

DECEMBER 2022

Development and delivery of CIS and CSA training materials/curricula in West Africa

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Introduction

The Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) Project builds on the initiatives and achievements under the CGIAR Research Program on the Climate Change, Agriculture and Food Security (CCAFS) in Africa. With a focus on climate-smart agriculture (CSA) technologies and on climate information services (CIS), the AICCRA project includes an important capacity development component for the benefit of six (6) countries in Africa. RUFORUM is a global partner to AICCRA to work in West Africa and the East and Southern Africa but also to work at the continental level. AICCRA will collaborate with the African Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) to develop curricula and training materials that will make accessible to other SSA countries, the knowledge on CSA and climate agro-advisory services generated in the six intervention countries. In partnership with other players, RUFORUM envisages to mobilise universities to contribute towards the Project Development Objective: *To strengthen the capacity of targeted CCAFS partners and stakeholders, and to enhance access to climate information services and validated climate-smart agriculture technologies in IDA eligible countries in Africa.*

The RUFORUM/ West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) WASCAL component will specifically focus on knowledge and capacity building activities with the ultimate goal to enable university players (staff and students) research and extension service providers at regional and national-level to access knowledge, technologies, and decision-making tools for uptake of climate information services (CIS) and climate-smart agriculture (CSA) by actors and end users. To this end, RUFORUM as an African-wide network of universities, envisions to use its longstanding experience in training curricula development and in capacity building in agriculture and food security, to develop curricula and training materials that will make accessible to other SSA countries, the knowledge on CSA and climate agro-advisory services generated in the six intervention countries. An example, areas of focus and competence have been identified by the core universities and the areas of intervention for the different stakeholders have been mapped out.

Given that WASCAL, the West African Science Service Center on Climate Change and Adapted Land Use (WASCAL) is a large-scale education and research- focused climate service Institution operating through 12 graduate schools across West Africa, RUFORUM is partnering with WASCAL to implement the West Africa component of its AICCRA partnership agreement. WASCAL will, together with RUFORUM member universities in Ghana, Mali and Senegal, develop curricula and training materials on CSA and CIS and make them widely accessible to WA stakeholders through WASCAL and RUFORUM university/academia networks. Further noting that the climate change impacts have a gender dimension as much as men and women experience small holding agriculture differently. All activities will pay special attention to gender issues and the participation of women in the training and other activities undertaken under the project.

Key AICCRA Performance Indicators and Activities

The RUFORUM/ WASCAL activities in West Africa align to the AICCRA Project Development Objective indicators to: i) support the uptake of climate-smart agriculture innovations through piloting; ii) knowledge generation and sharing for effective services; and iii) partnerships for delivery. To this end, **partnerships will be launched/ strengthened to enhance the number of CCAFS partners and stakeholders** increasingly accessing enhanced climate information services and /or validated climate-smart agriculture technologies in West Africa.

AICCRA will collaborate with the African Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) and West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) to develop curricula and training materials. The knowledge on CSA and climate agro-advisory services with specific models/attributes which can be mainstreamed into the expected curricula and training materials generated in the six intervention countries will be made accessible to other SSA countries. The project will enhance the capacity of RUFORUM and

WASCAL to develop delivery models for climate services and for CSA knowledge, approaches and tools to support effective intra-regional and south-south adoption in various value chains. RUFORUM will be seizing the opportunity of this additional funding support to WASCAL (from AICCRA-WA directly) to work in synergy with WASCAL to ensure effective implementation of the WA component of the agreement between RUFORUM and WASCAL.

RUFORUM and WASCAL AICCRA partners will be expected to participate in training events organized by the AICCRA WA cluster to get access to enhanced climate information services (CIS) and/or validated climate-smart agriculture (CSA) technologies generated from AICCRA. The accessible real-time CIS will derive from the next gen CIS development tools. The CSA technologies to be made accessible will be those prioritized and validated through various tools and approaches mainly developed through CCAFS.

Apart from the expected results, the RUFORUM/ WASCAL collaboration will be an opportunity for continental CSA/CIS spillover training effects and south-south learning across regions, countries, continent while also strengthening the already existing institutional collaboration between the two educational networks.

Expected Deliverables

a) Training materials and curricula on CSA and CIS in support to capacity building of extensionists and universities

RUFORUM and WASCAL will develop training materials and curricula on CSA and CIS that will support the scaling of CSA and CIS to benefit extensionists (public and private) and to capacitate university students (master, PhD programs, etc.). WASCAL and RUFORUM will use their networks to promote the materials developed out of the AICCRA project outputs and outcomes.

b) List of identified and prioritized training materials and curricula of best-bet CSA and CIS options for value chains in West Africa

In collaboration with all other regional stakeholders, RUFORUM and WASCAL will identify and outline the various required curricula and training materials, based on existing knowledge of best-bet CSA and CIS options for value chains in West Africa- to this end RUFORUM will produce a discussion paper/Working paper/White paper.

c) Expectations from the partnership with WASCAL in West Africa

A concept note that synthesizes the essence of the partnership developed with WASCAL, i.e. the goal, objectives, activities and expected outputs and outcomes.

d) Report on each activity and list of beneficiaries and their respective institutions

Institutional Implementation Arrangements and Focus

The implementation will be in three RUFORUM/WASCAL core Universities in Ghana, Senegal and Mali. These Universities are currently host Universities of three PhD program of WASCAL: Climate Change and land use at Nkwame Nkrumah University of Science and Technology (KNUST)-Ghana, Climate Change and Agriculture at Institut Polytechnique Rural de Formation et de Recherches Appliquées de Katibougou (IPR-IFRA)-Mali and Climate Change Economics at Cheikh Anta Diop (UCAD)-Senegal.

RUFORUM as the core partner in the AICCRA project will engage country cluster leads to integrate and identify CIS and CSA areas of focus to be adopted by the selected member universities. Specifically,

a) AfricaRice in Mali with a focus on monitoring and forecasting system for rice area and yield, maprooms for web-accessible climate information, location-specific weather prediction, ag-data hubs, iterative climate-related risk areas maps, and cropping calendar tools to escape drought and flooding in rain fed rice systems and water scarcity and cold in irrigated rice systems in Mali. For training focus will be on the deployment of gender

and socially inclusive CSA packages, improved management of water and irrigation systems, nature-based solutions for agricultural development, small-medium enterprises, and small scale agribusiness and climate-resilient storage facilities and processing technologies.

b) ILRI in Senegal on delivery pathways for early warnings (e.g. SCF), climate services and climate-informed digital agro-advisories to support agricultural decision-making and backstopped by ICRISAT and IRI. The entry points, use and potential value of climate information for decision making across the major dryland value chains (cereals, livestock, fodder) to be informed by value chain analysis led by ILRI. CSA knowledge, approaches and tools to support effective adoption and implementation of CSA technologies and practices at scale in various value chains.

c) IITA in Ghana on roots and tubers, maize, cowpea and vegetable value chain as well as strengthening irrigation extension services with digital innovations and tailored irrigation advisories identified and integrated into digital crop health apps/services and dissemination systems. CSA and agroforestry measurement, reporting and verification (MRV) system to monitor adaptation and CSA indicators in Ghana and Benin.

RUFORUM and WASCAL in consultation with the WA Regional Program Lead and the country cluster leads to identify, outline and prioritize training materials for the various required curricula, based on existing knowledge of best-bet CSA and CIS options for value chains in West Africa. Program implementation will include collaboration on the development of curricula and training materials and knowledge on CSA and climate agro-advisory services that will be made accessible to other countries under both WASCAL and RUFORUM Networks.

Activities to be Conducted-Methodology

The RUFORUM and WASCAL activities will be aligned to the deliverable under the West Africa regional program to enhance the capacity of public institutions and private firms to provide climate service delivery models. Specifically, AICCRA will collaborate with RUFORUM, to generate training products. AICCRA will encourage the participation of women scientists and researchers in partner institutions. In undertaking activities under AICCRA, RUFORUM and WASCAL will:

a) Engage with country cluster leads to establish areas of focus to be adopted for training and or integration in university curricular.

b) In partnership other partners, scoping and selection of units within selected universities that have the best fit for modification and adoption of the AICCRA thematic areas. Interaction will be conducted to investigate the curricula of the schools to have a list of modules or courses in CSA as well as the training material already developed by those institutions for the benefit of stakeholders. The potential trainees will be also identified

c) Development of training and dissemination materials by the selected universities Nkwame Nkrumah University of Science and Technology (KNUST)-Ghana, Climate Change and Agriculture Institut Polytechnique Rural de Formation et de Recherches Appliquées de Katibougou (IPR-IFRA) -Mali and Climate Change Economics Cheikh Anta Diop (UCAD)-Senegal in the identified value chains actors

Implementation of the training

- Identification of trainers – scoping for best fit in university units
- Development of curricula and training material
- Train Instructors so they are comfortable with the material and the training database. Make sure they have required and adequate knowledge to run all processes
- Testing and Validation of Training Material with RUFORUM and stakeholders for
- Implement the training and roll out
- Evaluation of trainees at the beginning and the end of the training

Training material/outputs

- Training Manuals
- Technical paper/working paper/white paper
- Flash drive, film, flyers, Posters
- Certification after training

Monitoring and evaluation

- The training will be evaluated at the end of each session using a questionnaire.

TABLE 1: Description of the activities and expected outputs

Activity	Description	Sub-Activity	Expectation	Output	
Enhance the capacity of public institutions and private firms to provide climate service delivery models. AICCRA West Africa in partnership with IRI will lead this sub-component, working with existing regional climate prediction centers, climate outlook forums, and African scientific and educational networks and centers. It will enhance the capacity of both public institutions and private agritech firms to develop delivery models for climate services. AICCRA will collaborate with RUFORUM, to generate training products and set up agritech innovation platforms. AICCRA will encourage the participation of women scientists and researchers in partner institutions.	Expectations from the partnership with WASCAL in West Africa	Review and Synthesis of project documents	Drafting and consensus on concept note	Concept Note	
	Identification and prioritization of training materials and curricula of best-bet CSA and CIS options for value chains in West Africa	Enhance the capacity of public institutions and private firms to provide climate service delivery models Scoping/Review and compilation of existing CIS/CSA relevant units/engagements in the universities	Scoping/Review and compilation of existing CIS/CSA relevant units/engagements in the universities	Engagement with country cluster leads and other Partners to identify best fit materials	Discussion paper/ Working paper/ White paper
			Generate training modules and courses – course outlines		
			Training materials and curricula on CSA and CIS in support to capacity building of extensionists and universities	Build capacity in three focus countries of public and private sector next users to support implementation of CSA technology packages Train CSA next users (university community, extension officers, input providers, private sector and media) on CSA knowledge, approaches and tools to support effective adoption and implementation of CSA technologies and practices at scale in various value chains	<ul style="list-style-type: none"> - Test the modules/ Training of Trainers - Facilitate inclusion of women scientists - Prepare and implement communication strategies (French, English)
	Scaling successful CSA technologies through spillover effect across West and Central Africa	Training reports			Discussion paper/ Working paper/ White paper
	Institutional cost (comm, staff, admin)				



About this AICCRA INFONOTE

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About AICCRA

Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) is a project that helps deliver a climate-smart African future driven by science and innovation in agriculture. It is led by the Alliance of Bioversity International and CIAT and supported by a grant from the International Development Association (IDA) of the World Bank. Explore our work at aiccra.cgiar.org