# Info Note

# Capacitating stakeholders to using Climate Information in West Africa: Achievements and lessons learned from the WAAPP-funded CaSCIERA-TA project

*Bayala Jules, Dayamba S. Djibril, Lamien Nieyidouba, Zougmoré Robert B., Agali Alhassane, Ky-Dembélé Catherine, Diakité Adama, Ouédraogo Mathieu, Gnangle P. Cesaire, Keita Amara, Tougiani Abasse, Sadate Amadou*

**APRIL 2020**

**Key messages**

- Capacitating key stakeholders on assessing the smartness of projects and programs, climate information generation and utilization, coverage and quality, participatory action research, modeling for crop yield predictions, delivery of climate information services were effective to develop local expertise that is likely to sustain the actions beyond the project lifespan.
- Building dynamic and active partnerships was instrumental for integrated actions on the ground by the various actors.
- The new knowledge and skills acquired by key stakeholders can set the foundation for Climate-Smart Agriculture (CSA) mainstreaming into future projects or programs.

This Info note summarizes the achievements and lessons learned from the implementation of a 2-year project on ''Capacitating Stakeholders in Using Climate Information for Enhanced Resilience in the Agricultural Sector in West Africa (CaSCIERA-TA)'', funded by Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricole (CORAF) under the West Africa Agricultural Productivity Program (WAAPP)". This project was implemented by a consortium of partners led by ICRAF Sahel Office and included CCAFS West Africa Program, AGRHYMET, INRAB-Benin, IRAG-Guinea, INRAN-Niger and ITRA-Togo. The project aimed at strengthening the capacity of the stakeholders of four WAAPP implementing countries to mainstream and implement Climate Smart Agriculture (CSA) into their activities.

## Introduction

West Africa region covers diverse landscapes, peoples, cultures and institutions with about 60% to 80% of its population being rural and depending primarily on agriculture for their livelihoods. Countries' Nationally Determined Contributions (NDCs) from this region recognize that at least 25% of the emissions reduction will come from the agriculture sector and the environmental-friendly management of farmed fields, especially in the context of variable and changing climate conditions and high pressure that call for adaptation. Thus, beside usual goal to increasing productivity and income, there is also a need to improve adaptation to climate variability and change while reducing greenhouse gas (GHG) emissions. It is against this background that the West Africa Agricultural Productivity Program (WAAPP) invited a consortium of regional actors to support its implementation countries to mainstreaming climate-smart agriculture into countries' activities. This includes examining the smartness of the proposed activities and also capacitating country actors with the knowledge, tools and approaches needed to implement their activities with a Climate-Smart Agriculture (CSA) lens. It is in this context that was developed the project on Capacitating Stakeholders to Using Climate Information for Enhanced Resilience in the Agricultural Sector in West Africa (CaSCIERA-TA), which brought together four WAAPP countries (Benin, Guinea, Niger and Togo). CaSCIERA-TA aimed at providing relevant and precise agro-hydro-climatic information services to stakeholders for decision-making in their fight against adverse effects of climate change and variability. Led by World Agroforestry (ICRAF), the project was implemented by a consortium including Climate Change,

Agriculture and Food Security (CCAFS) West Africa Program, Centre Régional de Formation et d'Application en Agrométéorologie et Hydrologie Opérationnelle (AGRHYMET), Institut National des Recherches Agricoles du Bénin (INRAB), Institut de Recherche Agronomique de Guinée (IRAG), Institut National de la Recherche Agronomique du Niger (INRAN) and Institut Togolais de Recherche Agronomique (ITRA).

## Implementation and main achievements

The overall institutional partnership/collaboration occurred between CORAF, international and regional organizations/programs (ICRAF, CCAFS, AGRHYMET), and country actors (national extension, research and meteorological office of each of the four countries involved in the project). The regional funds from CORAF, supported three separate agreements with ICRAF, AGRHYMET and CCAFS. With capacity development as one strong component, the project through the regional stakeholders has trained country extension service agents, farmers, scientists, meteorological service staff and students on various topics pertaining to CSA and agro-hydro-climatic information. The main foundation of CaSCIERA-TA was to improve the quality and coverage of climate information, and to train end-users on how to understand and use these climate information advisories for decision making, particularly adequate for farming activities. End-users were skilled to select a portfolio of potential climate-smart technologies and practices that are tailored to the context of each farmer and each community. Initial situation assessment through a baselining and progress markers' assessment at the end of the two-year period were conducted to help monitor progress made.

ICRAF specific role was to lead and coordinate the overall project, capacitate actors in the use of participatory action research approaches, improve climate information production and utilization for adequate decision making for enhancing farming activities,develop M&E system, create a data base and assess progress made by the project through baseline and endline studies. To that end, a series of trainings were conducted on Participatory Integrated Climate Services for Agriculture (PICSA) cascading from the trainers at regional level up to the various country agents and then to the farmers. Its partner the University of Reading have trained national meteorological staff on the use R-Instat to analyze climate historical records. A total of 139 (14 women) trainers of trainers and 9,231 (4,127 women) farmers have been capacitated in the four CaSCIERA-TA countries (Figure 1). M&E work included developing the methods for baselining and endlining. ICRAF trained a total of 37 (8 women) data collectors who later interviewed 910 (152 women) farmers for both studies. National meteorological service staff were trained on the analysis of historical climate records to produce tools for PICSA implementation

CCAFS-WA has, in close collaboration with ICRAF, ensured the scientific and technical support to countries in the development and implementation of their work plans. In this regard, CCAFS has analyzed and provided inputs on the level of mainstreaming of CSA into countries' workplans. CCAFS-WA has also conducted in-depth trainings of specialists of the additional funding for WAAPP 1C and ProPAD Chad on approaches and tools for integrating CSA in agricultural development projects and programs. Finally, CCAFS-WA initiated the development of communication products, including technical reports, Info notes and blogs; therefore, contributing to the CaSCIERA-TA project components on "Capacity Building" and "Monitoring-Evaluation".

AGRHYMET interventions were geared towards capacity building of the staff of national meteorological services to improve climate information quality and coverage through the merging of stationary data and satellite data (ENACTS), generated seasonal forecast, trained national scientists and M&E staff of WAAPP on modeling (SARRA-O/H) for crop yield predictions and finally climate information delivery only in Niger case for decision-making in particular in the production sectors most dependent on the rainy season (agriculture, livestock, etc.). Special seasonal forecast information and monthly agro-hydro-meteorological and phytosanitary bulletins were produced at the regional level, and an Android Application developed to facilitate data collection and information transmission to farmers and their supervisors.

National WAAPP funds supported the implementation of countries' work plans, notably the participation of the national teams to the various trainings and meetings of the project, CSA options identification, prioritization and testing, training of national extension staff on PICSA and data collection for all field activities including the two surveys conducted at the start and end of the project. The national teams, led by the national agricultural research institutes of Benin (IRAB), Guinea (IRAG), Niger (INRAN) and Togo (ITRA), were composed of representatives of the national meteorological agencies, the extension agents, and the national coordination unit of WAAPP. These national teams have been beneficiaries of the various trainings that capacitated them to be able (1) to ensure the trainings of national and sub-national actors, (2) to conduct ground activities with the end-users and finally (3) to contribute to the M&E studies.

## Lessons learned after 2-year implementation

Beside the achievement, a number of lessons have been learned and the insights drawn can inform future development initiatives. These lessons are twofold.

1. Strengthening countries' capacity (in tools and methods of analyzing and communicating agro-hydro-

climatic information) meets the needs of users (producers and decision makers) for climate-smart agriculture:

- Countries' meteorological services know how to improve the quality and spatial coverage of daily climate data (rainfall, temperatures) through merging using ENACTS (combining ground weather data with satellite data, after correcting biases);
- Countries' meteorological services have learned to better exploit and analyze with R-Instat tool historical climate and agrometeorological data to help farmers and other actors have a data-based understanding of the patterns of the climate of their area and thus make better decisions for agricultural activities;
- Forecasts of the agro-hydro-climatic characteristics of rainfall seasons (rain accumulations, onset and end dates, dry sequences and flows of large river basins) were disseminated to users (extension agents and farmers), as well as related advices;
- Extension workers, agricultural facilitators and farmers understand and know how to interpret and use agri-hydro-climatic information following PICSA training;
- The SARRA-H and SARRA-O agronomic models for crop monitoring and yield estimates are operational in countries;
- The developed Android application will enable the operational monitoring of crops (at the plot level), the collection of data/information and the dissemination of CSA information (smart views and advices) to farmers;
- There is an emergence of country expertise (regional and communal level) in the capacity of actors to use climate services and information;
- Producers are receptive to climate information due to their better understanding of its simplified presentation and its usefulness to reduce climatic risks along farming activities; therefore, village communities now integrate climate services (risks, probabilities) in their daily activities by appropriation of CSA and PICSA approaches;
- Country actors are capacitated to plan and evaluate development projects with effective CSA mainstreaming.

2. Building dynamic and active partnerships is crucial for the successful integration of actions toward mainstreaming climate-smart agriculture in a project:

- Synergy among partners including technical services (research, extension, meteorology), producer representatives, community media or local NGOs facilitated a better dissemination of climate information services;
- Good coordination and M&E are needed to ensure that seasonal forecast data are produced on time and, above all, made available to producers well before the start of the season for better planning of their activities and beneficial impacts of its use

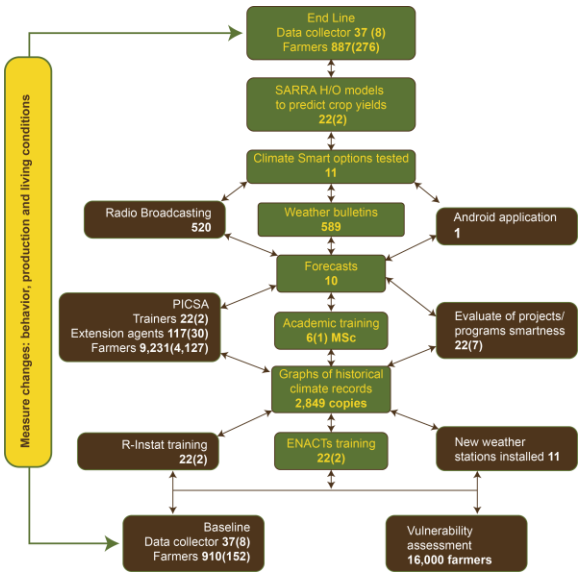


*Figure 1: Achievements of CaSCIERA-TA in values in four countries: Benin, Guinea, Niger and Togo*

## Conclusions

Overall, for the two years of the project, several key activities namely trainings of trainers, were accomplished for partners of WAAPP who have been able to mainstream CSA into the program activities. Thus:

1. Countries' stakeholders are now capacitated with knowledge, tools and approaches to mainstreaming CSA into projects and programs and more specifically on the effective use of agro-hydro-climatic information advisories;

2. Countries' stakeholders are also capacitated to plan future projects with strong CSA mainstreaming through CSA lens;

3. They have been capacitated in the use of participatory and inclusive approaches that will allow various stakeholders from national and regional levels to work in synergy for effective ground implementation and successful achievements in CSA actions.

*A group of farmers in Toffo, Benin, examining Niaouli rainfall historical data on April 19, 2018*

## Further reading


- Bayala J. 2020. Final Technical Reports – All partners of the project “Capacitating Stakeholders in Using Climate Information for Enhanced Resilience in the Agricultural Sector in West Africa (CaSCIERA-TA)”. World Agroforestry Centre (ICRAF) – West and Central Africa / Sahel Office
- Ouédraogo M, Zougmoré RB, Houessionon P, Gnangle C, Nadjiam D, Diaby MF, Basso A, Sadate A, Niéyidouba L. 2019. Assessing the Climate-Smartness of the West Africa Agricultural Productivity Programme (WAAPP): What can we learn from Benin, Guinea, Niger, Togo and Chad projects? CCAFS Info Note. Wageningen, Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).



**Acknowledgements**

*This info is about key achievements and lessons learned from implemented CaSCIERA-TA funded by the World Bank through the West Africa Agricultural Productivity Program (WAAPP)” of CORAF. Capacitating Stakeholders in Using Climate Information for Enhanced Resilience in the Agricultural Sector in West ng; Africa (CaSCIERA-WA) project aimed at strengthening the capacity of four country stakeholders of WAAPP to mainstream and implement CSA in their activities in West Africa.*



***Bayala Jules*** *(j.bayala@cgiar.org) Principal Scientist, ICRAF Sahel Office.*

***Dayamba S. Djibril*** *(djibril.dayamba@yahoo.fr) Scientist, Institute for the Environment and Agricultural Research (INERA), Burkina Faso*

***Lamien Nieyidouba*** *(n.lamien@coraf.org) WAAPP Program Manager; CORAF*

***Zougmoré Robert*** *(r.zougmore@cgiar.org) Principal Scientist, Africa Program Leader, CCAFS*

***Agali Alhassane*** *(agalialhassane1968@gmail.com) Agronomist responsible for climate change adaptation in agriculture; AGRHYMET regional center, Niger*

***Ky-Dembélé Catherine*** *(c.dembele@cgiar.org) Tree scientist, ICRAF Sahel Office*

***Diakité Adama*** *(a.diakite@cgiar.org) Junior< Scientist, Socioeconomist; ICRAF, Sahel Office*

***Ouédraogo Mathieu*** *(m.ouedraogo@cgiar.org) Scientist, Participatory Action Research, CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)*

***Gnangle P. Cesaire*** *(gnampaces@yahoo.fr) Program Manager Agricultural Products Diversification - Coffee Cocoa Program; National Institute for Agricultural Research, Bénin (IRAB)*

***Keita Amara*** *(namandiankeita@gmail.com) Head of Research and Development Department at the National Agency for Rural Promotion and the Agricultural Council (ANPROCA) Guinea*

***Tougiani Abasse*** *(abasse.tougiani@gmail.com) scientist, National Agricultural Research Institute of Niger*

***Sadate Amadou*** *(sadate04@gmail.com) Scientist, Institute of Agronomic Research, Corn and Rice Program (ITRA), Togo*


Research led by: World Agroforestry

## About CCAFS Info Notes



The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) brings together some of the world’s best researchers in agricultural science, development research, climate science and Earth system science, to identify and address the most important interactions, synergies and tradeoffs between climate change, agriculture and food security. Visit us online at **https://ccafs.cgiar.org**.


CCAFS is led by the International Center for Tropical Agriculture (CIAT) and supported by:

CGIAR · Australian Government Australian Centre for International Agricultural Research · Irish Aid · Ministry of Foreign Affairs of the Netherlands · New Zealand Foreign Affairs & Trade Aid Programme · Swiss Agency for Development and Cooperation SDC · UKaid from the British people · USAID from the American people · IFAD Investing in rural people