years implementation and in view of the growing interest of various stakeholders of this approach, it appears necessary to capitalize on experiences and lessons learned for a successful scaling up and out of climate information services to a wider number of farmers. In order to do this, CCAFS WA will show case the successful examples experienced in the different CCAFS sites during the last 2-3 years, focusing on institutional and partnership arrangements needed to sustain the implementation of the approach.

Status: Extended. In 2013, the scaling up of downscaled probabilistic seasonal forecast to guide farmers' decision making for climate risk has been very successful in Senegal through the channel of community rural radios in four administrative régions. This activity has been pursued this year through strengthening the capacity of journalists from the Union of community rural radios (URACS) and also putting in place two new local plurisdisciplinary working groups (GTPs), one in Bambey under this project and one in Niakhar under another project funded by HELIX project. Also, two PhD students from USA were hosted Under this research activty through the GRIFN project, showing such nice scaling up synergies among various projects.

A related activity have been also conducted by an ICT-based company in Ghana called ESOKO in order to pilot the dissemination of downscaled climate information services to communities of Northern Ghana (where is located the CCAFS climate-smart villages) through mobile phones.

Gender Component: Men and women are differently affected and impacted by climate variability and change. The needs of the different groups (gender in general) shall be considered when downscaling climate information to meet these needs and contribute to reducing the risks to and vulnerability to climate variability and change through appropriate communication channels (of climate information and agro-advisory services) and institutional arrangements to reach both men and women.
In Senegal, one women farmer conducted the farm test activities. During all activities (training, evaluation, …) it was made sure that at least 30% of the participants are women. Women NGOs are also involved in this project.

Objectives:

1. To synthesise experiences and lessons learnt so far on the approach used to communicate the downscaled seasonal forecast information to farmers in the five CCAFS pilot countries in West Africa
2. To define institutional arrangements such as the technical working groups required to scale-up the seasonal forecast communication approach

Deliverables:

Description	Type	Year	Status	Justification
One Working Paper on the seasonal forecast communication approach and possibilities for scaling-up	Working Paper	2014	On going	Still need editing

Partners:

1- Centre regional AGRHYMET (AGRHYMET):
Seydou B. Traore <s.traore@agrhymet.ne>

2- Agence National de l'Aviation Civile et de la Météorologie (Senegal) (ANACIM):
Ousmane Ndiaye <ousmane@iri.columbia.edu>

Location(s):

Countries: Burkina Faso, Ghana, Mali, Niger, Senegal,

Benchmark Site: Yatenga (Tougou), Lawra-Jirapa (Lawra), Segou (Cinzana), Kollo (Fakara), Kaffrine,

Activity 858-2014

Using mAgri services (GSMA) model to upscale proven CSA practices in Mali, Senegal and Burkina Faso (with a focus on climate information services)

Status	Complete	Milestone	2.3.1 2014
Start date	2014 Jan	End date	2014 Dec

Description: CCAFS discussed with GSMA, a global membership organization of mobile phone and ICT companies that would like to expand its agro-advisory partnership into Africa. Through its mAgri programme (http://www.gsma.com/mobilefordevelopment/programmes/magri), GSMA is working with a number of mobile phone operators and agriculture partners to develop mAgri services and therefore is interested to see how climate smart agriculture practices can be provided through these services. Working at the moment in Mali, CCAFS see GSMA as a potential partner that can help bringing in new CCAFS science to the GSMA mAgri services initiative.

Status: Complete. Given that GSMA wasn't pro-active in the partnership requested by CCAFS-WA, we identified ESOKO Ghana (https://esoko.com/) another ICT-based Partner that is evolving in Northern Ghana and with very interesting experience in agricultural products dissemination through ICT.

The objective of the project is to improve access and use of downscaled seasonal forecast and climate smart agriculture technologies and practices (agro-advisories) through mobile phone and ESOKO platform by farmers in Northern Ghana. There was four ket agromet categories of information that were delivered by ESOKO (1) Seasonal forecast, (2) climate-smart agricultural technologies and practices, (3) Nowcasts and (4) Rain forecasts. Six hundred and nineteen farmers (37% women) were trained and received the messages through ICT channels.

Gender Component: Gender integration consists on ensuring that agro-advisory and information (climate smart agriculture practices) needs of women and other disadvantaged groups are taken into consideration in designing ESOKO services and also that these services reach and benefit these groups towards improved agricultural decision making of the face of climate variability and change. 37% of farmers who received the training and climate information were female.

Objectives:

1. To upscale proven CSA technologies, practices and approaches through mobile phones networks of the mAgri services programme (GSMA) in Mali, Senegal and Burkina Faso. Special focus will be given to climate information services

Deliverables:

Description	Type	Year	Status	Justification
Report	Research report (i.e. workshop report, consultant's report, discussion paper, project report, student thesis, etc.)	2014	Complete	

Partners:

1- Agence National de l'Aviation Civile et de la Météorologie (Senegal) (ANACIM):
Ousmane Ndiaye <ousmane@iri.columbia.edu>

2- Esoko:
Gordon Kotey Nikoi <gordon@esoko.com>

Location(s):

Countries: Burkina Faso, Mali, Senegal,

Benchmark Site: Yatenga (Tougou), Segou (Cinzana), Kaffrine,

Activity 859-2014

Assessing the potential of CSA technologies to reduce GHG emissions within agroforestry production systems (naturally assisted tree regeneration in Niger; Jatropha-Cereal intercropping in Mali)

Status	Extended	Milestone	3.3.2 2014
Start date	2014 Jan	End date	2014 Dec

Description: Farmer Managed Natural Tree Regeneration technique is a successful climate-smart agriculture practice that is widely used in Niger and neighbouring countries. In Mali, the Jatropha-cereal intercropping appears as one of the promising cropping system to increase food security while also contributing to mitigate GHG emissions. Evaluating the mitigation co-benefits of such productions systems would help fine tune their environmental added value while increasing the adaptive capacity of farmers.

Status: Extended. This activity is conducted in Niger. Though started, it has been extended to 2015 due to late implementation induced by Niger security matters and Ebola outbreak in West Africa. It aimed to evaluate how climate-smart is the farmer managed natural tree regeneration (FMNR) practice: assessing soil carbon sequestration potential and productivity co-benefits. The main objective is assess opportunities for enhancing the role of FMNR towards landscape-level biodiversity conservation and use as well as mean to climate change mitigation by sequestering large amounts of carbon in tree biomass and soil.
Specific objectives are:
• to evaluate the species diversity and similarity and structural parameters between smallholder farms with varying tree management history
• to document farmers' management practices
• to determine the biomass distribution in the above- and below-ground fractions of common species in agricultural landscapes
• to quantify the effects of FMNR on soil carbon, nitrogen and fertility status
• to document Factors influencing the conservation of trees on farmland and silvicultural management activity in Sahelian agro-ecosystem
The expected outputs concerned the following points:
• A database on trees and shrubs metrics and information on local agro-forestry management practices
• scientific research to generate evidence of the potential of agro-forestry regarding climate adaptation and climate change mitigation, as well as of the environmental impact of improved land-use planning in agro-pastoral regions;
• Dissemination of project results including peer reviewed publications, policy briefs, working papers

Gender Component: Especially what could be the co-benefits for women with the FMNR.

Objectives:

1. To assess the potential of CSA technologies (FMNR and Jatropha-cereal intercropping) to mitigate GHG emissions within agroforestry production systems in Niger and Mali

Deliverables:

Description	Type	Year	Status	Justification
One report on the contribution of FMNR and of jatropha-cereal intercropping systems to GHG mitigation	Peer-reviewed journal articles	2014	On going	Work in progress
Publication on the contribution of FMNR and of jatropha-cereal intercropping systems to GHG mitigation	Peer-reviewed journal articles	2015	Incomplete	

Partners:

1- Institut d'Economie Rural (IER):
Kalifa B. Traore <ibosimon_1@yahoo.fr>

2- L'Institut National de la Recherche Agronomique du Niger (INRAN):
Abasse Tougiani <abasse.tougiani@gmail.com>

3- World Agroforestry Centre (ICRAF):
Jules Bayala <j.bayala@cgiar.org>

Location(s):

Countries: Mali, Niger,

Activity 489-2014

Consolidating farmer participatory research to develop climate-smart village models in 5 WA countries

Status	Extended	Milestone	4.1.2 2014
Start date	2011 Dec	End date	2014 Dec

Description: CCAFS has been partnering with ICRAF Sahel Node to develop through participatory approach a model of climate smart village (CSV) in West Africa. The activity initially started in 3 CCAFS sites (Burkina Faso, Ghana and Mali) and from 2012 it was extended to the 2 remaining sites (Niger and Senegal) following the successful results and growing interest by most of the stakeholders at the local and national level. The aim of this activity is to consolidate the lessons learned (success, constraints, approach, tools and methods) that will be guide partners investments in scaling up the model of CSVs in their work at the local level.

Status: Extended. This activity is relating to the Development of climate-smart village models at site in the five pilot countries in West Africa. It has been extended this year to consolidate previous years results and to learn lessons for the implementation of up-coming flagship 1 projects in the CSVs.

Gender Component: Using tools and methods developed by CCAFS to mainstream gender (needs, constraints, opportunities, analysis of enabling and constraining gender-related factors to adaptation, etc.) into the participatory research work.

Objectives:

1. To draw lessons learned and develop a practical approach for implementing participatory research approach for promoting the model of climate smart village

Deliverables:

Description	Type	Year	Status	Justification
Working Paper	Peer-reviewed journal articles	2015	Incomplete	
Publication	Workshop	2015	Incomplete	
The participatory action research work tested scalable climate smart practices and evaluated their impacts on the resilience of people and the agro-ecosystems. Working hypotheses were: (1) multifunctional landscape with integrated farming systems provides buffer functions at a number of ecological and socio-economical scales, that jointly reduce human vulnerability and negative impacts of climate change, (2) emerging transformative climate smart interventions at landscape scale through knowledge development can reverse the negative trend of natural resources degradation and thus reduce human vulnerability to climate change and (3) appropriate policy regulations are needed in parallel to create a conducive environment for long term investment of the local stakeholders.	Working Paper	2014	On going	The paper should also include results from 2014 research work in the five countries. The country reports were just received in December 2014 and their content are currently included in the draft version of the Occasional paper.

Partners:

1- Institut de l'Environnement et de Recherches Agricoles (INERA):
Babou A. Bationo <babou.bationo@gmail.com>

2- Savannah Agricultural Research Institute (SARI):
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3- Institut d'Economie Rural (IER):
Kalifa B. Traore <ibosimon_1@yahoo.fr>

4- L'Institut National de la Recherche Agronomique du Niger (INRAN):
Abasse Tougiani <abasse.tougiani@gmail.com>

5- Institut Senegalais de Recherche Agricole (ISRA):
Yacine Ndour <yacine.ndour@ird.fr>

Location(s):

Countries: Burkina Faso, Ghana, Mali, Niger, Senegal,

Benchmark Site: Yatenga (Tougou), Lawra-Jirapa (Lawra), Segou (Cinzana), Kollo (Fakara), Kaffrine,

Activity 500-2014

Capacitating national platforms in support to science-informed national policy plans in 5 West Africa countries

Status	Extended	Milestone	4.1.4 2014 (1)
Start date	2012 Apr	End date	2014 Dec

Description: Adaptation to climate change initiatives in Africa mostly addressed research, capacity strengthening and policy issues on climate change either separately, or research on climate change issues, within a policy and strategic development framework. Initiatives involving the regular consultation amongst agricultural stakeholders aimed at reflecting on the adaptation of the poorest and most vulnerable populations to adaptation to climate change are lacking. To feed within the framework of the AfricaInteract regional platform, there is a need for regular consultations at the national level between all relevant stakehoders (researchers, polci-makers, etc.) in order to identify and define priority actions (research, development and capacity building, etc.) on adaptation of agriculture to climate change.

Status: Extended. Five national science-Policy dialogue platforms have operated during this year through regular meetings among platforms members to share information and discuss around topics of interest for national climate change adapatation. The focus this year has been (1) to analyse institutional mechanims and recommendations for operational dialogues between researchers, Policy makers, farmers and civil society organisations; (2) to analyse the level of climate change mainstreaming in major national development programs.

Gender Component: Not defined

Objectives:

1. Strengthen a pool of key stakeholders (think-tank) to mobilize national stakeholders through networking and sharing to identify priorities actions areas and policies on adaptation
2. Promote science-policy dialogue to guide/influence investments priorities in climate change, agriculture and food security

Deliverables:

Description	Type	Year	Status	Justification
Report	Working Paper	2014	Complete	
Policy Brief	Policy briefs - Briefing paper	2014	Complete	
	Working Paper	2014	Complete	
	Working Paper	2014	Complete	
This working paper results from activity of the Ghana national climate change and agriculture Platform with the aim to compile climate-smart agriculture technologies and practices from two agro-ecological zones in Ghana: the Guinnea Savannah (61 CSA options) and the forest zones (22 CSA options).	Working Paper	2014	On going	The revision and finalization is underway.

Partners:

1- The Council for Scientific and Industrial Research (CSIR):
Naaminong Karbo <minongkordam@yahoo.com>

2- Conseil national de l'environnement et du développement durable (CONEDD):
Christine Liehoun <mcliehoun@yahoo.fr>

3- Agence de l'Environnement et du Développement Durable (Mali) (AEDD):
Allassane Ba <padelia.mali@gmail.com>

4- Conseil National de l'Environnement pour un Développement Durable (Niger) (CNEDD):
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5- Ministère de l'Agriculture et de l'Equipment Rural:
Bounama Dieye <bounama1968@gmail.com>

Location(s):

Countries: Burkina Faso, Ghana, Mali, Niger, Senegal,

Activity 863-2014

Management of CCAFS data and information platforms

Status	Complete	Milestone	4.2.1 2014 (1)
Start date	2014 Jan	End date	2014 Dec

Description: CCAFS WA partnership with national and regional stakeholders results in considerable data collected and research outputs. Different activities generate different kind of data, tools, etc. Managing database and information platforms is essential for developing frameworks required for modeling purposes and quantifying impacts of climate variability and change on agricultural systems and food security. These activities are essential to help identify and develop policies, and strategies responses and guide investments to enable smallholder farmers better adapt to climate variability and change.

Status: Complete. This activity was planned to capitalize at global level (through the data and Tools unit) data and information collected across West Africa. The funds has been planned as a contribution of WA-RPL to cover the intervention of the data management expert Under FP4.

Gender Component: Not defined

Objectives:

1. Establish and maintain a database framework for modeling purposes and quantifying the impacts of climate change on agricultural systems and food security for prioritizing investments and policies formulation

Deliverables:

Description	Type	Year	Status	Justification
Databases	Data	2014	On going	Work in progress
Report	Platforms - Data Portals for dissemination	2014	Cancelled	This is work Under global level

Partners:

1- Institut de l'Environnement et de Recherches Agricoles (INERA):
Babou A. Bationo <babou.bationo@gmail.com>

2- Savannah Agricultural Research Institute (SARI):
Saaka Buah <ssbuah@yahoo.com>

3- Institut d'Economie Rural (IER):
Lamissa Diakite/Kalifa B. Traore <diakite.lamissa@yahoo.fr>

4- L'Institut National de la Recherche Agronomique du Niger (INRAN):
Moussa Boureima/Abasse Tougiani <moussaboureima@yahoo.fr>

5- Institut Senegalais de Recherche Agricole (ISRA):
Yacine Ndour <yacine.ndour@ird.fr>

Location(s):

Countries: Burkina Faso, Ghana, Mali, Niger, Senegal,
Benchmark Site: Yatenga (Tougou), Lawra-Jirapa (Lawra), Segou (Cinzana), Kollo (Fakara), Kaffrine,

Activity 535-2014

Participatory M&E to harvesting outcomes of CCAFS interventions at sub-national level in West Africa (Burkina Faso, Ghana, Niger, Senegal)

Status	Complete	Milestone	4.2.2 2014 (1)
Start date	2013 Mar	End date	2014 Dec

Description: Climate variability and change is a major threat to livelihoods and food security of smallholder farmers. Over decades, farmers have developed adaptation strategies (technological) to cope with and adapt to climate variability and change. In 2011 and 2012 CCAFS in partnership with IUCN tested a toolkit (ToP-MECCA) to support and improve adaptation planning, monitoring and evaluation capacities of scientists in Burkina Faso, Niger, Ghana and Mali for the implementation of the participatory action research initiatives. The implementation of this toolkit by scientists in the four countries has allowed to (i) explore and successfully apply approaches and methods that enhance knowledge to action linkages with a wide range of partners at local, district and national levels and (ii) assemble data and tools for analysis and planning, monitoring and evaluation. The objective of this project is to enable scientists, grant makers, and managers to identify, formulate, verify, and make sense of behavioral changes of their interventions on climate change, agriculture and food security.

Status: Complete. Four of the five countries covered by the project which started in 2013, have assessed the vulnerability and developed plans for adaptation to climate change. This information was used to fine-tune the participatory action research activities implemented by four NARS. Monitoring and evaluation plans were developed and validated with the partners in Niger, Burkina Faso, Ghana and Senegal. Stories of changes put in place by farmers with the contribution of the CCAFS programme in two countries (Niger and Ghana) were collected, using the most significant change technique. In Burkina Faso, the collected stories of changes were selected and substantiated for men and women farmers from the CCAFS's site of Tibtenga. In 2014, the selection and substantiation of the stories of changes continued in Niger and Ghana. The CCAFS's sites involved were Bankadey and Kampa-Zarma (Niger), and Doggoh (Ghana). In all three countries, both men and women farmers have shown changes in the domains of knowledge, agricultural practices and social capital development. With the selected most significant changes stories in Burkina Faso, the project co-organized a climate change adaptation day in the Yatenga region to share lessons about adaptation processes in various economic sectors, including agriculture and food security. Knowledgeable with the various lessons, CCAFS's partners adopted key messages and roadmap.

This year focused on understanding how individual outcomes contribute to broader system-wide changes. The specific objective was to enable scientists, grant makers, and managers to identify, formulate, verify, and make sense of behavioral changes of their interventions on climate change, agriculture and food security. Through capacity development and coaching, forty-nine persons from research institutions and agricultural extension services in Burkina Faso, Ghana, Niger and Senegal

were able to explore and apply the most significant technique. Significant changes stories were collected from 141 farmers (79 men; 62 women) participating in CCAFS-funded interventions. These stories went through selection and substantiation processes for the most significant change stories. The results showed that in the four countries, adaptation interventions in CCAFS sites have positively influenced participating farmers (i) knowledge in relation with climate change and agricultural technologies, (ii) agricultural practices, (iii) relationships within the same village and between villages, and (iv) access to some productive assets, such as trees for women. This elucidated the behavioral challenges farmers face when using climate-smart agricultural technologies. Monitoring and evaluating behavioral changes can therefore be applied to CCAFS interventions to enhance knowledge to action linkages.

Gender Component: Gender issues are considered in the tool and also by ensuring gender balance in capacity building activities of scientists. Throughout the implementation of activities in the four West African countries, gender considerations have always been at the center of planning, implementing, monitoring and evaluating the participatory action research. And the preliminary results of the monitoring and evaluation showed that both men and women are capable to participate in participatory action research and put in place appropriate behavioral changes to adapt to climate change.

Objectives:

1. To enable scientists, grant makers, and managers to identify, formulate, verify, and make sense of behavioral changes of their interventions on climate change, agriculture and food security.

Deliverables:

Description	Type	Year	Status	Justification
Working paper	Working Paper	2014	Complete	
Report	Peer-reviewed journal articles	2014	On going	Yet to include behavioral changes from 2014

Partners:

1- Institut de l'Environnement et de Recherches Agricoles (INERA):
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2- Savannah Agricultural Research Institute (SARI):
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3- Institut d'Economie Rural (IER):

Lamissa Diakite <diakite.lamissa@yahoo.fr>

4- L'Institut National de la Recherche Agronomique du Niger (INRAN):
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5- Institut Senegalais de Recherche Agricole (ISRA):
Yacine Ndour <yacine.ndour@ird.fr>

Location(s):

Countries: Burkina Faso, Ghana, Mali, Niger, Senegal,

Benchmark Site: Yatenga (Tougou), Lawra-Jirapa (Lawra), Segou (Cinzana), Kollo (Fakara), Kaffrine,

Activity 500-2014

WA policy workshop-regional scenario development

Status	Extended	Milestone	4.2.1 2014 (1)
Start date	2012 Apr	End date	2014 Dec

Description: Climate change is one of a number of biophysical, socioeconomic and political stressors, as it affects hundreds of millions of people who depend on small-scale agriculture for their livelihoods. In order to develop practical solutions for agriculture in the face of climate change, we need to integrate knowledge about climate change, agriculture, and food security in a meaningful and innovative way. At regional level, ECOWAS has invited CCAFS to be a partner in policy guidance, capacity building and action on the ground on climate adaptation and mitigation in the context for agriculture and rural development in West Africa. CCAFS West Africa initiated the development of socioeconomic and climate scenarios up to 2050 with major stakeholders from the sub-region, such as ECOWAS, CORAF, CILSS, ROPPA, AGRHYMET and others from ministries, civil society, the private sector and academia. These scenarios are being quantified and combined with climate scenarios, and aimed to be used as a tool to guide policy development and investment. Next steps in this process is to organise a workshop where the West Africa scenarios will be used to examine and guide ECOWAS investments into climate-smart agriculture.

Status: Extended. While the regional policy workshop for the scenario Development is yet to be organised, significant steps have been achieved towards partnering with ECOWAS with an agreement with the Agriculture Commission of ECOWAS to organise a regional policy workshop during 2015. This meeting would have took place in late 2014 if the Ebola outbreak didn't ban meetings in West Africa, especially with ECOWAS staff. Two major achievements can be highlighted as major steps: (1) the selection of CCAFS-WA proposal in order to develop socio-economic scenarios for ECOWAS strategies on agriculture and food security under climate change, funded through the United Nation University . The CCAFS-led scenarios have been described by ECOWAS as a highly useful priority setting tool. (2) In the Framework of the setting up a regional CSA alliance in West Africa, CCAFS-WA has been conveyed by ECOWAS to be member of the steering committee for the forum which was planned to be held last May 2014 but cancelled because of the Ebola outbreak in West Africa. CCAFS has been untrusted the preparation of introductory keynote documents on the overview of CSA scientific, political and financial landscape in West Africa for crop production, livestock, water, fisheries and forestry sectors. The production of these documents has been coordinated by the CCAFS-WA program leader who is liaising with ECOWAS for a further participation of the CGIAR centers to the forum.
Another key achievement (in close collaboration with the scenario Development team and the CCAFS Theme 1) has been the implementation of the scenario downscaling at national level in Ghana Under the ambrella of the Ghana science-Policy dialogue Platform.
Based on case work by CCAFS theme 1 Systemic Integrated Adaptation, in a workshop that

combined SIA work with the West Africa regional scenarios, policy proposals were generated based on an analysis of gaps across policy levels; then, the West Africa scenarios were interpreted at national, regional (sub-national), district and community levels; and the proposals were tested against these scenarios. Feedback from the scenario testing was used to re-design the proposals and improve them for robustness against a range of futures. Policy proposals generated in the workshop are planned to be implemented in the Ghana policy context.

Gender Component: Not defined

Objectives:

1. To share the four WA scenarios with key policy stakeholders from ECOWAS member countries in a attempt to training them in the development and use of scenarios, to be used at the national level.
2. To use scenarios to test the robustness and adaptive capacity of regional and national policies and investments

Deliverables:

Description	Type	Year	Status	Justification
Policy report	Research report (i.e. workshop report, consultant's report, discussion paper, project report, student thesis, etc.)	2014	Complete	
Publication	Peer-reviewed journal articles	2014	On going	Draft manuscript underway.

Partners:

1- Conseil National de l'Environnement pour un Développement Durable (Niger) (CNEDD):
Bako Safi Solange <safimod07@yahoo.fr>

2- Agence de l'Environnement et du Développement Durable (Mali) (AEDD):
Allassane Ba <padelia.mali@gmail.com>

3- Conseil national de l'environnement et du développement durable (CONEDD):
Christine Liehoun <mcliehoun@yahoo.fr>

4- Ministère de l'Agriculture et de l'Equipment Rural:
Bounama Dieye <bounama1968@gmail.com>

5- Ministry of Food and Agriculture (MoFA):
Delali Kofi Nutsukpo and Karbo Naaminong <kofi_nutsukpo@live.com>

6- Economic Community of West African States (ECOWAS):
Alain Sy Traore <syalaintraore@yahoo.fr or satraore@ecowas.int>

7- Reseau des organisations paysannes et des producteurs agricoles de l'Afrique de l'Ouest (ROPPA):
Andre Tioro <atioro@yahoo.fr>

Location(s):

Regions: West Africa (WA),

Activity 489-2014

Capacitating PAR implementing teams in gender and social differentiation within research work in West Africa

Status	Extended	Milestone	4.1.2 2014
Start date	2013 Dec	End date	2014 Dec

Description: This activity aims to tackle the weak capacity aspect in the region regarding gender and social differentiation mainstreaming in climate change adaptation research and development activities. This will consist mostly on trainings and capacity building of national PAR for climate smart agriculture implementing teams in CCAFS pilot countries.

Status: Extended. This activity has been conducted through two major components: (1) Training of country teams in gender participatory research (concepts, approaches, principles, tools, etc.); (2) Development of gender research proposals per country that can fill the gaps of knowledge in term of gender and climate change in West Africa and contribute to reach CCAFS gender impacts as defined by the gender impact pathway for West Africa.

Gender Component: This is to really tackle the weak capacity aspect of WA for the gender mainstreaming. This will consist mostly on capacity strengthening of national implementing teams.

Objectives:

1. To implement the gender workplan as defined during the gender training workshop in 2013 by the West Africa gender experts.

Deliverables:

Description	Type	Year	Status	Justification
Report	Research report (i.e. workshop report, consultant's report, discussion paper, project report, student thesis, etc.)	2014	On going	The workshop report is yet to include the selected research proposals before being published as a working Paper.
Number of experts trained	Capacity	2014	On going	Three research proposals have been selected for implementation during 2015 and are on going. The workshop report is yet to include the selected research proposals before being published as a working Paper

Partners:

1- International Crops Research Institute for the Semi-Arid Tropics (ICRISAT):
Mathieu Ouédraogo <m.ouedraogo@cgiar.org>

2- Institut de l'Environnement et de Recherches Agricoles (INERA):
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3- Institut d'Economie Rural (IER):
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4- Savannah Agricultural Research Institute (SARI):
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5- L'Institut National de la Recherche Agronomique du Niger (INRAN):
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6- Institut Senegalais de Recherche Agricole (ISRA):
Diaminatou Sanogo <sdiami@yahoo.fr>

7- International Union for Conservation of Nature (IUCN):
Issa.SAWADOGO <issa.sawadogo@iucn.org>

Location(s):

Countries: Burkina Faso, Ghana, Mali, Niger, Senegal,

2. Succinct summary of activities and deliverables by Output level.

Output: 1.3.2

Summary: Three activities have been conducted and contribute to this output:
(1) The piloting of the CSA prioritization tool developed by flagship 1/CIAT. This consisted in various steps including the identification by national experts, of major production systems and potential CSA options, followed by an evaluation of these CSA options vis-à-vis of 29 indicators. This was followed by a participatory workshop through which a number of national stakeholders (NGOs, technical agents, researchers, decentralized authorities, donors, etc.) filter the expert-based selected options of CSA. Mali after these two steps succeeded in identifying 3 zones and their prioritization criteria. Then around 15 CSA pratices have been selected and the type of programs, organizational change, service or policy needed to strengthen and promote the implementation of the selected practices.
Potential users of the results of this prioritization approach already expressed great interest and include European Union, Swedish embassy, regional Council of Sikasso, Sahel Eco (NGO), Coordination group for aride zones. These organisations also indicated how they may use these CSA prioritization outputs.

(2) In Burkina Faso, CCAFS initiated a collaborative research activity with INERA and PROFIL, a IFAD-funded project in the north region, aimed to assess the benefit of using the seasonal climate forecasts within the cowpea and sesame sectors in the Yatenga region. The communication/dissemination workshops on seasonal climate forecasts were organised with the attendance of about 122 farmers (including 87 men and 35 women) from 11 villages and 13 participants from Met service, extension services, INERA and PROFIL. Farmers firstly documented existing local knowledge related to climate and gave the seasonal forecast based on their indigenous knowledge. Then Met service agent and researchers presented the state of art of climate forecasting and the seasonal forecasts for the rainy season 2014 and provided agro-met advices for this year regarding the seasonal forecasts. This presentation is followed by discussions with farmers on the best practices to adopt in accordance to the forecasts. 60 farmers producing sesame and cowpea (44 men and 16 women) were chosen from 6 villages as control, i.e. they did not recieve the seasonal forecast information. A questionnaire for the economic evaluation of the use of seasonal climate forecasts within the cowpea and sesame sectors was then administrated to collect indicators. The preliminary results showed that :
(1) Farmers using climate information changed their farm practices based on the information they have received. They used more inputs (mainly fertilizers and improved seed) and labor than the others for cowpea production. However, they used less labor than the farmers who did not get climate information for sesame growing. The difference in term of inputs is not significant for sesame production.
(2) Farmers using climate information were more productive than the non-users of seasonal forecasts. The average yields for cowpea are 660 kg/ha for famers using climate information and 561 kg/ha for the others. The average yields for sesame are 575 kg/ha for famers using climate information and 498

kg/ha for the control farmers.
(3) The use of climate information provided more added value for the cowpea and sesame production. Farmers using climate information got 148 252 F CFA / ha (297 USD/ha) as added value against 133 635 F CFA/a (267USD/ha) for no users of climate information in cowpea production. The average added value is 387 348 FCFA per hectare (775 USD/ha) for exposed famers and 332 226 FCFA per hectare (664USD/ha) for the control farmers in sesame production.
The above initial results demonstrate that the use of seasonal forecasts resulted in improved agricultural income through firstly reducing losses usually caused to climate variability, and also the increase in agricultural productivity due to a better allocation of resources in the light of climate information received by farmers. This translates at macro-economic level by improved added value and competitiveness of cowpea and sesame sectors.

In Senegal, building upon three years experiences of the climate-smart village of Kaffrine, the goal of this project is to contribute to the scaling up of climate-smart agriculture options into the PAFA project intervention zone by especially targeting smallholder farmers in strategic agricultural sectors (millet and cowpea) and to assess the contribution of these CSA options into the value chain of these commodities. Spcific objectives were:
• To evaluate the added value (productivity, risk reduction) of using climate-smart agriculture technologies and practices within the Framework of agricultural sectors production (PAFA).
• To assess the cost-benefits of implementing CSA options for various agricultural sectors by using value chain approach.
• To document lessons learnt for the scaling up of CSA options within agricultural sectors and to propose a dissemination mechanism to transfer target CSA technologies and tailored climatic information to farmers.
This project implementation could not take place because the PAFA project management could not mobilize in time the groups of farmers that should receive the seasonal climate information for farm management decision making. It is therefore planned to postpone all activities to 2015 and organize the training before the rainy season. A meeting is scheduled in April 2015 with all the partners to renew commitments to work together and to facilitate the fieldwork (PAFA).

Output: 2.3.1

Summary: The scaling up of climate information services in Senegal is an activity led by ANACIM, and aimed to disseminate the seasonal forecast information as per the success case of Kaffrine, to reach wider communities in four regions in Senegal: Kaffrine, Thies, Diourbel and Louga. This was done through partnering with various partners such the union of rural community radios in Senegal (URACS), the millennium development goal, the NGOs federation (FONGS) and ISRA.
Activities conducted last years (2012-2013) in risk management interventions in the sites of Kaffrine, Louga and Diourbel through co-production of climate information with local experts and farmers community were consolidated during 2014. The most important breakthrough was the comprehensive training of 40 selected rural radio journalists during 3 full days in Kaolack. They were able afterward to start disseminating climate information through a network of 40 rural radios. This year was another good climate forecast because both the seasonal forecast and the late onset of the rainy season were

indeed verified. Farmers acknowledged during the evaluation session the truthfulness of information provided. It is also the first time that the agriculture department acknowledged officially and openly that the department has based its strategic plan from the seasonal forecast provided by ANACIM which is an outcome of the Kaffrine work. In addition to Kaffrine, ANACIM did create two new local GTPs this year: one in Bambey under this project and one in Niakhar under another project funded by HELIX project which is a good upscaling results. Seasonal forecast was broadcasted in early June to each selected sites (Kaffrine, Bambey, Louga and Niakhar) in a downscaled format and also to the whole country as a large scale product. The seasonal forecast at the specific sites were not only downscaled but with a training offered to all stakeholders. These GTPs were functional throughout the year and each produced a ten days bulletin throughout the year. They monitored all activities during the season. More specifically per GTP:

(1) Kaffrine GTP already created through administrative decision by the local government representative did meet each ten days throughout the season. All departments working on issues related to food security and livelihood where represented. After each GTP meeting, they disseminate the outcome/advisory to the rural radio. Once climate information is provided to the group, they interpreted it based upon their experience and expertise and draw the best actionable information (advisories) which is provided to representatives of farmers as well as through the radio.

(2) In Bambey the newly established GTP was under the lead of the agriculture department. The government representative did issue an ordinance for this GTP. It is Worth noting that the government representative is now the deputy minister of civil servants. Here the main stakeholders of the GTP were the local university of Bambey, the ISRA center for agricultural research in Bambey (CNRA), the agriculture department (leading entity), the met service (local ANACIM), forestry, media, representative of farmers (FONGS and URAPD). The “Union Regionale des Associations Paysannes De Diourbel”, URAPD is our main interlocutor to disseminate climate information. URAPD has a well-organized network of lead farmers working with family farms.

(3) In Niakhar the GTP and all other activities costs were shared by IRD and HELIX projects. CCAFS was a stakeholder as the developer of the protocol that has been implemented. Main stakeholders in Niakhar project are : Government representatives, Farmer’s organization and individual, ANACIM, SDDR, “Center d’Appui au Développement Local”, World Vision, ANCAR, Environment department (DEEC), IRD, Union of chief of villages, and media such as RTS (national radio and TV broadcasting), Sud-FM, Walf, radio rurale de Sine et Ndéfleng FMs. The leader of the GTP is the met service representative because of his background of working with users and his leadrship since AMMA project period.

(4) In Louga, ANACIM partnered with the Millennium Villages Project (PVM) who helped with local organization and in selecting farmers representatives. One interesting thing in Louga compared to all other sites is the involvement since last year of bank and insurance companies. The bank is so committed that they look for interaction at highest level. ANACIM was contacted to discuss with CMS bank representative and they are now part of the GTP at national level.

Through the GRIFN project, ANACIM hosted this year two PhD students from USA who investigated on and documented lessons learnt from what is now called the "Kaffrine lab". This year the project has created such a nice synergy with several users of the Kaffrine approach.

In Ghana, we piloted with ESOKO, the improved access and use of downscaled seasonal forecast and climate smart agriculture technologies and practices (agro-advisories) through mobile phone and ESOKO platform by farmers in Northern Ghana. There was four ket agromet categories of information that were delivered by ESOKO (1) Seasonal forecast, (2) climate-smart agricultural technologies and practices, (3) Nowcasts and (4) Rain forecasts. Six hundred and nineteen farmers (37% women) were trained and received the messages through ICT channels. Along the season, about 21 000 weather alerts, 7000 climate agric tips, 5000 price alerts and 7000 voice messages were distilled between ESOKO Platform and farmers. The following could summarize the main outputs of this activity as unveiled from the Esoko services delivered to beneficiaries of the CCAFS intervention zone:

1. The majority of the farmers benefiting from this program didn't have any formal education
2. Farmers are so excited with the Climat-smart agricultural information made available to them through the CCAFS project
3. 75% of the beneficiary farmers called the farmer helpline for clarification any time they receive Esoko agronomic advices
4. 95% of farmers who either received calls from Esoko or called Esoko farmer's helpline said the advices they received have been so helpful and the call centre has contributed significantly to them understanding the messages they received most especially the illiterate farmers.

The Farmer Helpline monitored farmers using their phones to access downscale seasonal and agricultural technology to improve adoption recorded totalising 197callers from "CCAFS farmers" over the period of July 25th to December15th, 2014. CCAFS' Farmers sought for help on issues ranging from Agriculture advice, Market price of commodities in various markets, posting an offer on Esoko platform (Esoko Marketplace), to know the weather condition in their locality to plan their farming activities and general enquiries. Dropped or silent calls from the farmers were also captured. These dropped or silent calls were due to challenges from the various telephone networks. However some also just called the line and hanged up looking forward to a call back from the centre.

Over the period, thirty-one (31) females out of the One Hundred and ninety-seven callers (197) farmers sought for the help of the Centre, this represents 15.74% of the entire calls while the male callers represents 84.26%.

Access to videos and pictures from this project can be found through this link: https://www.dropbox.com/hs/pksounts2tonqf7/AABIThR-gvmMjf23js3DiuLha?dl=0

Also in Ghana, The nationakl met agency and the African Institute for Mathematical Sciences (AIMS) worked on a project to "Preparing to use climate and weather information with farmers for planning, decision making and management". In this CCAFS WA funded project, the Ghana Meteorological Agency (GMET) collaborated with the African Institute for Mathematical Sciences (AIMS) Ghana, in preparing climate and weather information with both point and spatial coverage to help farmers in understanding the climate of their area and assisting farmers in planning and decision making.

This project is preparing Ghana to be at the forefront of developing and scaling out the PICSA (Participatory Integrated Climate Services Approach) Approach for West Africa. This is a participatory approach that assists farmers to make informed decisions once they have comprehensive climate information. As part of the implementation process the Ghana Meteorological Agency liaised with

TAMSAT and MARKSIM to validate their climate estimates over Ghana and hence offset the limited spatial coverage limitation of gauge data. The validation of the TAMSAT estimates was achieved through a working visit to TAMSAT at the University of Reading, UK. Reference reports have been produced for twenty- two stations to give quick visual impression about the state of the data for each of the selected stations. CLIMSOFT, a data base management software was successfully downloaded and installed at four GMET stations in the three northern regions of Ghana. Data have been transferred by e-mail daily to Accra. The variables being used for this experiment are temperature, rainfall and sunshine hours. Baseline climate information has been analyzed for nine stations over northern Ghana. Results relevant for the PISCA approach have been produced for these nine stations. The project implementation faced some challenges but the Ghana Meteorological Agency has worked assiduously with AIMS Ghana to ensure that the activities were implemented.

Output: 3.3.2

Summary: Integrating trees in agricultural systems helps rural communities adapt to climate change, mitigate its impact and improve their livelihoods (Nyasimi, et al. 2014). Particularly for farmers in the Sahel, trees not belonging to the category of forests but growing on agricultural land play an important role: they do not only prevent soil erosion, but provide a wide range of ecosystem services such, food, feed and nitrogen fixation (Bellefontaine et al., 2002). Moreover, the purchase of sustainably managed wood may serve as an additional income strategy for rural livelihoods (Abasse et al., 2009).
Taking up on the various benefits of trees and with the attempt to counteract a trend of environmental degradation faced since the 1970's (Mortimore and Adams, 2001), non-profit organizations promoted the cultivation and active regeneration of trees on formerly degraded land (Haglund et al. 2011). Several studies conclude that this agro-forestry method named Farmer Managed Natural Regeneration (FMNR) may have contributed not only to a remarkable rise in vegetation greenness or "re-greening" on a large scale (Herrmann and Hutchinson, 2005), but also to improvements in agricultural and environmental conditions (Abasse et al., 2009; Larwanou et al., 2006; Reij et al., 2009). It is a promising climate smart agricultural method that represents an inexpensive means of enhancing rural livelihoods (Haglund et al. 2011), and may contribute to climate change mitigation by sequestering large amounts of carbon in tree biomass and soil in addition to conserving biodiversity.

The following studies have been initiated with various levels of implementation:
(1) Tree species composition, diversity and local use in the Farmer Managed Natural Regeneration agricultural landscapes (Currently study sites selected, data collection protocol developed and field work ongoing in Maradi and at CCAFS site in Fakara, dield work to be completed Mid-March). It is expected to develop a database on non-destructive trees and shrubs metrics and information on local agro-forestry management practices.
(2) Woody biomass on farms and in Sahelian agricultural landscapes under FMNR (Data collection protocol developed and field work ongoing in Maradi and at CCAFS site in Fakara). A database on non-destructive trees and shrubs metrics and destructive estimate of biomass and carbon.
(3) Factors influencing the conservation of trees on farmland and silvicultural management activity in Sahelian agro-ecosystem (Study sites selected, Focus group discussion conducted with farmers, Questionnaire developed and being currently administered in Maradi; administration is planned from

February in Fakara). It is expecyted a database on factors influencing the conservation of trees on farmland and silvicultural management activity.
(4) Does farmers managed natural regeneration lead to increases in soil carbon and fertility status in arid agricultural landscapes (Data collected protocol discussed and agreed, Soil sampling and preparation for analysis to be completed by end of April). The success of this proposed project relies heavily on identifying an agricultural landscape having a broad array of farms on which FMNR has been established over different timescales and that can be readily compared with conventional farms. ICRAF/ICRISAT, INRAN and INERA is supporting the CIFOR team to design and implementing the research and will serve as liaison with the communities where the project will work. If the local support is granted, then the implementation of the work herein proposed is ensured.

Output: 4.1.2

Summary: This is the third year implementation for this activity coordinated by ICRAF and operated by the five research teams in the CCAFS pilot countries. It is therefore a continuation of previous years participatory action research at site in the CCAFS climate-smart villages in West Africa. Like every year, a regional workshop is organised at the beginning of year (10-12 Mar 2014) in order to discuss the results obtained by countries during 2013 and to build on the later to plan activities for 2014. In summary, the following outputs were achieved during 2014:

In Burkina Faso, with 3 climate-smart villages (Tibtenga, Lemnoga and Ramdolla), the main activities include climate information dissemination (seasonal forecast), land and vegetation rehabilitation, diversification of agricultural productions, integrated soil fertility management (ISFM), promotion of early-maturing crops varieties, and construction of a partnership and the capacity-building. More specifically:
• Participatory workplans elaborated for the three villages (Tibtenga, Lemnoga and Ramdolla)
• A workshop on climate information was held in Ouahigouya with the participation of 11 villages (82 men and 38 women). From there, climate information has been aired both in French and Mooré (locale language) everyday up to the 31 October 2014 on the local radio named Farmer's Voice (Voix du paysan).
• Based on the results of 2013 cropping season, farmers have been invited to try in their own fields the promising options of their choice. Thus, 184 farmers in total from Tibtenga (39), Lemnogo (51) and Randolla (94) participated. The most used drought tolerant crops or short cycle varieties were KVX396-4-5-2D and KVX61.1 for cowpea, SOSAT and IKMP5 for millet and SR42 for sesame.
• Combining fertilization with improved crop varieties increased the production by 21-57%
• Planting in lines in combination with manure application increased sesame yield by 75 to 225%
• 20,000 seedlings of 7 species planted by 157 men and 274 women;
• More than 100 households implementing natural assisted trees' regeneration and more and more planting of life fences, fruit and vegetable species;
• One farmer field visit realized with attendance of about 40 actors (including 20 women) from 6 villages from the CCAFS site. Extension and NGO agents participated in this visit where topics discussed included compost production, degraded land reclamation techniques, production and use of biogas.

• Partnership between INERA (through CCAFS funding), IUCN (through EPIC project) and the WFP program has permitted to train 200 farmers of six villages on the construction of stone bunds, nursery and tree planting techniques.
• 3 students doing their MSc research work within the CCAFS action research.

In Ghana, with two CSVs, a total of 63 on-farm trials were conducted (27 at Doggoh and 36 at Bompari) comprising no-tillage practices, crop diversification, maize-cowpea rotations, soil and water management/conservation practices, integrated nutrient management, growing drought and Striga tolerant crop varieties, intercropping cowpea with Jatropha (energy crop), improved crop cultivation technique and agroforestry. More specifically:
• Three appropriate drought tolerant maize varieties identified and evaluated;
• Four best fit indigenous water conservation practices (Zai, bunding, tie ridging and no-tillage) identified as efficient;
• One sustainable agroforestry system (Jatropha + cowpea) tested and validated;
• 10 women groups using improved mud stoves to reduce felling of trees;
• Three broadcastings done to inform more farmers on climate change and the role of local convention on mitigation strategies;
• Also, Esoko company conducted training on scaling up climate smart agriculture technologies using mobile phones for 619 farmers (393 males and 228 females) to benefit communities in the two districts.
• Capacity of 128 (115 women and 13 men) members of Gender Climate Smart Groups enhance on reducing post-harvest losses to help reduce and enhance food security at the CCAFs sites;
• 105 women trained on soybeans weani mix and appraprasan utilization;
• A total of 109 farmers attended field days organized in October 2014 at Doggoh and Bompari to showcase the CSA technologies being implemented by farmers in the two communities. This also served to increase the visibility of the CCAFS project and also to give non-participating farmers the opportunity to learn more about the CSA practices and technologies.

In Mali with two CSVs (Tongo and Ngakoro):
• One local participatory workshop organized to plan activities and to receive the seasonal forecast information;
• On-farm trials conducted in 20 farmer fields (soil and water conservation, crop varieties and jatropha-based production); In each village, 4 improved sorghum and 4 improved millet varieties were introduced and tested.
• One farmer exchange visit organized involving 70 farmers (males and females). This is a way of sharing of experience between farmers on climate change issues and the technologies to address them. This visit was covered by the local radio of Segou who broadcasted it widely;
• 600 seedlings of 3 tree species planted;
• 20 farmers trained on compost production;
• One video film produced on improved compost and stoves.
• One MSc trained;

In Niger, in Kampa zarma and Bankadey CSVs:
• One local workshop organized;
• Vulnerability of 118 household characterized;
• On-farm trials conducted in 97 farmer fields (soil and water conservation, crop varieties, vegetables, farmer managed natural regeneration, tree planting);
• 3,620 seedlings of 4 drought tolerant tree species planted;
• Three MSc trained;
• One open visit day of the trials with the participation of neighboring farmers;
• One farmer exchange visit organized;
• One rural radio broadcast aired;
• One video film produced

In Senegal with two CSVs (Ngouye and Dagabiram):
• Three local participatory workshops organized;
• Vulnerability of 69 farmers (27 women and 42 men) characterized;
• An innovation platform of 17 members established;
• On-farm trials conducted (optimizing cereal production and agroforestry trials including farmer managed natural regeneration and fruit tree planting);
• 300 seedlings of 3 fruit tree species planted;
• 32 (of which 12 women) farmers trained on combating gully erosion;
• One farmer exchange visit organized.
• One MSc trained;

On the gender front of the farmer action research: it is clear that men, women, youth, migrants have varying abilities to adapt to climate shocks and longer-term climate change because of differentiated access to entitlements, assets, and decision-making. This ability to adapt is further complicated by gender and social differences. Therefore, gender has been considered in all countries even though with some differences. In all countries, meetings, trainings and field work involved some women and some youth. In addition, gender sensitive activities like diversification fields of vegetables and planting of Moringa oleifera in Burkina Faso, plantation of fruit trees for women in Senegal, vegetable diversification fields in Niger, fonio and sesame farming in Mali have been conducted. Woman-headed households were involved in conducting the field trials in Mali. In Ghana, the Gender Climate Smart women groups have been trained on the use of stone lining, compost, stone bonding for soil and water conservation and they have adapted these practices for rice and maize production on fields that are pruned to gully erosion. Emphasis is also placed on interventions that are likely to be more beneficial to women, including nutrition education (Training on soybeans weani mix and appraprasan utilization), village savings and loans groups. All countries team have used different men and women focus groups for discussing as well as attempted to have women involved in the project activities. In order to overcome resource constraints and maximize the participation of the resource-poor women or youth, the project also introduced interventions designed to provide immediate short-term income and food benefits, allowing farmers to plant trees that would generate other substantial benefits in the longer-run. Additional interventions included training on soybean utilization in a variety of local dishes,

introduction of early maturing, drought tolerant maize and cowpea varieties as well as low shattering and promiscuous soybean varieties which require no inoculation or little mineral fertilizers to produce high grain yields, an emphasis on sustainable agricultural practices. We recognized that local level institutions are central to the scaling up and sustainability of the project in the long-term. The project has been trying to address this issue by working with the chiefs and elders to ensure that women's and youth rights to fertile land are recognized and enforced. We encourage men and women to come together and engage in decision making so as to open up opportunities for collaboration and cooperation. This involves supporting continued dialogue at both household and community levels; about the roles of women and youth in supporting agricultural innovation, while working to reduce structural deficits (access to resources) and encouraging more male support.

We also trained the 5 country teams conducting the action research on how to undertake gender research. This was done through a regional training workshop (facilitated by two gender experts) which culminated with the development by country teams of specific gender research proposals to be implemented during 2015.

Output: 4.1.4

Summary: Five national science-Policy dialogue platforms on climate change, agriculture and food security (platforms CCASA in French) have operated during this year through regular meetings among platforms members to share information and discuss around topics of interest for national climate change adapatation. The focus this year encompassed:

(1) analysing institutional mechanims and recommendations for operational dialogues between researchers, Policy makers, farmers and civil society organisations;
National platforms of Senegal, Niger and Mali, identified key national players in climate change and analysed current status of interactions among them.
For Mali, eight key messages were drawn from this analysis and further discussed during a national forum chaired by the Governor of Bamako district (70 participants) for constructive recommendations for Policy making (WP 85 and Info Note).
The Senegal Platform documented the current national policies, mechanisms and institutional arrangements, as well as the gaps that hinder effective integration of scientific knowledge and information into decision-making. The study finally highlighted suggestions for an effective system for policy making, especially through an operational dialogue between researchers and decision makers in Senegal (WP 101).
The Niger Platform also conducted an inventory of key national players in climate change and analysed exisiting mechanisms for interaction between researchers and Policy makers (yet to be compiled and published as working papers).
The above activities aimed to provide guidance for operational and informed decision making among national actors while also seeking institutional anchorings for the durability of these platforms.

(2) analysing the level of climate change mainstreaming into major national development programs: one of the tasks of countries platforms is to seize opportunities for new development programs and

projects or new national initiatives in the field of adaptation of agriculture and food security to climate change, to inform national stakeholders (using updated information), on the ways to ensure successful implementation and sustainability of such initiatives (e.g. national program on bio-fuels , climate-smart options for irrigated farming (with low emission of greenhouse gas emissions). The platform could also address the institutional mechanisms required/necessary at national level for investments that effectively integrate the climate change dimensions. In this Framework, the following activities have been conducted:

In Senegal, the Platform conducted a comprehensive analysis of (1) the "Plan Senegal Emergent", a major political initiative of the President of Senegal for growing economy of Senegal by 2035. The plan covers several sectors including transport, Agriculture, infrastructure, livestock, mining, industry; (2) the PRACAS, which is an action plan for the acceleration of agricultural growth in Senegal. Next steps will consist in discussing the key recommendations/messages with various decision makers before they can be included in revised versions of these plans.

In Mali, the national agricultural Development Policy and the national climate change Policy documents have been analysed on their climate change angle.

In Ghana, the national science-Policy dialogue platform organised a CSA sensitization and technology profiling workshop in Upper West Region. Over 125 key stakeholders including policy makers, traditional authorities, NGOs, farmers, Researchers etc. were sensitized on Ghana's climate change policy, CSA and technologies relating to crops, livestock and fisheries perspective. It is expected that the efforts on sensitization on Climate Smart Agriculture in the Upper West Region will be mainstreamed into the activities marking the 'Kobine' festival which is largely celebrated by many communities.

Another sensitization and technology profiling workshop was organised in the Ashanti Region where over 82 key stakeholders attended.

Like in Ghana, the national Platform of Senegal was actively involved in the organisation of the word food day where several Platform members made technical presentations on topics of interest, therefore promoting greater visibility of the Platform. It is important to note that the two working papers published by the Platform have been prefaced by the President of the national climate change committee and by the Ministry of Agriculture, which shows the good anchoring of the Platform int o national public bodies.

Output: 4.2.1

Summary: This activity was planned to capitalize at global level (through the data and Tools unit) data and information collected across West Africa. The funds has been planned as a contribution of WA-RPL to cover the intervention of the data management expert Under FP4.

Output: 4.2.2

Summary: IUCN initiated a project since 2013 in order to understanding how individual outcomes contribute to broader system-wide changes. The specific objective was to enable scientists, grant makers, and managers to identify, formulate, verify, and make sense of behavioral changes of their interventions on climate change, agriculture and food security. During 2014, through capacity development and coaching, forty-nine persons from research institutions and agricultural extension

services in Burkina Faso, Ghana, Niger and Senegal were able to explore and apply the most significant technique. Significant changes stories were collected from 141 farmers (79 men; 62 women) participating in CCAFS-funded interventions. These stories went through selection and substantiation processes for the most significant change stories.
- In Burkina Faso, forty (fifteen in Tibtenga, fourteen in Ramdolla and eleven in Lemnogo Mossi) stories of changes ;
- In Niger, twenty (eight in Bankadey and twelve in Kampa-zarma) stories of changes ;
- In Ghana, Fifty-three (thirty-three in Doggoh, twenty in Bompari) stories of changes;
- In Senegal, Thirteen stories of changes

The results showed that in the four countries, adaptation interventions in CCAFS sites have positively influenced participating farmers (i) knowledge in relation with climate change and agricultural technologies, (ii) agricultural practices, (iii) relationships within the same village and between villages, and (iv) access to some productive assets, such as trees for women. This elucidated the behavioral challenges farmers face when using climate-smart agricultural technologies. Monitoring and evaluating behavioral changes can therefore be applied to CCAFS interventions to enhance knowledge to action linkages.

CCAFS partners in the four countries expected that if the program was successful, it will induce changes in various domains, the most being knowledge in climate change and appropriate technologies to address its effects, partnership to address climate change effects. Changes in behavior and organizational aspects were also expected for a successful implementation of the CCAFS program in Burkina Faso and Ghana. These types of information add value to the content of the defined CCAFS intermediate development objectives (IDOs). Most of the outcomes harvested demonstrate that the CCAFS interventions are already inducing behavioral changes that vary within and across sites and countries. They occurred more importantly in the domain of knowledge / understanding of climate change and agricultural techniques.

After two years, the following outputs can be drawn from this activity:
(1) Scientists from NARS (INERA in Burkina Faso, CSIR/SARI in Ghana, INRA and the University in Niger and ISRA in Senegal) are knowledgeable on the tools for planning, moniroting and evaluation of climate change adaptative capacity. They have demonstrated their capacities to apply participatory planning tools to assess climate change vulnerability and use this information to design and implement the community-based climate smart agriculture through participatory action research in West Africa. They also learn how to design behavior-based M&E plan and use it to collect behavioral changes stories in order to add value to the occurring biophysical changes. This output was fully achieved.

(2) Information gathered showed clearly that CCAFS Programme is making contributions towards climate change adaptation in the selected sites. Analyses of the collected stories of changes indicated that CCAFS programme has contributed to knowledge improvement, the enhancement of agricultural practices, the development of relationships and partnerships among rural communities.
More specifically, in Burkina Faso, changes covered the following domains: knowledge on climate-

friendly agricultural technologies and practices (row planting, natural assisted regeneration and tree domestication, etc.), practices of these technologies, relationships development (frequent meetings, discussions / knowledge sharing, exchange of plants and seeds), and access to resources (seeds of cowpea, sesame, Senna siamea, Moringa oleifera) particularly for women.

In Niger, the changes are mainly related to knowledge and practices (early crop varieties, Zai, fertilization, agro forestry / natural assisted regeneration, hygiene of life), collaboration, access to resources (sesame seeds) and food security (management of the lean period, use of Cassia tora and okra).

In Ghana, men and women farmers put in place changes with respect to the domains of knowledge (zaï, compost preparation and application, lines sowing), practices (new farming practices, women planting tree, etc.) and relationship.

In Senegal, the changes affect both the areas of access to resources (seedlings for reforestation), knowledge and practices (intensive farming techniques, environment protection, use meteorological information: periods of fertilization, weeding, etc.), collaboration (strengthening the social tissue) and the relationship with the neighboring villages (creation of inter-village associations).

3. Communications.

Media Campaigns:

Reporting and broadcast on Niger national TV of the regional workshop on analogue climates and "farm of the future" approach in Niamey. October 2014

Reporting and broadcast on Burkina Faso national TV of the "Climate smart adaptation days" in Ouahigouya. April 2014

Reporting and broadcast on Malian national TV of the Workshop on Climate smart Priorisation. November 2014

Blogs:

1- 'Landscapes approach' could alleviate West Africa climate change woes – scientists: http://ccafs.cgiar.org/blog/%E2%80%98landscapes-approach%E2%80%99-could-alleviate-west-africa-climate-change-woes-%E2%80%93-scientists#.VNipD7CsUak

2- Process and lessons from CCAFS's activities in Ghana: http://ccafs.cgiar.org/blog/process-and-lessons-ccafs%E2%80%99s-activities-ghana#.VNipQbCsUak

3- As climate change heats, Africa seeks solutions: http://ccafs.cgiar.org/blog/climate-change-heats-west-africa-seeks-solutions#.VNipaLCsUak

4- Le TOP SECAC, un outil simple analyser la vulnérabilité et faire le suivi-évaluation: http://ccafs.cgiar.org/fr/blog/le-top-secac-un-outil-simple-pour-analyser-la-vuln%C3%A9rabilit%C3%A9-et-faire-le-suivi-%C3%A9valuation#.VNipgbCsUak

5- TOP SECAC, a toolbox to analyze and perform monitoring and evaluation: http://ccafs.cgiar.org/blog/top-secac-toolbox-analyze-and-perform-monitoring-and-evaluation#.VNipkrCsUak

6- Climate smart agriculture integrated in decision making in Ghana: http://ccafs.cgiar.org/blog/climate-smart-agriculture-integrated-decision-making-ghana#.VNiporCsUak

7- Que faut-il pour répondre au changement climatique en Afrique de l'Ouest : http://ccafs.cgiar.org/fr/blog/que-faut-il-pour-r%C3%A9pondre-au-changement-climatique-en-afrique-de-louest

8- What is needed to respond to the changing West African climate? http://ccafs.cgiar.org/blog/what-needed-respond-changing-west-african-climate#.VNipxbCsUak

9- Les "Fermes du futur" débarquent en Afrique de l'Ouest : http://ccafs.cgiar.org/fr/blog/les-fermes-du-futur-d%C3%A9barquent-en-afrique-de-louest#.VNip1bCsUak

10- The "Farms of the future" arrives in West Africa: http://ccafs.cgiar.org/blog/%E2%80%9Cfarms-future-arrives-west-africa#.VNip6bCsUak

11- Lutter contre l'insécurité alimentaire avec un plat commun : http://ccafs.cgiar.org/fr/blog/lutter-contre-lins%C3%A9curit%C3%A9-alimentaire-avec-un-plat-commun#.VNip-bCsUak

12- Battling food security with one shared plate: http://ccafs.cgiar.org/blog/battling-food-insecurity-one-shared-plate#.VNiqB7CsUak
13- Get the basics right or add adaption?
http://ccafs.cgiar.org/blog/get-basics-right-or-add-adaptation#.VNiqGbCsUak
14- Partir du bon pied ou ajouter l'adaptation ?
http://ccafs.cgiar.org/fr/blog/partir-du-bon-pied-ou-ajouter-l%E2%80%99adaptation#.VNiqK7CsUak
15- Farmers are good meteorologists!
http://ccafs.cgiar.org/blog/farmers-are-good-meteorologists#.VNiqWbCsUak
16- Les paysans sont de bons météorologues: http://ccafs.cgiar.org/fr/blog/les-paysans-sont-des-bons-m%C3%A9t%C3%A9orologues
17- Changement climatique: la téléphonie mobile pourrais changer les choses: http://ccafs.cgiar.org/fr/blog/changements-climatiques-la-t%C3%A9l%C3%A9phonie-mobile-pourrait-changer-les-choses
18- Climate change: mobile telephony could change things:
http://ccafs.cgiar.org/blog/climate-change-mobile-telephony-could-change-things
19- Kaolack, les radios communautaires aident à diffuser l'information climatique:
http://ccafs.cgiar.org/fr/blog/kaolack-les-radios-communautaires-aident-%C3%A0-diffuser-l%E2%80%99information-climatique
20- In Kaolack, community radio broadcasters help spread climate information: http://ccafs.cgiar.org/blog/kaolack-community-radio-broadcasters-help-spread-climate-information#.VNiqprCsUak
21- Pour une agriculture intelligente face au climat au Sénégal, un recueil de bonnes pratiques d'adaptation et d'atténuation publié: http://ccafs.cgiar.org/fr/blog/pour-une-agriculture-intelligente-face-au-climat-au-s%C3%A9n%C3%A9gal-un-recueil-de-bonnes-pratiques-d#.VNiqtbCsUak
22- Climate-smart soil, water and nutrient management options in semi-arid West Africa: http://ccafs.cgiar.org/blog/climate-smart-soil-water-and-nutrient-management-options-semi-arid-west-africa
23- Comment instaurer un dialogue entre chercheurs et décideurs au Mali: http://ccafs.cgiar.org/fr/blog/comment-instaurer-un-dialogue-entre-chercheurs-et-d%C3%A9cideurs-au-mali#.VNiq1LCsUak
24- Fermes du futur, les visiteurs donnent des leçons de bonnes pratiques agricoles à leurs hôtes: http://ccafs.cgiar.org/fr/blog/fermes-du-futur-les-visiteurs-donnent-des-le%C3%A7ons-de-bonnes-pratiques-agricoles-%C3%A0-leurs-h%C3%B4tes#.VNiq57CsUak
25- Farms of the future: a two-way learning exchange: http://ccafs.cgiar.org/blog/farms-future-two-way-learning-exchange#.VNirBrCsUak
26- Irrigation et changements climatiques, le Mali veut passer à l'action : http://ccafs.cgiar.org/fr/blog/irrigation-et-changements-climatiques-le-mali-veut-passer-%C3%A0-l%E2%80%99action#.VNirHbCsUak
27- Irrigation and climate change, Mali wants to take action: http://ccafs.cgiar.org/blog/irrigation-and-climate-change-mali-wants-take-action#.VNirLLCsUak

Websites:

- Translation of CCAFS website in French: http://ccafs.cgiar.org/fr
- Web window Under CNEDD website for Niger science Policy dialogue Platform: http://www.cnedd.ne/index.php/pana/plate-forme-c-casa

Social Media Campaigns:

- Regular tweets and facebook updates
- 5 videos added on Youtube

Newsletters:

2 electronic newsletters published:

- https://us2.admin.mailchimp.com/campaigns/show?id=1325665
- https://us2.admin.mailchimp.com/campaigns/show?id=1325705

1 printed newsletter shared

Events:

-A 3 days training workshop on analogue climates and "farm of the future" approach in Niamey. October 2014:
https://www.flickr.com/photos/cgiarclimate/sets/72157636865843586/
-During the "Climate smart adaptation days" in Ouahigouya farmers has shown adaptation technics and technologies. April 2014 :
https://www.flickr.com/photos/cgiarclimate/sets/72157644039487735/
-Workshop on Climate smart Priorisation. November 2014: https://www.flickr.com/photos/cgiarclimate/sets/72157649473003478/
-Participatory Action Research inception meeting in Tamalé, Ghana: https://www.flickr.com/photos/cgiarclimate/sets/72157642893012303/
-CSA sensitization and profiling workshop in the Savannah zone of Ghana: https://www.youtube.com/watch?v=dc0GTe153Fk

Videos and other Multimedia:

-"Les producteurs du Yetenga en quête de la ferme du futur pour s'adapter au changement climatique" en collaboration avec l'INERA et l'IUCN:
https://www.youtube.com/watch?v=jfEwNC3nrC4&feature=youtu.be

-"La ferme du future" en collaboration avec l'Institut du Sahel et l'IER:
https://www.youtube.com/watch?v=aiWbvPGdMzA&feature=youtu.be

-"Les PMA de Bamadougou et Doumanaba à l'école de Banco" en partenariat avec ENRACCA-WA et l'IER: https://www.youtube.com/watch?v=faK5pg6gXug&feature=youtu.be

-“La formation des producteurs de Kampa Zarma à l’utilisation des produits phytosanitaires en collaboration avec l’INRAN: https://www.youtube.com/watch?v=AExtpsVpN34&feature=youtu.be

-“Les fermes du future au Sénégal: une approche d’adaptation aux changements climatiques” en collaboration avec l’ISRA: https://www.youtube.com/watch?v=BxY7pijRu9E&feature=youtu.be

Other Communications and Outreach:

- Graphic design of the Working paper N° 85
- Monitoring of the edition and printing of the Working Papers
- Monitoring of the edition and printing of the Infonotes
- Posters
- Kakemonos

4. Case studies.

Case Study #1

Title: Learning from each other: Latin America and Senegal exchange innovative climate approaches for smallholder farmers

Author: CCAFS LAM, CCAFS WA, CCAFS FLAGSHIP 1

Type: Inter-center collaboration; Innovative non-research partnerships; Capacity enhancement;

Project Description:

Several initiatives in Sub-Saharan Africa and Latin America have used innovative approaches to overcome challenges of reducing risk and enhancing food security . By communicating and applying seasonal forecast information in these two regions through pilot-scale projects, they demonstrate good practice and provide valuable insights such as it has been evidenced in Senegal.

In Senegal, where the rainy seasons are short and the climate is highly uncertain, a pilot project was developed by CCAFS and the Senegalese National Meteorological Agency (ANACIM) since 2011, to provide climatic forecasts to small farmers in the main agricultural region, Kaffrine. By integrating climatic information into the development and planning of agricultural practices, this participatory project helped farmers to make better-informed decisions about planting and harvesting and ultimately cope with risk.

Likewise, with the support of CCAFS, Colombia has been working on similar themes under an agreement between CIAT and the Ministry of Agriculture and Rural Development, with the aim of strengthening the adaptive capacity of the agriculture and livestock sectors to climate variability and change and improving resource-efficiency in the production systems of priority regions. The agreement's goal is that Colombian agriculture moves away from being defined by the climate, and that, on the contrary, farmers are the ones managing the climate.

The CCAFS project's successes in Senegal and Colombia are being replicated in Honduras. This conjunction of institutions and research themes led to the idea of creating a knowledge exchange programme between the three countries to generate mutual learning on adaptation processes in the agriculture and livestock sectors and thus face the risks generated by climatic phenomena through new ideas and collaborations.

The above were initially incentived by an exchange visit by Colombia and Honduras to the Kaffrine project in Senegal was organised in 2013. Lessons learnt covered technical, planning and cooperation aspects.

Introduction / objectives:

An exchange visit by Colombia and Honduras to the Kaffrine project in Senegal with participating stakeholders encompassing researchers from CIAT and CCAFS, meteorology experts, Ministry of Agriculture representatives, NGOs and representatives from farmer associations.

The objectives were to capture and share experiences and lessons learned in the development of seasonal agro-climatic forecasts and their dissemination to smallholder farmers;

• To identify critical gaps in the design and use of CIS in both regions; and to identify institutional linkages that could address those gaps. generate learning cycles;
• To foster South-South Cooperation and mutual learning on innovative focuses.

Project Results:

The exchange visit achieved the following results:
• The strengthening of ties between the Latin American and the African delegation;
• Sharing of the success of the Kaffrine project;
• Arrival at an agreement for the implementation of three pilots in Colombia, in the framework of the ClAT-MADR agreement, inspired by the Kaffrine model;
• Planning the visit of the Kaffrine project coordinators to Colombia in November 2013; and an inverse exchange through a visit from a Senegalese delegation to Colombia in 2014;
• Sharing the documentation work for the project with Senegalese partners and with a wide range of stakeholders in Colombia and Honduras.

Lessons learnt included:
(1) At the technical level (local social and economic conditions): To achieve the set objectives it is important to have motivated teams with experience and a strong interest in the topic. Furthermore, strengthening local institutions' ability to programme and monitor projects is important. Local institutions lack relevant climate change adaption information that could inform local development plans. Capacity building for both formal and informal institutions at the local level is vital, as they are the ‘first defence’ in helping farmers anticipate and prepare for climate-related risks.
(2) At the trip planning level; the importance of having clear and consistent communication with counterparts to be able to design a trip that is interesting for all involved parties was identified. Language can be a barrier; translation is key.
(3) At the cooperative level: The visit from the Latin American delegation gave motivation to the group of stakeholders involved in the project to continue with their strong commitment in the project’s implementation. In addition, this encounter was strategic in that it gave visibility to the project and therefore national decision makers felt the importance of getting more involved. The exchanges validated and motivated the host.

Partners:

1. Senegal Ministry of Agriculture
2. Colombia Ministry of Agriculture
3. National Meteorological Agency (ANACIM)
4. Institute of Hydrology, Meteorology and Environmental Studies (IDEAM)
5. Climate Change, Agriculture and Food Security (CCAFS) West Africa
6. Climate Change, Agriculture and Food Security (CCAFS) Latin America
7. Climate Change, Agriculture and Food Security (CCAFS) Theme 1: Adaptation to progressive climate change
8. International Center for Tropical Agriculture (CIAT)
9. Ministry of Agriculture and Rural Development (MADR)

10. FENACLE
11. National Federation of Rice Producers (FEDEARROZ)
12. Honduras Ministry of Agriculture
13. Initiative prospective agricole et rurale (IPAR)
14. Community Radio
15. National Institution for Agricultural Research (ISRA)

Links / sources for further information:

http://www.unep.org/south-south-cooperation/case/casedetails.aspx?csno=141

Case Study #2

Title: Senegal and Mali national science-policy dialogue platforms mainstreaming climate change into national development initiatives

Author: Robert Zougmoré, Bounama Dieye, Bougouna Sogoba

Type: Successful communications; Capacity enhancement; Policy engagement;

Project Description:

Throuhg their regular meetings, Senegal and Mali platforms analysed how climate change is taken into account in major agricultural Development action plans and in major national climate change Policies. The aim is to provide guidance to the decision makers on how to really tackle the issue of climate change within these major national Development initiatives.

In Mali: two national strategies (the agriculture Development policy and the national climate change Policy) have been analysed under their climate change mainstreming angle: what has been included? what are the gaps, and what could be recommended to fill these gaps?

In Senegal: it is the program to accelerating agriculture Development in Senegal, which is a sub-component (agriculture) of the President initiative for a economic growth of Senegal (Plan Senegal Emergent). Clear recommendations have been identified for a better mainstearming of climate change into the plan with specific next steps and targets for the national science-Policy dialogue Platform to contrinute in informing the strategy.

In both countries, the national science-policy dialogue platforms have gained consideration at the high Policy level due to their respective activities, especailly now that district level platforms are being put in place through flagship 4 project in West Africa. Indeed 3 district level platforms are in place per country to ensure that local level priorities are also taken into account at national level while also providing evidence on what works and what does not work for local adaptation.

Introduction / objectives:

National science-Policy dialogue platforms objectives include (1) to undertake regular exchanges between platform members, identify national priority issues requiring lightening with updated information and knowledge to guide decision-making for institutional policies, strategies and development plans for agriculture and food security.

(2) Analyse new national development initiatives (projects, plans, strategies) from the agriculture and food security sectors, (e.g. national program on bio- fuels , climate-smart options for irrigated farming) in order to inform national stakeholders (using updated information), on best ways to ensure successful implementation and sustainability of such initiatives. Platforms, through technical backstopping, must produce Policy outcomes at national level.

Project Results:

Three reports analysing national Policy plans with clear recommendations on how to better mainstream climate change for agricultural Development and food security.

Partners:

National Platform members in both countries.

Links / sources for further information:

http://ccafs.cgiar.org/fr/blog/comment-instaurer-un-dialogue-entre-chercheurs-et-d%C3%A9cideurs-au-mali#.VN9vvo2zWwJ

http://ccafs.cgiar.org/blog/new-knowledge-sharing-platform-helps-mali-rig-better-defense-against-climate-change#.VN9yrY2zWwI

https://www.youtube.com/watch?v=dc0GTe153Fk&list=PLmATng7lKk6VImI-kIdzUlcDw-Yu2HgMo

http://ccafs.cgiar.org/fr/blog/ghana%E2%80%99s-climate-change-adaptation-policy-priorities-agriculture-sector#.VN9w1o2zWwI

http://ccafs.cgiar.org/blog/what-needed-respond-changing-west-african-climate#.VN9vXo2zWwJ

Case Study #3

Title: Generating new expertise on climate change through University curricula

Author: Robert Zougmoré

Type: Capacity enhancement;

Project Description:

CCAFS West Africa program leader is actively involved in the creation of new expertise in climate change by contributing to the university trainings of masters and PhD students. In this framework, Dr. Robert Zougmoré gave a lecture on "Climate Smart Agriculture: an approach to strengthen the resilience of farming systems" to 23 students from various African countries for their master program on Climate Change and Sustainable Development coordinated by AGRHYMET. He also gave a conference on the same topic to a wider audience.

Then 10 students from ECOWAS countries also received at the University of Niamey, the lecture on climate change and agriculture in the framework of the WASCAL master program on climate change and energy. It is important to also note that in 2013, he also gave a course on climate change and agriculture and another lecture on energy flows in agricultural production systems (Energetics of Production Systems (Energy Flows) to enhance the skills of 10 PhD students from the WASCAL program, with which CCAFS has a partnership collaboration in West Africa.

Through these lectures, CCAFS is bringing new knowledge on climate-smart agriculture to benefit the competency of future young scientists. In addition, some of the students become interested to conduct their field work in teh CCAFS research sites.

Introduction / objectives:

CCAFS and WASCAL developed a partnership through which the two programmes collaborate to conduct research on climate, capacity building and sharing of scientific data and information on the issue of climate change and agriculture. Consequently, the two programs decided to use existing expertise at CCAFS for curriculum development for the various master's and thesis programmes of WASCAL. CCAFs would like to contribute building new competencies on climate change, agriculutre and food security in West Africa through backstopping curricula with the knowledge generated from its research worldwide and in the sub-region.

Project Results:

Ten students from the WASCAL PhD program on climate change and agriculture hosted by the University of Cape Coast benefited from a lecture given by the CCAFS-WA program leader on the topic "Climate Smart Agriculture: an approach to strengthen the resilience of farming systems" and another course on "Energetics of Production Systems (Energy Flows)".

Similarly, another lecture on climate smart agriculture with focus on energy was given in June 2014 to 10 master-graduate students from the WASCAL program on climate change and energy hosted by the University of Niamey.

In view of increasing interest on climate-smart agriculture, Aghrymet master program on climate change and sustainable Development requested CCAFS WA to give the same lecture to 23 master students. This was followed by a conference on the same topic to sensitize Agrhymet partners on the new concept of climate-smart agriculture. About 53 invited participants attended the conference.

The lectures and conference provided opportunities for CCAFS to share materials and knowledge generated from CCAFS research, therefore contributing to promote CCAFS visibility in the sub-region and its consideration by most stakeholders as the "go to place" for climate change related issues in West Africa.

Partners:

WASCAL Program based in Accra, Ghana
University of Cape Coast, Ghana
University of Niamey, Niger
Aghrymet Master program on climate change and sustainable Development, Niamey, Niger

Links / sources for further information:

http://ccafs.cgiar.org/blog/climate-change-mobile-telephony-could-change-things#.VN-cQ42zWwI

5. Outcomes.

Outcome #1:

Major donors ready to use CSA prioritization outputs for their investment in agriculture in Mali

What is the outcome of the research (i.e. use of research results by non-research partners)?

Following the piloting of the CSA prioritization approach in Mali, the European Union, Swedish Embassy, Sikasso regional Council, Sahel Eco (NGO), Coordination group for arid zones, expressed strong interest to use the results to guide their investment in agricultural Development in Mali. These organisations also indicated how they may use these CSA prioritization outputs. Sahel Eco is ready to put $2M, EU: €615M (11 FED), GCOSAT ($200,000/year). The process is coordinated by the Mali science-Policy dilaogue.

What outputs produced in the three preceding years resulted in this outcome?

http://ccafs.cgiar.org/blog/climate-smart-solutions-mali#.VN3l2I2zWwI

http://ccafs.cgiar.org/climate-smart-agriculture-prioritization-framework#.VN3kAY2zWwJ

http://ccafs.cgiar.org/blog/making-smart-decisions-food-secure-future#.VN3htI2zWwJ

Zougmoré R., Jalloh A., Tioro A., 2014. Climate-smart soil water and nutrient management options in semiarid West Africa: a review of evidence and analysis of stone bunds and zaï techniques. Agriculture & Food Security; 3:16.

Kissinger G, Sova C, Allassane BA, Maïga IA, Benefor DT, Nutsukpo DK, Ky-Zerbo AZ, Roth-Liehoun C, King'uyu SM, Orindi V, Rojas E, Rivera JL, Mishra JP, Singh R, Joshi PK, Kinyangi J, Aggarwal P, Zougmore R, Sebastian LS, Martinez D, Neufeldt H, Twyman J, Bonilla-Findji O & Jarvis A. 2014. Climate adaptation and agriculture: Solutions to successful national adaptation plans. CCAFS Policy Brief no. 9. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark. Available online at: www.ccafs.cgiar.org

What partners helped in producing the outcome?

CIAT/CCAFS is leading the conceptional component of the approach and guiding its implementation together with CCAFS West Africa regional program

CCAFS WA regional program supervised the implementation in Mali (partnership, engagement, organisation, etc.)

Mali science-Policy dialogue Platform is the leading national body for this activity with the facilitation of AMEDD (Association Malienne d'Eveil au Développement Durable)

Who used the output?

European Union in Mali
Swedish Embassy
Sikasso regional Government
Sahel Eco (NGO)
Coordination group for arid zones (GCOSAT)

How was the output used?

The output users attended the implementation phases of the prioritization tool and found its readily usefulness for their respective investment prioritization process. So they expressed strong willingness to use the outputs when they are finalised.

What is the evidence for this outcome? Specifically, what kind of study was conducted to show the connection between the research and the outcome? Who conducted it?

http://ccafs.cgiar.org/blog/climate-smart-solutions-mali#.VN3l2I2zWwI

http://ccafs.cgiar.org/climate-smart-agriculture-prioritization-framework#.VN3kAY2zWwJ

Outcome #2:

Downscaled seasonal forecasts recommended as an input to develop and implement Senegal agricultural plan 2014

What is the outcome of the research (i.e. use of research results by non-research partners)?

For the first time, the agriculture department of Senegal decided to use the downscaled seasonal forecast to guide the implementation of the 2014 agricultural plan for the country.
This has been translated into a formal decision from the agriculture department, directed to all regional stakeholders. Thanks to that, all development actors (extensionists, projects and programs, NGOs, farmers organisations, etc.) have been using the downscaled seasonal forecast to advise and guide all agricultural operations across their respective regions.

What outputs produced in the three preceding years resulted in this outcome?

Regular bulletins containing the seasonal forecast information and agricultural advisories developed by ANACIM and shared with respective regions.

Weather forecasts

What partners helped in producing the outcome?

ANACIM designed the dowscaled seasonal climate forecast information for administrative regions.
ISRA advised on potential options of CSA to face climate risk in Kaffrine

Who used the output?

Public extension
NGOs
Farmers organisations
Decentralised authorities of administrative regions

How was the output used?

Extension services at regional levels, GTPs and their respective networks including farmers' organisations, NGOs, rural radios, etc. used the downscaled seasonal forecasts and other climate information services developed by ANACIM to advise rural communities on climate risk management for food security and disaster risk management.

What is the evidence for this outcome? Specifically, what kind of study was conducted to show the connection between the research and the outcome? Who conducted it?

Letters from the agric department recommending the use of seasonal forecast to guide advisories to farmers.

ANACIM transmitting national level downscaled seasonal forecast information to all ministerial departments in Senegal

Reports from various GTPs indicating how they used and disseminated the climate information.

Outcome #3:

CCAFS science informing the ECOWAS-led initiative of a regional CSA alliance in West Africa.

What is the outcome of the research (i.e. use of research results by non-research partners)?

ECOWAS has requested CCAFS WA to backstop the regional strategy that will support the creation of a West Africa CSA alliance. As a consequence, CCAFS WA as member of the steering committee, contributed to the design of the regional alliance and in collaboration with 5 CGIAR centers, produced five overviews of CSA scientific, political and financial landscapes in West Africa for the crop production (IFPRI), water (IWMI), livestock (ILRI) , fisheries (University Nigeria), and forestry (ICRAF/ICRISAT) sectors.

What outputs produced in the three preceding years resulted in this outcome?

Hub Rural (Eds). 2014. Definition of the ECOWAS intervention framework on CSA as part of ECOWAP/CAADP implementation, and the establishment of an Alliance for the Consistency and Coordination of CSA initiatives in WA. Introductory note, High Level Forum of Climate-Smart Agriculture Stakeholders in WA.

Timothy Thomas; Robert Zougmoré, 2015. Overview of Climate-Smart Agriculture for Crop Production in West Africa: The Scientific, Political and Financial Landscapes.

Marloes L. Mul, Timothy O. Williams and Olufunke Cofie, 2015. The Scientific, Political and Financial Landscape of Climate Smart Agriculture for the Water Resources sub-sector in West Africa.

Augustine Ayantunde, Polly Ericksen, Mohammed Said, 2015. Overview of Climate-Smart Agriculture for livestock production and livelihood in WA: The scientific, political and financial landscapes.

B.O. Omitoyin, Robert Zougmoré 2015. Overview of CSA Scientific, Political and Financial Landscape in West Africa for the Fisheries Sector.

Patrice Sawadogo, Robert Zougmoré, 2015. Overview of CSA for the forestry/agroforestry sectors.

What partners helped in producing the outcome?

IFPRI/ICRISAT (crop production)
ILRI (Livestock)
IWMI (Water)
University of Ibadan/ICRISAT (Fisheries)
ICRAF/ICRISAT (Forestry/Agroforestry)
RPL CCAFS-WA (coordination of contributions and backstopping of the steering committee

Who used the output?

ECOWAS
Hub Rural

CORAF
UEMOA
ROPPA
CILSS SECRETARIAT, AGRHYMEY, INSAH
USAID

How was the output used?

All listed outputs users were looking for these information to know how CSA can inform their respective strategies for climate change adaptation.

What is the evidence for this outcome? Specifically, what kind of study was conducted to show the connection between the research and the outcome? Who conducted it?

http://www.hubrural.org/Concertation-regionale-CEDEAO-des.html
http://www.hubrural.org/Forum-CEDEAO-de-Haut-Niveau-des.html?lang=fr

7. Outcome indicators.

Outcome Indicator:

One to five flagship technical and/or institutional approaches identified and developed with farmers, key development and funding agencies (national and international), civil society organizations and private sector in three regions, which would directly enhance the adaptive capacity of the farming systems to the climate change conditions

Achievements:

N/A

Evidence:

Evidence not defined

Outcome Indicator:

Breeding strategies of regional and national crop breeding institutions in three target regions are coordinated, informed by CCAFS-led crop modeling approaches that are developed and evaluated for biotic and abiotic constraints for the period 2020 to 2050

Achievements:

N/A

Evidence:

Evidence not defined

Outcome Indicator:

Integrated adaptation strategies for agricultural and food systems inserted into policy and institutional frameworks at regional, national or sub--national level in 2 target regions. Policy makers and key stakeholders use CCAFS research outputs - guidelines, tools and methods-- to support the development of NAPAS, sector specific adaptation plans, or germplasm benefit sharing policies.

Achievements:

N/A

Evidence:

Evidence not defined

Outcome Indicator:

One to five flagship risk management interventions evaluated and demonstrated by farmers and agencies at benchmark locations in three regions

Achievements:

(1) seasonal forecast communication approach implemented by farmers in Kaffrine (Senegal), Tibtenga (Burkina Faso), Cinzana (Mali), Kampa zarma (Niger) and Lawra-Jirapa (Ghana).

(2) Farmers in Burkina Faso, Mali, Senegal and Niger implemented the farm-of-the-future approach through exchange visits in climate analogue sites.

Evidence:

-Broadcast on Niger national TV of the regional workshop on analogue climates and “farm of the future” approach in Niamey. October 2014

Videos covering the exchange visits in countries:

-Burkina Faso: https://www.youtube.com/watch?v=jfEwNC3nrC4&feature=youtu.be

-Mali: https://www.youtube.com/watch?v=aiWbvPGdMzA&feature=youtu.be

-Niger: https://www.youtube.com/watch?v=AExtpsVpN34&feature=youtu.be

-Senegal: https://www.youtube.com/watch?v=BxY7pijRu9E&feature=youtu.be

Outcome Indicator:

Three food crisis response, post-crisis recovery, and food trade and delivery strategies tested and evaluated with partner crisis response organizations at benchmark locations in three regions

Achievements:

N/A

Evidence:

Evidence not defined

Outcome Indicator:

National meteorological services and regional climate centers trained and equipped to produce downscaled seasonal forecast products for rural communities in two countries in each of three regions

Achievements:

(1) Agrhymet regional center capacitated through CCAFS to develop clean historical climate database that can be used for downscaled seasonal forecast production for its 17 member countries.

(2) ANACIM and Ghana Met capacitated to use historical climate data to produce downscaled seasonal forecast information.

Evidence:

http://aps.sn/articles.php?id_article=135628

www.aps.sn/articles.php?id_article=132031

Outcome Indicator:

Findings and evaluation tools on mitigation and livelihoods benefits of alternative agricultural development pathways used by global agencies and decision-makers in two countries in each of the three regions

Achievements:

N/A

Evidence:

Evidence not defined

Outcome Indicator:

Decision-makers in three regions better informed re options and policy choices for incentivizing and rewarding smallholders for GHG emission reductions

Achievements:

N/A

Evidence:

Evidence not defined

Outcome Indicator:

Project design and monitoring guidelines for smallholder agriculture in developing countries produced and contributing to global standards

Achievements:

N/A

Evidence:

Evidence not defined

Outcome Indicator:

Agriculture mainstreamed into the global climate change policies, and major international food security initiatives fully incorporate climate change concerns

Achievements:

N/A

Evidence:

Evidence not defined

Outcome Indicator:

Global database and set of tools for climate-smart agriculture established and used by key international and regional agencies

Achievements:

N/A

Evidence:

Evidence not defined

Outcome Indicator:

New knowledge on how alternative policy and program options impact agriculture and food security under climate change incorporated into strategy development by at least 3 national agencies, and 3 key international and regional agencies

Achievements:

National science-Policy dialogue platforms of Senegal, Mali and Ghana analysed major national policies and plans and drawed recommendations for a better mainstreaming of climate change aspect into these country policies and plans.

Evidence:

Specific reports with recommendations under discussion in countries.

8. Leveraged funds.

Leveraged funds #1

Title:

USAID-Mali Accelerated Economic Growth Add-On project:
Disseminating learning agenda on resilient-smart technologies to improve the adaptive capacity of smallholder farmers in the Mopti region, Mali

Partner Name: ICRISAT and ICRAF Based in Bamako

Budget: $2,200,000.00

Theme :2

Leveraged funds #2

Title:

UNU project to benefit CCAFS WA RPL and the scenario team:
Socio-economic scenarios for ECOWAS strategies on agriculture and food security under climate change

Partner Name: United Nations University (UNU), ECOWAS, African Climate Policiy Center

Budget: $35,000.00

Theme :4

9. Publications.