

Promoting Gender- and Nutrition-Sensitive Agricultural Technologies and Innovations in West and Central Africa

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Info Note



Key messages

- Developing and promoting gender- and nutrition-sensitive agricultural technologies and innovations facilitate agricultural activities for women and youth and improve food and nutrition security specifically in rural areas.
- An Innovative scaling approach like the Market for Agricultural Innovations and Technologies (MITA) brings together providers, potential end-users, and decision makers to facilitate the acquisition of gender and nutrition sensitive agricultural technologies and innovations for empowering women and youth involved in agriculture.
- For MITA 2023, about 120 technologies and innovations including plant materials, machineries, crop protection products and distribution platforms were presented and exhibited by Centres of Specialization and Centres of Excellence, CGIAR research centres, regional and international organization, NGOs and agricultural equipment manufacturers and Agricultural and agro-industrial enterprises from which over 70 gender- and nutrition-sensitive agricultural T&Is have been requested or purchased.
- CORAF and partners intend to spill over those 70 genders and nutrition-sensitive agricultural T&Is in the sub-region by hiring a specialist in international trade to facilitate the acquisition and transfer of T&Is.

INTRODUCTION

Agriculture plays a key role in all the poor countries of Sub-Saharan Africa (SSA). That agriculture plays a predominant role in SSA and provides livelihood to a bulk of the peoples (Modi, 2019). Women and young people are the main driving force behind small scale traditional agriculture (family farming), which provides almost 70% of the food needs of the entire African continent and produces around 80% of the food consumed in sub-Saharan Africa (SSA). Therefore, women and youth bear primary responsibility for food security in Africa.

Women are known to be more involved in agricultural activities than men in SSA countries (Ogunlela and Mukhtar, 2009). Not surprisingly, it is widely accepted that women make up 60-80% of the agricultural workforce in SSA (Palacios-Lopez et al., 2016). FAO in 1995 estimated women's contribution to the production of food crops range from 30% in the Sudan to 80% in the Congo; contributing substantially to national agricultural production and food security, while being primarily responsible for the food crops. Further, women and young people work in all areas of agricultural production in Africa (cash and food production) and their involvement ranges from production to processing, sometimes involving arduous tasks. The arduous nature of the activities as well as socio-cultural and economic factors/barriers militates against gender (women and youth) in its participation in agricultural production.

Although, gender participation to agricultural production, women particularly are vulnerable to food insecurity, especially low income pregnant and lactating women (FAO, 2011). Food and nutrition security is described as a state when "adequate food is available and accessible for, and satisfactorily used and utilized by all individuals at all times to live a healthy and active life" (Weingärtner, 2004).

The prevalence of undernourishment in Sub-Saharan Africa remains one of the higher rates in the world and is about in average at 24.1% percent (FAO/IFAD/UNICEF/WFP/WHO, 2020). Acquire and deploy agricultural technologies and innovations (T&I) that alleviate the suffering of women and young people and improve their nutritional and food security represent a crucial challenge for the future of agriculture and food security in Africa.

CORAF and its partners NARS in 23 countries have developed from 2008 to 2019 through the framework of West Africa Agriculture Productivity Program (WAAPP), over 320 T&Is for improving agricultural productivity and livelihoods (Ganyo et al., 2022). To enable a large-scale adoption, CORAF has set-up strategies for scaling-up its generated T&Is in West and Central Africa. Among those strategies for scaling T&Is includes MITA (Marché des Innovations et Technologies Agricoles), which is an annual physical market usually convening innovators, researchers, extension agents, agrodealers, farmers, private sector, and potential users (Kpadonou et al., 2022). CORAF's Market for Agricultural Innovations and Technologies (MITA) concept has proved its worth, as part of the implementation of WAAPP, which has enabled more than a hundred technologies to cross the borders of West and Central African countries. Today, MITA is on the way to being a major interface institution between agricultural research, providers of agricultural technologies and innovations, actors in agricultural value chains and consumers. CAADP-XP4, FSRP and AICCRA, three programmes implemented in CORAF have organized the third edition of MITA in Ouagadougou in 2023 which aims at promoting gender- and nutrition-sensitive T&Is that meet the needs of the various links/component (production, post-harvest, processing, mechanisation, etc.) in the agricultural value chains and Integrated Landscape Management.

This Info Note describes the process and outputs of MITA 2023 and gives next steps for massive acquisition and adoption of gender- and nutrition-sensitive T&Is.

METHODOLOGY

The methodology used during MITA 2023 to scale gender- and nutrition-sensitive T&I involves 4 phases:

- i. the presentation session on agricultural T&I,
- ii. the technologies and innovations exhibition,
- iii. the forum and panel discussion and
- iv. the B to B or trading rooms session. post-event scaling actions.

Presentation session phase

A plenary session was used to showcase proven gender and nutrition-sensitive agricultural T&I. This phase brought together research institutions/organizations (SNRA, RCoS/RCoE, CGIAR, etc.) private sector. Each of them presented its proven T&I in the form of PowerPoint presentations and videos. Presentations addressed the following points: (i) value proposition of the technology/innovation (what problem does the technology solve?), (ii) technical performance; (iii) acquisition cost; (iv) profitability; (v) potential environmental effects and (vi) name and contacts of technology developer and host institution. The presentations were

followed by exchanges (Q/A) for a better understanding and discussions on the proposed T&I. This phase lasted 2 days.

Technologies and innovations exhibition phase

Stands of 9 m² or 18m² were allocated to technology providers, private sector actors, projects and programs and partner organizations. The exhibitors were:

- National Agricultural Research Systems (NARS) with National Centres of Specialization and Regional Centres of Excellence
- International research centres (CGIAR)
- National/regional projects and programs for agricultural development and the scaling up of agricultural and agro-industrial technologies and innovation
- NGOs and craftsmen/agricultural equipment manufacturers
- Agricultural and agro-industrial enterprises
- Suppliers of innovative services and solutions to the agricultural sector (Banks and agricultural insurance, agricultural service platform, e-extension, e-marketing, etc).
- Agricultural training centres and institutes

The technology providers received in their stand participants to MITA to whom they explained the T&I exposed. This exhibition lasted for the duration of MITA (4 days).

Forum and panel discussion

To capture challenges along development, dissemination, and massive adoption of agricultural T&I gender- and nutrition-sensitive, four panels were conducted during the MITA 2023. The panellists were leading figures from agricultural research area, private sectors (champions in the creation and promotion of gender-sensitive technologies), farmers' organisations, sub-regional women's organization. Panellists debated on :

- **Accelerating uptake of gender and nutrition sensitive climate-smart agriculture and climate information services in West Africa**
- **Scientific cooperation and public-private partnership for the generation of agricultural technologies and innovations: Co-investment – Protection of innovations and license agreement and Patent of invention**
- **Issues and challenges in the acquisition and deployment of agricultural technologies and innovations for the benefit of women and young people**
- **Stimulating Market Demand and Facilitating Trade in Agricultural T&I: Roles of Midstream Industry**

This phase took place on day 3 and 4.

B to B or trading rooms session

The B to B was a special session for business networking and partnerships. This was a buying session and/or recording of T&I buying intentions between suppliers and all potential buyers. In this trading room, the technology providers had a space (Stand) where they received potential buyers to go there to express a quantitative demand for the technology or innovation and agree on the provision of the quantities expressed with the provider in a contractual form. For a measurement of the impact evaluation, CORAF provided tools for collecting information and monitoring the linkages and the execution of technology and innovation exchanges.

Outcomes and Spin-offs from MITA 2023

The third edition of MITA held in Ouagadougou in Burkina Faso was attended by 190 participants from 17 countries of East, West and Central Africa. Figure 1 shows the countries that attended to MITA 2023. The attendees include 57 women (30%) and 51 young people (27%). The attendees came from more than 105 institutions and companies of different sectors of activity (Figure 2). Five development partners also took part in MITA 2023. They are BOAD, FAO, GGGI/GCF, USAID and World Bank. Almost 120 technologies/innovations were presented and/or exhibited in 28 stands by Centres of Specialization or of Excellence (on Dry cereals, Fruits and vegetables, Rice, Roots and tubers), CGIAR research centres (AfricaRice, Alliance Bioversity International and CIAT, CIFOR-ICRAF, IITA-TAAT and ILRI), regional and international organization (CILSS/AGRHYMET, ARAA/ECOWAS, IFDC), NGOs and craftsmen/agricultural equipment manufacturers and Agricultural and agro-industrial enterprises.

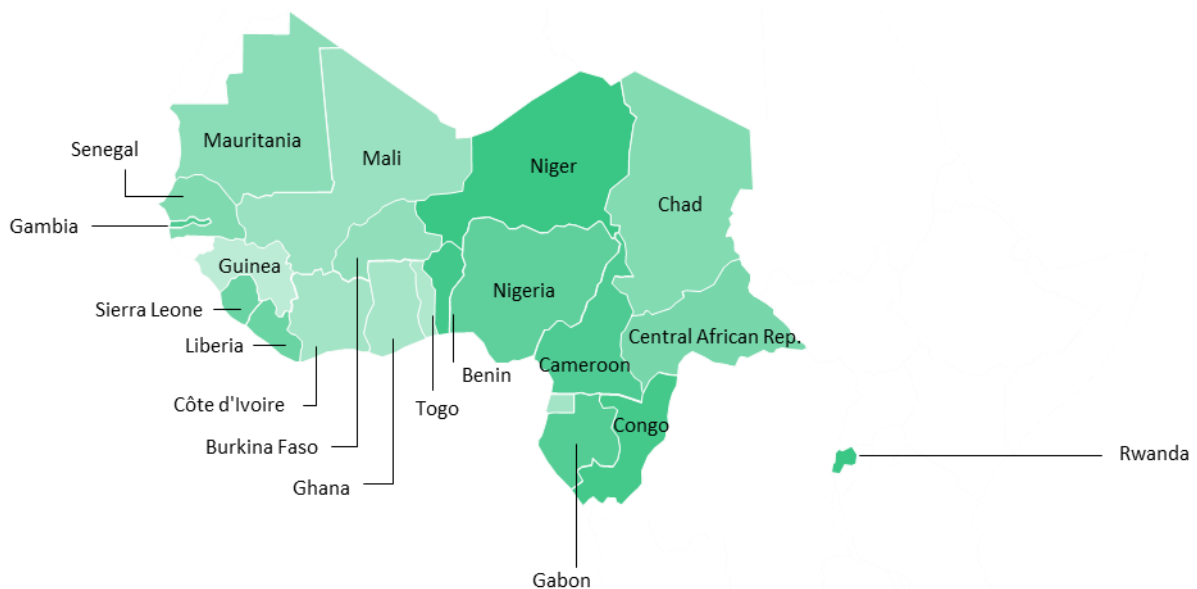


Figure 1: Attendees countries



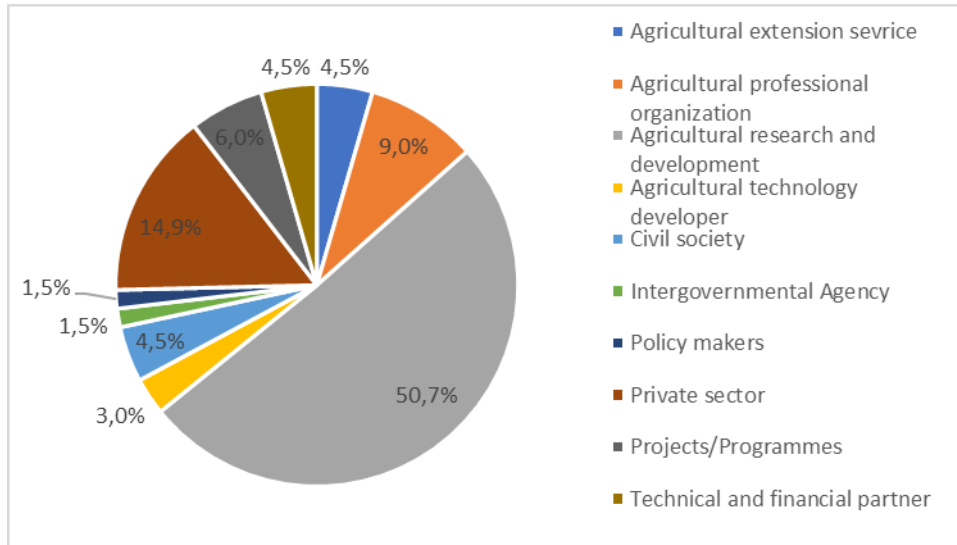


Figure 2: Participants' sectors of activity

Findings from B-to-B session revealed that 98 companies and institutions from 17 countries participated to B-to-B session. Overall, 13 B to B meetings were organized with more than 70 technologies sold and bought. The types of technologies and innovations requested and exchanged were plant material (seeds, cuttings,) equipment (lifter, weeder, drying, processing machines, multi-purpose shredder, ...), agri-food (tomatoes paste, coconut sugar, hammer milk, dry mango...), crop protection (biopesticides, nitrogen fixator/inoculum, ...) and distribution platforms such as E-Catalog and online MITA (Table 1). MITA 2023 brought together providers of gender- and nutrition-sensitive technologies and innovations and potential users. About 88% of participants found that MITA 2023 contributes to connect providers and users (Figure 3).

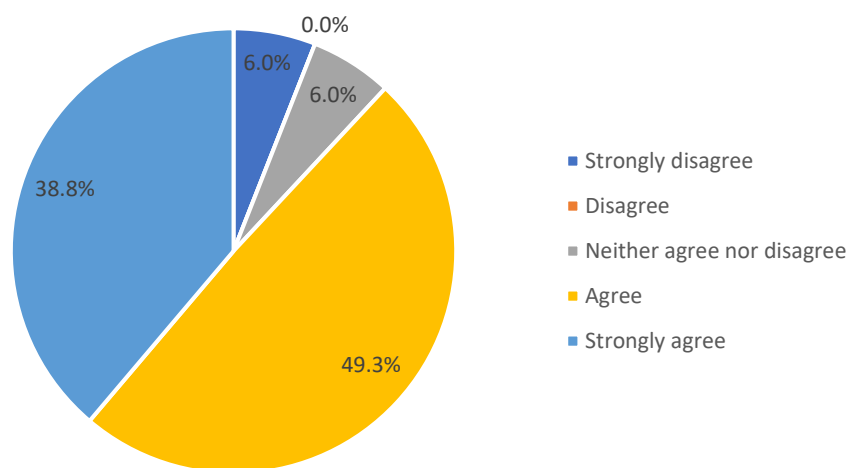


Figure 3: Answers on connecting agricultural T&I providers and users during MITA 2023



Table 1: Technologies and innovations bought during MITA

Type	Provider institutions	Technologies/Innovation bought/requested	Buyer countries/institutions
NARS	RCoE-Dry cereals and associate crops	1-Sorghum seeds (short and medium cycle varieties) 2-Millet variety seeds 3-Peanut variety seeds 4-Fonio variety seeds 5-Cowpea seeds	Benin Chad Gambia Mauritania Senegal Sierra Leone Togo
	NCoS-Rice Mali	1-Rice seeds (acidic tolerant varieties, WAPMO varieties, ...) 2- Rice weeder and other equipements 3-Okro seeds (Keleya and Ngakourouni varieties) 4-Hybrid maize seeds 5-Shallot seeds 6-Amaranth seeds 7- African aubergine seeds 8-Capaciting building in manufacturing and processing	Burkina Congo Gambia Liberia Mali Sierra Leone
	NCAM	1-Cassava lifter, 2-Weeder for cassava farm 3-Tomatoes taste 4-Maize drying machines 5- Multi-purpose shredder 6-Training to improve skill on machine fabrication 7-Grain planter/motorized planter 8-Manual nut lifter/harvester 9-Sugar from coconut 10-Coconut oil 11-Hammer milk (powder) 12-Machine to produce sugar of coconut	Burkina Faso Chad Gambia Ghana Ivory Coast Mali Sierra Leone Togo
CGIAR Centres	AfricaRice	1-Rice seeds (tolerant to salinity, to soil acidity, for deep flood) 2- Rice parboiler 3-Water management technology 4- Integration of fish and rice farming	Burkina Faso, Ghana, Liberia Sierra Leone Togo
	CIAT & ILRI	1-LERSHA 2-JOKALANTE 3-Rice Advice 4-CEMA	Burkina Faso Cameroon Gabon Ghana

		5-ESOKO 6-SEDAB 7-SARC	Nigeria Senegal
	CIFOR-ICRAF	1-Makore trees byproduct 2-Seedling of Makore 3- Technics of agroforestry 4-Training on agroforestry technics	Benin Burkina Faso Cameroon Chad Mali Togo
	IITA-TAAT	1-Yellow Cassava 2-Cassava 3-IT Youth 4-Soja seeds 5-Maize seeds 6-E-Catalog	Cameroon Gabon Liberia Ghana Mali Nigeria Senegal Sierra Leone Togo
Regional organization	AGRHYMET	1-E-Agrhymet 2-ClimOs	Benin Gambia Ghana Ivory coast, Gabon Mali Sierra Leone
Private sector	CMG LA ROCH	1-Sprinkler system 2- Crusher press 3-Mixer 4-Hydraulic and 5-Electrical press 6- Manual press 7-Cassava harvester 8-Granulator 9-Cassava grinder 10-Turntables	Burkina Faso Central Africa Republic Chad Gambia Ivory Coast Liberia Mali
	AGUI TECH	1-Biopesticides (against many pests and diseases) 2-Nitrogen fixator/Inoculum	Benin Burkina Faso Cameroon Chad Gambia Ghana Mauritania Sierra Leone
	LANKAH	1-Processing machines and equipments (target crops: fruits, vegetables, cassava, maize, ...)	Burkina Faso Chad Ivory Coast Central Africa republic

	2-Trainings on product processing	Congo Gabon
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For panelists, stimulating agricultural gender- and nutrition-sensitive T&Is demand requires the adoption of a marketing approach based on the 5P: Product, Price, Place, Promotion, Physical evidence. In fact, the scaling up and mass adoption of a technology, be it gender- or nutrition-sensitive or any other, needs to be attractive, accessible (price and location) and to meet the specific need with fairly clear evidence. This also requires involving the private sector in funding research and the development of agricultural technologies/innovations to meet its needs/expectation. In addition, the social realities of countries must be considered in the design and implementation of research and development programmes that generate most of agricultural T&Is sold. Public and private sectors should work closely with farmer organizations. Co-designing approaches may guide the development of gender and nutrition sensitive agricultural T&I for more impacts. The channel of climate smart Agricultural platforms in different countries, that involve many actors can be used for this purpose. CSA platforms must be sensitive to gender and nutrition issues. Finally, gender policies must go beyond proclaiming willingness for women consideration, but support actions that alleviate or facilitate women tasks in agricultural production for a sustainable food and nutrition security. The exchanges and discussions at MITA 2023 addressed emerging topics, issues and challenges relating to the acquisition, deployment, connection and dissemination of agricultural technologies and innovations for the benefit of young people and women. About 88% of participants found the topics discussed at MITA relevant. Discussions led to a strong political commitment to support research and the scaling-up of climate-smart, gender-sensitive and nutrition-sensitive agricultural T&I. In fact, 76% of participants were satisfied with the commitments made by political decision-makers (Figure 5).

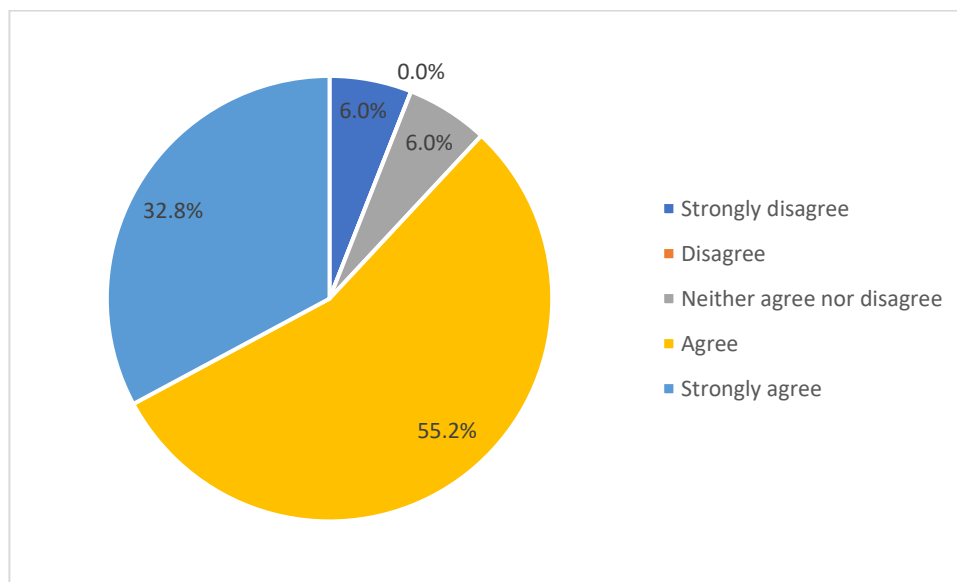


Figure 4: Participants' perception on the themes discussed during MITA 2023



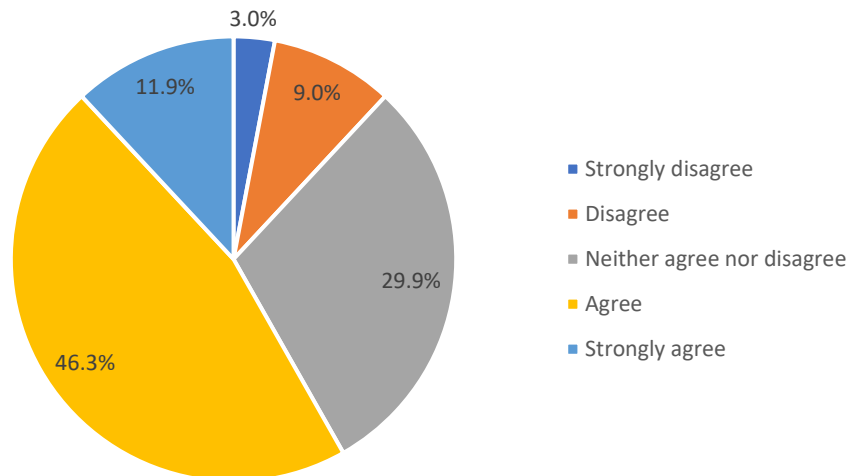


Figure 5: Participants' assessment of the level of political commitment generated by MITA 2023

NEXT STEPS

Numerous technologies and innovations can be leveraged for enhancing productivity in rural, peri-urban and urban areas as well as for closing the productivity gap in larger middle-income countries (LMICs), especially in the face of the climate crisis and dwindling natural resources (FAO, 2023). Given that women make significant contribution to food production and processing, there is a need to develop and provide technology or innovation that can address gender inequality, food insecurity as well as climate risks. As next steps:

- CORAF and its partners, in particular Alliance Bioversity International and CIAT, plan to continue supporting the development of technologies that meet gender needs and nutrition aspect. Those T&I should also have a strong impact of adaptation to climate change.
- CORAF will facilitate the acquisition of requested technologies and innovations by hiring a specialist in international trade to facilitate the purchase and transfer.
- CORAF will also seize the opportunity provided by FSRP and other projects to purchase gender- and nutrition sensitive T&Is
- FSRP countries focal points will report to CORAF the needs (identity and quantity) for T&I acquisition.

CONCLUSION

This info note has documented the organization and results of MITA 2023. The Market for Agricultural Innovations and Technologies (MITA) 2023 allows to showcase about 120 technologies and innovations from which over 70 were purchased or requested. 190 participants attended to MITA 2023. They are from Centres of Specialization or of Excellence -set up by CORAF-, CGIAR research centres, regional and international organizations, and private sector in 17 countries of East, West and Central Africa. Five development partners (BOAD,



FAO, GGGI-GCF, USAID and World Bank) also attended this technology fair.

Emerging topics, issues and challenges relating to the acquisition, deployment, connection and dissemination of agricultural technologies and innovations for the benefit of young people and women were discussed. Thus, the authorities present reiterated their political commitment to supporting agricultural research and the scaling-up of climate-smart, gender- and nutrition-sensitive technologies. Scientific partnerships and technology exchanges between agricultural research organizations and potential end-users have been recognized essential to develop and upscale gender- and nutrition sensitive T&Is as well as climate smart agriculture T&Is.

FURTHER READINGS

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About AICCRA Info Notes

Titles in this series aim to disseminate interim research on the scaling of climate services and climate-smart agriculture in Africa, in order to stimulate feedback from the scientific community.

Photos

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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