ECOWAS COMMISSION
COMMISSION DE LA CEDEAO
COMISSÃO DA CEDEAO

POLICY BRIEF

March 2023

PROMOTE THE ACCESS TO CLIMATE SERVICES

INTRODUCTION: CLIMATE CHANGE IMPACTS ON AGRICULTURE AND FOOD IN WEST AFRICA

According to the Notre Dame -Global Adaptation Index (ND GAIN), nine countries in the ECOWAS-CILSS region are among the 30 most vulnerable in the world to future climate change[1]. Indeed, for West Africa, climate change is already a reality that makes the maintenance of various agricultural systems increasingly precarious. These changes will continue during the 21st century and beyond, leading to an increase in inter-annual climate variability and in the occurrence and intensity of extreme climate events. In particular, the main climate models predict a clear reduction in rainfall in the rainiest areas (western Sahel), and possible increases in the driest areas (eastern Sahel). Beyond the simple accumulation of rainfall, the distribution of rainfall will tend towards an intensification and regrouping, resulting in a late start and early end of the rainy season with potential breaks in the middle, thus leading to a high vulnerability of rainfed crops, hence the vulnerability of rainfed agriculture. More broadly, changes in the middle and extreme values of climate parameters, increase in frequency of extreme weather and climate events such as floods, droughts, heat waves, will result in reduced agricultural yields in West Africa. By 2050, modeling results show an overall reduction in average yields of 12% (millet), 16% (sorghum), 20% (maize) and 25% (rice) for the main food crops. Groundnut and cowpea yields could decline by up to 25% and 30%, respectively, by 2030. Cash crops (cocoa, cotton, coffee, etc.) will not be spared by these yield changes either. These changes compromise the food security and livelihoods of West African populations. They will also have economic repercussions, with a reduction in GDP of between 3.7 and 11.7% - at least in the absence of adaptation interventions in key socio-economic sectors, including agriculture[2].

VARIOUS PRACTICES THAT CONTRIBUTE TO STRENGTHENING THE ADAPTATION OF THE AGRICULTURAL SECTOR

Since the adoption of ECOWAP in 2005, the consideration of climate issues in regional agricultural policies (in the sense of agro-sylvo-pastoral) has progressed considerably. In addition, regional climate efforts are now under the umbrella of the ECOWAS Regional Climate Strategy (RCS), adopted in 2022, whose objective is to consolidate and complement regional climate actions that are already conducted at the sectoral level in order to structure regional climate action within a common framework. On the one hand, ECOWAP was revised in 2016 with the adoption of a Strategic Policy Framework for 2025, allowing for a first integration of climate issues. In addition, in response to the impacts of climate change on agricultural productivity in West Africa, particularly on small-scale producers, the Economic Community of West African States (ECOWAS) has developed a financial mechanism integrated with the Regional Fund for Agriculture and Food (RFAF) called the West African Initiative for Climate-Smart Agriculture (WAICSA).

[1] ND Global Adaptation Index Project, 2020 : https://gain.nd.edu/our-work/country-index/

[2] http://www.climatestrategy.ecowas.int/images/documentation/Strategie_Regionale_Climat_CEDEAO_avril%202022_FINALE.PDF

This Policy brief was prepared with support from the Global Climate Change Alliance Plus (GCCA+) West Africa project.

INTRA-ACP GCCA+ PROGRAMME An initiative of the ACP Group of States funded by the European Union's European Development Fund

EXPERTISE FRANCE GROUPE AFD

It was produced with the financial support of the European Union and Expertise France supervised its technical development, within the GCCA+ West Africa project.

This Policy brief is published under the sole responsibility of the Department of Economic Affairs and agriculture, as well as the Regional Agency for agriculture and food (RAAF) of ECOWAS and does not necessarily reflect the opinions of the Union European Union, ECOWAS and its Member States.

In the field, adaptation in the agricultural sector encompasses different sets of practices implemented at various scales - plot, farm, watershed, industry, country - and which can be combined. These practices can be part of agroecology (AE) or Climate Smart Agriculture (CSA). Both approaches have a strong potential for multi-scale climate resilience. Agroecology aims to help family farmers cope with difficult production conditions - soil degradation, climate instability, low and irregular yields - with practices that enhance the potential of ecosystems and contribute to their restoration. CSA is based on three (03) principles that must be achieved jointly: increasing productivity, resilience to climate change, and reducing greenhouse gas emissions.

Although the two (02) concepts are based on different philosophies, the delineations between AE and CSA are less clear-cut when one looks at the practices that underlie them, and many points of convergence appear in the field. For example, both CSA and AE promote agroforestry, as well as soil and water conservation techniques (zai or half-moons, etc.). ECOWAS recognizes the potential of both CSA and AE in the fight against climate change, both of which are included in the climate intervention frameworks of ECOWAS and its Member States (WAICSA), and wishes to encourage the cross-cutting nature of AE and CSA projects for the benefit of greater adaptation. It thus supports the scaling up of AE practices that take into account vulnerabilities linked to climate change and of CSA practices that are anchored in the territories and promote sustainable development and the empowerment of small producers.

Whether we are talking about AE or CSA, the issues of capitalization and scaling up are of great importance. If the feedback from the pilot projects implemented between 2020 and 2022 within the framework of GCCA+ WA has shown that spontaneous dissemination is possible within mutual knowledge networks, provided that the innovations have tangible results, there is a strong need to promote and support the dissemination and replication of these practices on a larger scale. This implies identifying the scope of these good practices, but also the necessary socio-economic conditions and the obstacles to be overcome. This policy brief aims to share these experiences and draw lessons for local, national and regional public policies.

ISSUES AND CHALLENGES OF CLIMATE SERVICES TO ADDRESS CLIMATE CHANGE IN WEST AFRICA

Climate services[3] can be defined as the whole of the meteorological and climate information which allows to make an assessment of the past climate, to establish an inventory of the present and to make forecasts and projections (seasonal or longer term trends). The objective and the interest are to provide decision-making support to different users of weather-sensitive sectors (farmers, energy infrastructure managers, water resource managers, but also public decision-makers, etc.) to anticipate weather and climate conditions and adapt their practices. The nature, format and time horizon of the information covers a wide range, from short-term hourly weather forecasts transmitted via SMS to climate projections in the form of an annual bulletin[4]. Climate services thus create an interface between science and practice. For example, based on seasonal forecasts, farmers are able to better plan their agricultural activities and planting dates. In a context of climate change where variability is increasing, access to meteorological and/or climate information can complement traditional knowledge, which sometimes becomes less effective, and climate services can represent an additional asset for agricultural adaptation to climate change.

Nevertheless, their deployment in West Africa faces certain difficulties, identified in particular by the ECOWAS HydroMet initiative[5]. While 70% of natural disasters in the ECOWAS region are caused by extreme weather and climate events, many West African countries do not yet have sufficient meteorological and hydrological capacity to collect, process and disseminate climate information and early warnings to vulnerable communities and decision makers[6]. The quality of existing meteorological data suffers mostly from insufficient spatial resolution due to a sparse network of meteorological and hydrological observation stations. With regard to projections, long-term climate projections for the West African zone have high levels of uncertainty, due in particular to the lower performance of global climate models over the region[7], and the lower quality of the observation data series over the reference periods. The information produced does not necessarily meet the needs of farmers in the field. Thus, these difficulties and the search to overcome them are illustrated - as we will see below - by the field experiences deployed through the fifteen (15) agro-ecology and climate-smart agriculture (CSA) pilot projects selected and supported within the framework of the GCCA+ WA project.

[3] Also sometimes called climate services

[4] https://www.afd.fr/sites/afd/files/2021_11_09_09_00/adaptaction-services-climatiques.pdf

[5] CEDEAO,2021. Initiative Hydromet https://ecowas.int/wp-content/uploads/2022/03/Initiative-Hydromet-de-la-CEDEAO.pdf

[6] Stratégie régionale Climat de la CEDEAO, 2022 : https://climatestrategy.ecowas.int/images/documentation/Strategie%20Regionale%20Climat%20CEDEAO_adopt%C3%A9e%20juin%202022.pdf

[7] Compared to the performance of models in other geographical areas

SHARING FIELD EXPERIENCES DEVELOPED IN THE FRAMEWORK OF GCCA+ WA: TAKEAWAYS AND MULTIPLE SCALES LEVERS

Between 2020 and 2022, several pilot projects focused on climate services.

Experienced solution - COUNTRY	Broadcasting of weather reports by community radio - GHANA

The **broadcasting of weather reports by community radio** was tested in the framework of a pilot project deployed by A Rocha in **Ghana**. The challenge was to respond to the difficulties of disseminating weather information to farmers, and to promote better deciphering and appropriation of this information. The project aimed to **improve access to climate information** through the dissemination of bulletins by community radios and **capacity building of farmers to better understand the links between climate and agricultural yields**. The final objective was that this improved understanding of weather and climate information would lead to changes in cropping practices and the adoption of new practices (rotation, improved seeds, etc.).

In this context, an understanding of farmers' needs in terms of weather data was necessary. **The pilot project also highlights the need for intermediaries to popularize and translate weather or climate data into accessible and useful information for farmers.**

Necessary conditions	- A good knowledge of farmers' needs in terms of weather data (which variables, at which period, which temporal resolution, which information transmission channels). - The presence of technical experts who can popularize and translate climate or weather data into useful information for farmers in the local language. NB: in the region, Ghana is one of only three (03) countries whose level of weather and climate service provision is rated as «Advanced[8]
Barriers to implementation	- Lack of competent entities to act as intermediaries, especially at the information dissemination stage. **-Manque d'entités compétentes pour agir en tant qu'intermédiaires, notamment à l'étape de vulgarisation de l'information.**
Policy levers to encourage its implementation	**Local and National:** Conduct surveys to determine farmers' data needs; Identify national radio stations or programs for wider broadcast. **Regional:** Improve the dissemination of information produced through regional initiatives, including regional seasonal forecast forums.

Experienced solution - COUNTRY	Long-term planning programs for farmers' strategies in the face of climate change, using the AgriCORD tool - GUINEA

In addition, in Upper Guinea, a pilot project led by TRIAS has accompanied family farms in order to define a **«trajectory»** and an **agricultural transition in the face of climate change** and to identify good practices that will help these farms become more productive. The originality of this project is to work with farmers on medium- and long-term climate trends and the definition of trajectories on these time steps and at the farm level. The project was based on a diagnosis using the CR AgriCord tool[9], a participatory tool that identifies farmers' needs.

The **search for local climatological information** had to feed the diagnosis of the farm, the challenge being to better contextualize the risks and solutions of sustainable/climate-smart agriculture for the farm. Knowledge produced by research centers could be mobilized. On the other hand, the collection of statistical, agricultural, meteorological and climatological data was difficult due to a lack of recent data available within the State's technical services and of local climatological data. On the other hand, raising the awareness of beneficiaries on the effects of climate change was a long and complex process, due to the high illiteracy rate observed in the rural populations of the intervention areas.

The adoption (and replication in their fields) of a large number of new techniques/practices (short-cycle seeds, SRI technique, compost, rotations, shallow plowing, etc.) **was facilitated by a system of relay farmers, based on a «knower-learner» proximity**. The peer-to-peer approach and the development of farmers' organizations, which is the basis of the AgriCord approach, was at the heart of the approach, which was then used to disseminate these experiences and good practices to other local, national and regional farmers' organizations (ROPPA, PAFO).

Necessary conditions	Significant time and resources are required for the proper appropriation of the AgriCord tool - or any other participatory tool for long-term adaptation planning - by beneficiaries Local support for farmers is essential to overcome the low literacy rate The existence of farmers' organizations and intermediary structures facilitate the support of farmers
Barriers to implementation	Lack of certain data (agricultural statistics, weather data) within the technical services, not allowing for complete diagnoses. The low literacy rate makes it difficult to understand the medium and long term climate issues.
Policy levers to encourage its implementation	**Local**: Identification of several relay farmers by the prefectures **National**: support farmers' organizations for translation into the language of use and dissemination of the toolsStrengthen the capacities of the Ministries of Agriculture and Ministries of Water and Forests in synergy with the national meteorological institutes and/or the Ministries in charge of the environment on climate change issues, existing local data, their collection **Regional**: Solicit the support of the regional center Aghrymet (CRA) in the acquisition of climate data, via the establishment of a geoportal for example.

[8] ECOWAS, 2021. Hydromet Initiative https://ecowasint/wp-content/uploads/2022/03/Initiative-Hydromet-de-la-CEDEAO.pdf

[9] AgriCord is a global alliance of agri-agencies mandated by farmers' organizations and their cooperative enterprises to improve the economic viability of agricultural activities and the living conditions of farmers, their families and rural communities.

Experienced solution - COUNTRY	Improving water management and irrigation control with weather information - GAMBIA

In the framework of a pilot project in The Gambia led by Fundación Sustalde, the **communication and dissemination of climatological and meteorological information adapted to the local context via three community radios** were tested. Thus, access to weather information was promoted through the creation of WhatsApp groups, allowing for better anticipation and adaptation of agricultural practices. SMS messages sent on weather information (mainly rainfall) allow a wide audience sharing and an «Early Warning System» type of reaction capacity for predicted climate disasters.

In addition to this information, **the project also supported training and awareness sessions for farmers on the impacts of climate change on agriculture** via community radios and training in resilient good agricultural practices (agro-ecological practices, such as organic compost, biopesticides, etc., allowing the maintenance of soil fertility (bio-composts, biopesticides), the preservation of water resources, as well as practices that allow for crop diversification.

Conditions nécessaires	Équipement des bénéficiaires et réseau téléphonique suffisant pour recevoir l'envoi d'un sms quotidien de prévision de la pluviométrie Engagement du fournisseur national de données météo à dispenser une information quotidienne Accès suffisant à des réserves d'eaux Une expertise agronomique mais aussi climatique nécessaire pour décrypter les informations transmises
Freins à la mise en œuvre	Investissements nécessaires pour la mise en place d'un système d'irrigation
Leviers politiques pour favoriser sa mise en place	**Local :** La vulgarisation d'informations jusqu'au niveau des cultivateurs nécessite des facilitateurs formés Mobiliser les élus pour pouvoir mettre en place les techniques dans des lieux partagés, tels que les jardins communautaires – et augmenter la visibilité **National :** renforcement des structures nationales pour fournir les données nécessaires **Régional :** favoriser la diffusion de ce type de bonnes pratiques via la bibliothèque du CILSS

TAKEAWAYS FOR ECOWAS AND ITS MEMBER STATES

The three (03) experiences presented above illustrate well some of the challenges of climate services in West Africa. On the one hand, the availability, reliability, consistency and accessibility of both meteorological and climate data and information represent a major problem for the use of such data at the local, national and regional levels.

On the other hand, the projects sometimes highlight a mismatch between the information needs at the local level (on hourly time steps, information in local languages, for example) and the data produced (monthly or semi-annual bulletins, not translated into local languages, etc.). This expresses a need for better knowledge and feedback of information needs from the local to the national level.

Finally, it is essential to decipher, «translate», popularize and disseminate existing information and data (as well as their limitations, uncertainties, etc.) so that they can be used at the field, farm and terroir levels to adapt practices and manage agricultural activities. A network of intermediaries (training structures, organizations representing the sectors, farmers' organizations, for example) with agronomic, meteorological and climate knowledge is necessary in order to carry out this extension work for better appropriation and use of the information.

At the regional level, the Regional Climate Strategy adopted in mid-2022 by ECOWAS Member States includes a specific objective dedicated to the development of anticipation capacity and informed decision making to manage current and future climate risks. The climate services sector is part of this strategy and the lessons learned from the capitalization reinforce the axes developed in the strategy, notably

- ECOWAS can encourage and target technical and financial partners to upgrade the infrastructure of the National Meteorological and Hydrological Services (NMHSs) through investments in the necessary equipment. The development of an investment plan could help to better identify the needs. ECOWAS could thus support the establishment of a robust observation network for the region;

- ECOWAS and CILSS could deepen the existing framework of collaboration between the different regional institutions competent in climate services and encourage national investment plans in climate services;

- Finally, ECOWAS could contribute to improving the capitalization and dissemination of climate information through regional initiatives: ensuring the sustainability of the digital library of good practices for adaptation and mitigation in the agricultural sector, or initiatives such as the regional seasonal forecast forums).

At the national level: the different practices tested highlight the levers at the level of ECOWAS Member States to continue to develop capacities around climate services:

- Launch diagnostics to better understand the needs of field actors for weather and climate information (nature of available/missing information, time steps, existing/useful dissemination formats, etc.) ;

- Implement training plans for government officials at the regional level (Regional Directorates of Agriculture, etc.) on weather and climate services ;

- Define and support strategies for the dissemination of weather and climate information from national hydrometeorological services ;

- To support professional networks and farmers' organizations in the transmission and dissemination of good practices.

#ECOWAP2025

Département Affaires économiques et Agriculture

Direction Agriculture et Développement Rural

Agence Régionale Pour l'Agriculture et l'Alimentation

Annexe River Plaza – 496 Abogo Largema Street - Central Business District

PMB 401 Abuja FCT – République Fédérale du Nigéria

agric_ruraldev@ecowas.in

araa@araa.org

@ecowas_agric

@ARAA_CEDEAO

@ecowas.agriculture

@araaraaf

www.ecowap.ecowas.int

www.araa.org