zambia

Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 25-Oct-2020 | Report No: PIDA29910

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BASIC INFORMATION

A. Basic Project Data

Country Western Africa	Project ID P173398	Project Name Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA)	Parent Project ID (if any)
Region AFRICA WEST	Estimated Appraisal Date 22-Oct-2020	Estimated Board Date 24-Nov-2020	Practice Area (Lead) Agriculture and Food
Financing Instrument Investment Project Financing	Borrower(s) International Center for Tropical Agriculture (CIAT)	Implementing Agency International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), International Livestock Research Institute (ILRI)	

Proposed Development Objective(s)

The Project Development Objective is to strengthen the capacity of targeted CCAFS (CGIAR Climate Change, Agriculture and Food Security) partners and stakeholders, and to enhance access to climate information services and validated climate-smart agriculture technologies in IDA-eligible countries in Africa.

Components

Knowledge Generation and Sharing Strengthening Partnerships for Delivery Validating Climate-Smart Agriculture Innovations through Piloting Project Management

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

of which IBRD/IDA 60.00	Total Project Cost	60.00
	Total Financing	60.00
Financing Gap 0.00	of which IBRD/IDA	60.00
	Financing Gap	0.00

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DETAILS

World Bank Group Financing

International Development Association (IDA)	60.00
IDA Grant	60.00

Environmental and Social Risk Classification

Moderate

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

B. Introduction and Context

Country Context

Agriculture remains central to the livelihoods of millions of Africans, yet far too many agriculture-dependent Africans remain food insecure and malnourished. After a period of moderate improvement, food security throughout the region has recently deteriorated. Slowdowns in productivity growth, combined with increasingly frequent food production failures, point to the need to significantly raise the bar when it comes to increasing the productive capacity and strengthening the resilience of rural households. The economic hardship resulting from the COVID-19 crisis are expected to further worsen food insecurity in the region, making resilience-building an even more urgent task.

The livelihoods of African farmers and livestock keepers, long known to be vulnerable to the vicissitudes of weather, are being severely impacted by climate change. Climate-related shocks to food production have increased in frequency from occurring once every 12.5 years to occurring once every 2.5 years. The increased frequency of climate-induced production shocks has made it increasingly difficult to maintain positive growth in per capita food production over the longer term. Droughts, floods, and tropical storms are the climatic events that affect food production the most. Substantial increases in these major drivers of crop and livestock production shortfalls are projected for large parts of Africa, at a time when the number of people to be fed will almost double by 2050 to over 2 billion.

Climate change poses a serious threat to crop productivity in sub-regions within Africa that are already food insecure. The impact is projected to be highest in maize, millet, sorghum, and wheat. Climate change will also affect productivity in Africa's livestock sector. Depending on the location and prevailing production systems, water scarcity and temperature changes will lower the productivity of pastures, reduce yields of milk and meat, and increase the incidence of diseases. All this will translate into a significant deterioration in food security if no action is taken.

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Agriculture is an important livelihood source for women throughout sub-Saharan Africa and an important source of employment. Studies consistently show that in most parts of sub-Saharan Africa (SSA), productivity of women farmers consistently lags behind that of men farmers. The sources of the productivity gap have been amply documented and often stem from differences in access to land, improved technologies, production inputs, credit, insurance, and advisory services. Women are generally less well-resourced and hence more vulnerable to shocks that negatively impact farming and livestock keeping activities.

Women farmers are especially vulnerable to climate change impacts, due to household responsibilities as well as increased agricultural work from male out-migration. Climate-smart agriculture (CSA) options have the potential to provide benefits for women; when women have access to information about CSA, they are just as likely as men to adopt the practices. Women can be important agents of innovation, including in response to climate change. Ensuring that women beneficiaries of the project are able to avail of CSA technologies and climate information will be a focus of the project's gender strategy.

The ambition of many African governments to improve food security, nationally and at household level, is in danger of not being met. The 2014 Malabo Declaration set ambitious 2025 targets to end hunger, double agricultural productivity, halve post-harvest losses, and sustain agricultural GDP growth of at least 6 percent per year. The region is not on track to meet these targets, and it will be difficult to make sustained progress in the face of large climate-induced production shocks.

Strengthening the productivity and resilience of African agriculture will depend critically on the ability of governments and their partners to bring science and innovation to the forefront of the development agenda. Urgent action is needed to improve climate adaptation of Africa's food systems. Incentives, knowledge, science, and finance will all need to play a role, together with increased co-ordination among development partners to improve the climate resilience of production systems, build efficient value chains, facilitate internal and external trade, and boost the purchasing power of the most vulnerable households. As countries contemplate a shift towards climate-smart investments, investing in agricultural research is more critical than ever. The high returns to investment in agricultural research and innovation are well documented, and a large body of evidence shows that such investments are very effective at reducing poverty and hunger.

In recognition of the critical role played by science and innovation in enabling the adaptation of African agriculture to climate change, the World Bank recently announced an increase in support to CGIAR. At the Climate Action Summit that took place during the UN General Assembly held in September 2019, President Malpass announced an increase in support to CGIAR. While the CGIAR system has in the past received direct grants from the World Bank, the unprecedented decision to use IDA financing to support CGIAR reflects the World Bank's strong commitment to step up support to CGIAR despite a constrained budget environment. The incremental financing presents a unique opportunity to support critical CGIAR work being done for the benefit of millions of poor households in IDA countries whose livelihoods depend on agriculture.

The World Bank's increased support for CGIAR comes at a critical time, when the COVID-19 pandemic is further threatening food security throughout the region and undermining the livelihoods of millions of agriculture-dependent households. Going forward, efforts will be needed to increase domestic food production throughout the region and make food supply chains more resilient to the threat of pandemics, by promoting innovation and building additional capacity to manage pests and diseases while monitoring the health and safety of food. CGIAR will be at the forefront of these efforts.

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Sectoral and Institutional Context

CGIAR is the world leader in international agriculture research on climate change adaptation. With a budget of around US\$1 billion, CGIAR operates at a scale that when combined with the investments made by its many partners is having a measurable impact on climate adaptation efforts worldwide. CGIAR specializes in "translational research," adapting knowledge produced through basic research so it can be applied in specific contexts. CGIAR does this by partnering with regional organizations, national research institutions, civil society organizations, and private firms and individuals.

CGIAR can play a vital catalytic role in strengthening the agriculture research architecture in Africa, if the "missing middle" can be filled. At present, regional and national programs in Africa have difficulty engaging with CGIAR in a systematic way, and what is happening now is often done in an ad hoc manner. A major obstacle is the absence of resources to support interactions between CGIAR Centers on the one hand (funded mainly by international donors) and regional and national programs on the other hand (funded mainly by African governments). New sources of flexible funding are needed to facilitate the engagement between CGIAR and regional and national programs in Africa.

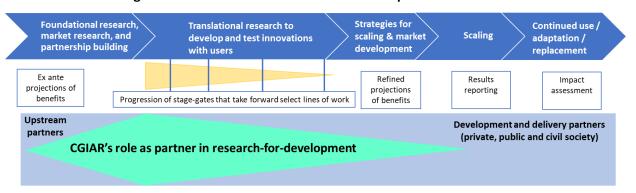


Figure 1. Role of CGIAR in research-to-development continuum

The CGIAR Research Program (CRP) on Climate Change, Agriculture, and Food Security (CCAFS) is at the forefront of fostering climate adaptation in agriculture and food systems. The over-arching objectives of CCAFS are: (i) to identify and test pro-poor climate change adaptation and mitigation practices, technologies and policies for food systems, adaptive capacity and rural livelihoods; and (ii) to provide diagnosis and analysis that will ensure cost effective investments, the inclusion of agriculture in climate change policies, and the inclusion of climate issues in agricultural policies, from the sub-national to the global level, in a way that brings benefits to the rural poor.

CCAFS is being implemented by a consortium of CGIAR and non-CGIAR partners, under the leadership of the International Center for Tropical Agriculture (CIAT). CIAT is an international agricultural research center within the CGIAR system with the mandate to carry out research on problems of tropical agriculture for the benefit of developing countries. CCAFS work is led by staff at CGIAR Centers and six partner universities, through collaborations with many regional and national organizations including private firms.

CCAFS activities are focused on enhancing climate resilience in Sub-Saharan Africa, but the level of funding is inadequate. During 2017-2019, nearly one-half (48 percent) of the total CCAFS budget of \$160

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million went to support work in Africa, including 26 percent allocated to CCAFS programs in West Africa and 22 percent allocated to CCAFS programs in East Africa. CCAFS has an approved expenditure framework, but shortfalls in expected donor financing have resulted in significant funding gaps that threaten the achievement of some critical results. Moreover, since CCAFS was approved in 2018, new evidence has emerged (for example, IPCC's 2019 1.5 degree assessment report) that makes clear that the level of ambition to promote climate adaptation must increase dramatically.

AICCRA will support CCAFS programs and activities that are targeted specifically to Africa and will help take to scale the most strategic and impactful CCAFS-Africa programs, promoting resilience to climate change and improved food security in the region. AICCRA will fill a critical gap by making cutting-edge CGIAR research and innovation available to national agricultural research systems (NARS) and other key stakeholders in Africa. It will support knowledge creation and capacity building activities to enable regional and national-level stakeholders to take CSA innovations to scale. It will achieve that by fostering partnerships between CGIAR and local research institutes, universities, civil society organizations, farmer organizations, and private firms. AICCRA will facilitate the development of climate information services (CIS) and promote the adoption of CSA solutions across sub-regions within Africa that are extremely vulnerable to climate change. The project will also support on-the-ground activities in selected countries in Western, Eastern and Southern Africa where CGIAR science has the greatest chance of success in delivering catalytic results, which can be adopted by other countries in the region.

Relationship to CPF

AICCRA is well aligned with World Bank regional strategies. AICCRA will support the World Bank Africa Regional Integration and Cooperation Assistance Strategy (2018). It will contribute to the World Bank Group Strategy for Fragility, Conflict and Violence 2020–2025, as well as to the World Bank Group Adaptation and Resilience Action Plan (2018), the World Bank Africa Climate Business Plan (2018) and the New Generation Africa Climate Business Plan (2020). In addition, it will contribute to the activities proposed under World Bank Country Partnership Frameworks for many countries being served in Africa by CCAFS.

AICCRA will build upon the achievements of past and current engagements by the World Bank in Africa. The design of AICCRA incorporates lessons learned from other World Bank initiatives in the region, including the West Africa Agricultural Productivity Programs (WAAPP), the Great Green Wall initiative (GGW), the Sahel Irrigation Initiative Support Project (SIIP), and the Regional Sahel Pastoralism Support Project (PRAPS), among others.

AICCRA will complement and add value to future World Bank lending operations in Africa. The World Bank is preparing a series of new lending operations to mobilize cutting-edge science in addressing food security needs in the face of the global climate crisis by promoting the successful adoption of proven technologies on a massive scale. Noteworthy among these are the West Africa Food System Resilience Program (FSRP) and the Nigeria Agro-Climatic Resilience in Semi-Arid Landscapes (ACRESAL) Project. AICCRA will complement this next generation of transformational projects and amplify their impacts by serving as a conduit for the international science generated by CGIAR Centers to reach the regional and national actors who will be supported by the above projects (e.g. ECOWAS, CORAF, ASARECA).

As a regional project, AICCRA will fill an important niche in the Word Bank's' Africa portfolio and help to advance the regional integration agenda. By supporting activities that will be implemented at sub-regional level through multi-actor networks, AICCRA will be able to achieve outcomes that cannot be

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achieved easily, if at all, by engaging with individual partners at country level. On the research supply side, working at regional level justifies investment in infrastructure and personnel at levels that surpass minimum critical mass and allow economies of scale to be captured. On the research demand side, working at regional level facilitates the flow of innovations across national borders and enhances learning effects, increasing the number of adopters and amplifying the benefits.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

The Project Development Objective is to strengthen the capacity of targeted CCAFS (CGIAR Climate Change, Agriculture and Food Security) partners and stakeholders, and to enhance access to climate information services and validated climate-smart agriculture technologies in IDA-eligible countries in Africa.

Key Results

Achievements by the Project will be measured using the following PDO level indicators:

PDO Indicator 1: CCAFS partners and stakeholders in the project area are increasingly accessing enhanced climate information services and/or validated climate-smart agriculture technologies. (number)

PDO Indicator 2: CCAFS beneficiaries in the project area are increasingly accessing enhanced climate information services and/or validated climate-smart agriculture technologies. (number) (disaggregated by gender %)

PDO Indicator 3: Enhanced climate information services and/or validated climate-smart agriculture technologies originating in one SSA country are increasingly being made accessible in other SSA countries. (number)

CCAFS partners and stakeholders are defined as the meteorological services, research institutes, extension agencies, and other organizations supporting innovation that will gain improved capacity to generate and transfer knowledge, decision-making tools, and validated CSA technologies. CCAFS partners and stakeholders targeted by the project will be located in IDA eligible countries in SSA. They include inter alia: CGIAR Centers, regional agricultural research and extension organizations and partnerships, sub-regional agricultural research and extension organizations and partnerships.

CCAFS beneficiaries are defined as the universe of organizations and individuals that make use of the knowledge, decision-making tools, and CSA technologies generated and/or transmitted by the project. CCAFS Beneficiaries will likely be located in AICCRA focus countries, as well as in other countries in Africa or beyond that experience spillover benefits.

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D. Project Description

AICCRA will focus on bridging the gap between the organizations that generate and make available climate knowledge and CSA technologies and the organizations and individuals that take up, retransmit, or otherwise make use of the climate knowledge and CSA technologies, for the purpose of enhancing the resilience of Africa's agriculture and food systems in the face of climate change. Through support to CCAFS, AICCRA will strengthen the technical, institutional, and human capacity needed to move CGIAR innovations off the shelf, so that with the help of other partners they can achieve impacts at scale in IDA-eligible countries in Africa.

AICCRA will strengthen systemic capacity to monitor climate change in Africa, project the likely impacts of climate change on local agri-food systems, identify improved technologies that can strengthen the resilience of those systems in the face of climate change, and transfer knowledge about the improved technologies to agri-food system actors. The knowledge, technologies, and decision making tools promoted under AICCRA will be of value not only to productive agents (e.g., farmers, livestock keepers, assemblers, processors, and distributors), but also to the public, private, and civil society organizations that play critical roles in delivering improved technologies to productive agents.

Climate advisories generated through monitoring networks and early warning systems work much better when they flow rapidly and easily into decision support systems and are integrated with input provision. For that reason, there is a need not only to strengthen monitoring and analytical capacity to make sure systems are in place that can generate timely and relevant climate advisories and early warnings, but also a need to implement policies and reinforce institutions to ensure that those climate advisories and early warnings can be translated into effective preventive actions, for example through changes in the types and amounts of inputs being used, or adjustments in management practices. In addition, decision support systems must be capable of channelling information from service users back to service providers, so that research can become more demand-driven and responsive to local needs.

Activities financed under AICCRA will be implemented by a broad coalition of CCAFS partners working at regional, sub-regional, and national level. Key partners include various CGIAR Centers and regional research organizations as shown in Table 1.

Table 1. CCAFS Partners

Partner Type	Acronym	Name	
	AfricaRice	AfricaRice	
	CIMMYT	International Maize and Wheat Improvement Center	
CGIAR Centers	ICARDA	International Center for Agriculture Research in the Dry Areas	
	ICRAF	World Agroforestry Centre	
	ICRISAT	International Crops Research Institute for the Semi-Arid Tropics	
	IFPRI	International Food Policy Research Institute	
	IITA	International Institute of Tropical Agriculture	
	ILRI	International Livestock Research Institute	

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	IRRI	International Rice Research Institute	
	IWMI	International Water Management Institute	
	WorldFish	WorldFish	
Public Sector	IRI	International Research Institute for Climate and Society	
	AGRHYMET	Agrhymet Regional Centre	
Regional Organizations	ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa	
	CCARDESA	Centre for Coordination of Agricultural Research and Development for Southern Africa	
	CORAF	West and Central Africa Council for Agriculture Research and Development	
	FANRPAN	Food, Agriculture and Natural Resources Policy Analysis Network	
	ICPAC	IGAD Climate Prediction and Applications Centre	
	RUFORUM	Regional Universities Forum for Capacity Building in Agriculture	
	SADC-CSC	Southern African Development Community - Climate Service Centre	

AICCRA will strengthen the national and regional institutions in Africa responsible for facilitating the scale up of climate-smart innovations in agriculture. The CCAFS work program was developed following extensive consultations between CGIAR Centers and African institutions involved in promoting innovation at regional and national level, as documented in AICCRA's Stakeholder Engagement Plan. Ongoing CCAFS programs to which AICCRA will add value thus reflect the needs and priorities of regional and national authorities as well as local stakeholders. AICCRA will capitalize on the strong research partnerships that have been created under CCAFS with agriculture research institutes, extension services, meteorology organizations and universities at the regional and national levels. AICCRA will take advantage of these existing research partnerships to support the generation of new knowledge and increase access to information, decision-making tools, and CSA technologies. AICCRA will also build local capacity to promote innovation in agriculture by engaging with Africa's regional economic communities (RECs), which include ECOWAS (West Africa), IGAD (Horn of Africa), COMESA (Eastern and Southern Africa), and SADC (Southern Africa), and their associated regional agricultural research networks; CORAF (West Africa), ASARECA (East Africa), and CCARDESA (Southern Africa).

AICCRA will support CCAFS programs in three agro-ecological zones in Africa that are among the most vulnerable in the world to the impacts of climate change: the Western Africa and Sahelian drylands, the Eastern Africa dry(low)lands to highlands, and the Southern Africa drylands. Focusing initially on a set of anchor countries (Mali, Ethiopia, Ghana, Senegal, Kenya, and Zambia), the project will strengthen systemic capacity to promote climate adaptation in agriculture and promote dissemination of the results of CGIAR climate research throughout those three zones.

Concentrating AICCRA investments in the six anchor countries is strategic, for at least four reasons. First, based on their recognition of the threats posed by climate change, all six countries have made strong political commitments to adapting their agricultural systems to thrive in the face of climate change, and they have backed their political commitments with financial commitments. Second, all six counties have relatively strong institutional capacity, although further strengthening is needed to meet the challenges posed by climate change. Third, all six countries have mainstreamed CCAFS and CGIAR

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science into their national agricultural plans and programs, and all have expressed interest in continuing their already strong collaboration with CCAFS to further leverage CGIAR science. Fourth, national organizations in all six countries are active members of regional networks and institutions critical for harmonized regional planning and implementation.

AICCRA-supported activities will generate benefits in the six anchor countries and beyond. IDA resources will flow to CCAFS national program partners in those countries, allowing them to strengthen their capacity and expand their work programs. However, the agro-ecologies in the six anchor countries are shared, to varying degrees, by neighboring countries, so AICCRA investments made in the six anchor countries are likely to generate spillover benefits in other countries—this is a major reason for adopting a regional approach.

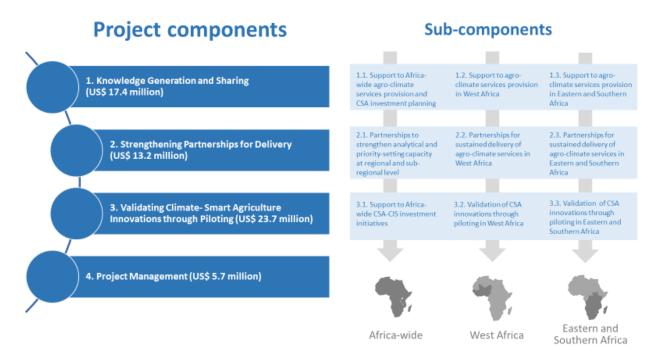


Figure 2. AICCRA Project Design

AICCRA will consist of four components—three technical and one for project management. All activities will be undertaken for the benefit of IDA-eligible countries in Africa. Because implementation arrangements will rely on existing partnerships that have been established under CCAFS, and because different organizations are responsible for providing oversight on CCAFS activities in different geographical areas, each of the technical components is divided into three geographically focused subcomponents: (1) Africa-wide (oversight provided by CIAT), (2) Western Africa (oversight provided by ICRISAT), and (3) Eastern and Southern Africa (oversight provided by ILRI). The activities supported under sub-components 1 are regional in nature and will be implemented mainly through partnerships with regional organizations, whereas the activities supported under subcomponents 2 and 3 are subregional or national in nature and will be implemented mainly through partnerships with sub-regional and national organizations (Figure 2). Under the shared accountability approach described below, the

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CCAFS Partners will be accountable to CIAT, the CCAFS Lead Center, and CIAT as the IDA grant recipient in turn will be accountable to the World Bank.

The AICCRA Theory of Change is shown in Figure 3. The activities to be financed under Components 1, 2, and 3 will generate Outputs and Short-term Outcomes, which are expected to be measurable by project closing. The Short-term Outcomes in turn will give rise to Medium-term Outcomes reflected in the Project Development Objective, which are also expected to be measurable by project closing. These Medium-term Outcomes are expected to contribute to Long-term Outcomes that are expected to occur in the years following project closing, including strengthening the climate resilience of agriculture and food systems in IDA-eligible countries in SSA.

Short-term Medium-term Long-term **Activities/Outputs Outcomes Outcomes Outcomes Project Development Objective** Strengthen capacity of targeted Climate-relevant decision-making Improved forecasting of impacts CCAFS partners and stakeholders, Services Knowledge tools, information advisory & and enhance access to climate of climate change and variability forecasting services available to information services and validated on agriculture and availability of facilitate broad-scale CSA adoption in climate-smart agriculture locally adapted climate-informed technologies in IDA-eligible countries focus countries and at regional level in Africa CCAFS partners and stakeholders in Strengthened the project area are increasingly climate rtnerships r Delivery National and regional climate accessing enhanced climate Enhanced partnerships and resilience of information services and/or validated advisory multi-stakeholder platforms capacity for CIS/CSA innovation. aggregating locally appropriate, climate-smart agriculture technologies agriculture and adaptation and use in partner gender-inclusive information across organizations and NARS in focus Part for food systems CCAFS beneficiaries in the project area multiple agencies countries and at regional level are increasingly accessing enhanced in the climate information services and/or targeted area validated climate-smart agriculture technologies Technology Climate information services and Evidence-based policy and climate-smart agriculture technology Enhanced climate information services investment decisions enabling for eventual broad-scale CSA and/or validated climate-smart broader adoption of climate technology promotion, with attention agriculture technologies originating in information services and CSA CSA to gender and social inclusion one SSA country are increasingly being technology made accessible in other SSA countries

Figure 3. AICCRA Theory of Change

AICCRA's project components will be structured as follows:

A. Component 1. Knowledge Generation and Sharing (US\$ 17.4 million)

This component will include the following sub-components: Sub-component 1.1, delivering "Support to Africa-wide agro-climate services provision and CSA investment planning," and Sub-components 1.2 and 1.3, focusing on "Support to agro-climate services provision" in West Africa and Eastern and Southern Africa, respectively (see Figure 2).

Component 1 will support generation and sharing of knowledge and tools to address critical gaps in the provision of agricultural climate services, enable climate-informed investment planning, and contribute to the design of policies to promote uptake of CSA practices. It will generate new knowledge to enable improved targeting at regional level by public agencies and private firms of CIS and CSA technologies,

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and it will strengthen existing or build new delivery platforms to ensure that this new knowledge will be accessible to relevant users throughout Africa.

Activities to be financed at regional level include: (i) development and assessment of CIS packages, (ii) development of decision support tools to tailor adaptation interventions and innovations, (iii) planning and monitoring of investments in agricultural adaptation to climate change, (iv) prioritization of best-bet CSA options that will also benefit women and youth for uptake at scale, (v) development of financing models for the rollout of prototype CSA and CIS solutions for farmers with private sector engagement, and (vi) policy consistency analysis for regional level CIS and CSA promotion.

Activities to be financed at sub-regional and national level include: (i) development of ag-data hubs, visualization tools, climate-informed agro-advisories, dissemination systems, and decision support systems; and (ii) strengthening digital climate advisory services by including needs assessment and targeting of services to different subgroups for use in building new extension systems or strengthening existing systems and reaching under-served groups. An important objective will be to integrate tailored CIS and agro-advisories into national digital extension systems.

B. Component 2. Strengthening Partnerships for Delivery (US\$ 13.2 million)

This component will include the following sub-components: Sub-component 2.1 supporting "Partnerships to strengthen analytical and priority-setting capacity at regional and sub-regional levels," and Sub-components 2.2 and 2.3, focusing on "Partnerships for sustained delivery of agro-climate services" in West Africa and Eastern and Southern Africa, respectively (see Figure 2).

Component 2 will support building of partnerships and networks to strengthen capacity of key regional and national institutions in SSA along the research-to-development continuum to anticipate climate effects and to accelerate the identification, prioritization, and uptake of best-bet adaptive measures. A particular focus will be on planning and implementing appropriate delivery channels to promote the flow of innovative knowledge and decision support tools generated under Component 1, via regional and national partners drawn from the public and private sectors and from civil society.

Activities to be financed at regional level include: (i) formal and informal training of staff in regional organizations and national agencies; (ii) learning workshops; (iii) study tours; and (iv) technical assistance. AICCRA will work with regional climate forums and regional and national agricultural research networks to enhance their capacity to access cutting-edge knowledge and use qualitative and quantitative decision support tools for participatory priority setting, ex ante analysis, and stakeholder engagement.

Activities to be financed at sub-regional and national level include: (i) strengthening of national meteorological services, with the goal of building capacity to deliver real-time information; (ii) building the capacity of public institutions and private firms in the six target countries to deliver climate advisory services to end users, including farmers and livestock keepers; (iii) strengthening of existing or development of new National Frameworks for Climate Services (NFCS); and (iv) building capacity in public agencies, private firms, and civil society organizations to use CIS to support implementation of CSA technology packages.

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C. Component 3. Validating Climate-Smart Agriculture Innovations through Piloting (US\$ 23.7 million)

This component will include the following sub-components: Sub-component 3.1, delivering "Support to Africa-wide CSA-CIS investments," and Sub-components 3.2 and 3.3, focusing on "Validation of CSA innovations through piloting" in West Africa and Eastern and Southern Africa, respectively (see Figure 2).

Component 3 will contribute to initiatives being pursued throughout Africa to scale up investment in CIS and CSA technologies. Given AICCRA's relatively modest level of funding and primary focus on filling the missing middle between upstream research organizations and downstream development and delivery partners, the project will not directly promote large scale uptake of CSA technologies; rather, it will seek to close a critical gap in the innovation delivery pipeline by supporting the testing of promising technologies and validating their suitability for local conditions, so they can be promoted at scale by larger investment operations taking place usually at national level. Working in collaboration with national agencies and regional organizations including Regional Centers of Excellence and research networks, AICCRA will pave the way for testing and validation of CSA technologies on research stations and eventually in farmers' fields, including validation for gender and social inclusion; linking of validated CSA technology packages to technology transfer systems; and improving access by farmers and other private as well as public value chain actors to climate-informed agricultural advisory services that will help them make better decisions about choice of technology and enterprise management. It will inform the planning and implementation mechanisms of regional bodies, financing and implementation agencies (e.g., AU-NEPAD, World Bank, Africa Development Bank, WFP), and African units of major private sector initiatives (e.g., through the WBCSD).

Activities to be financed at regional level include: (i) identification of existing scalable initiatives around climate modeling, early warning systems, and CSA; (ii) promoting dialogue among participants to secure agreement on common standards and protocols for delivery of climate advisory services at scale; (iii) working with regional networks to promote dissemination of climate research results across Africa; and (iv) development of approaches to ensure sustainability of regional and continental initiatives.

Activities to be financed at sub-regional and national level include: (i) characterization of climate-smartness of CSA packages through dialogues with researchers, program administrators, end users, and policy makers; (ii) characterization of social-inclusiveness of CSA packages (with particular attention to gender) through dialogues with researchers, program administrators, end users (individuals and firms), and policy makers; (iii) creating awareness and identifying scaling mechanisms for best-bet CSA options; (iv) integrating climate-smart options and tailored CSI advisory systems for specific value chains; and (iv) development and promotion of climate-smart agricultural investment plans.

D. Component 4. Project Management (US\$ 5.7 million)

Component 4 will support project management functions. Consistent with the objective of strengthening systemic capacity in CGIAR, project management activities will be distributed among several CCAFS partners. CIAT as the Lead Center for CCAFS and recipient of the IDA grant will hold ultimate accountability for technical, administrative, fiduciary, legal, and safeguards compliance functions. The CCAFS Program Management Committee (PMC) and its Program Management Unit (PMU) will provide oversight of the technical work program, ensure coordination among and between the implementation entities, and supervise monitoring and evaluation activities and compile

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consolidated M&E reports documenting progress achieved. Under the shared accountability approach, the CCAFS implementation entities will be expected to comply with all applicable administrative, fiduciary (procurement and financial management), monitoring and evaluation, and safeguards requirements, and they will be responsible for providing information needed by the CCAFS management team and by CIAT to ensure compliance with the terms of the IDA grant. Component 4 will finance: (i) consultant services, non-consulting services and operating costs for the PMU to carry out project management, including fiduciary and M&E; (ii) annual workshops for implementation entities to ensure integration and quality; and (iii) implementation of the communication action plan (including the design, production, and dissemination of AICCRA- and CCAFS-related messaging via multiple print and digital media).

Legal Operational Policies	
	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No
Summary of Assessment of Environmental and Social Risks and Im	pacts

The World Bank Environmental and Social Standards (ESSs) of relevance to the project are: ESS 1 (Assessment and Management of Environmental and Social Risks and Impacts; ESS 2 (Labor and Working Conditions); ESS 3 (Resource Efficiency and Pollution Prevention Management); ESS 4 (Community Health and Safety); and ESS 10 (Stakeholder Engagement and Information Disclosure). Key risks are related to waste management, pest management, resource use (including water, soil, energy), Occupational Health and Safety (OHS) and labor issues. The project will not finance activities that involve land acquisition, impose restrictions on land use and lead to involuntary resettlement, or adversely affect biodiversity conservation, sustainable management of living resources and cultural heritage. The project will be implemented mainly in established agricultural research stations and will not be implemented in areas in which Indigenous Peoples / Sub-Saharan African Historically Underserved Traditional Local Communities are present or have collective attachment to a proposed project area.

E. Implementation

Institutional and Implementation Arrangements

The project design and implementation arrangements are intended to address the unique nature of AICCRA as a mechanism to deliver incremental support to CGIAR to accelerate the impacts of its research in Africa. Neither CGIAR nor CCAFS have legal personalities empowered to receive IDA funding directly, so the IDA funding will be directed to CIAT, which serves as Lead Center for CCAFS. CIAT will act as an apex organization that will on-grant IDA funds via Program Performance Agreements (PPAs) to other organizations that are partners in CCAFS, including ICRISAT hosting the regional CCAFS program in Western Africa, and ILRI hosting the regional CCAFS program in Eastern and Southern Africa. Other

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participating CGIAR Centers are expected to include AfricaRice, CIMMYT, ICARDA, ICRAF, IFPRI, IITA, IRRI, IWMI, and WorldFish.

The complexity of implementing World Bank policies in an Investment Project Financing (IPF) framework calls for an innovative approach. AICCRA has been designed as an IPF operation. CIAT and the other participating CGIAR Centers receive funding from many international donors and have in place robust systems for monitoring and documenting activities and ensuring financial accountability. However, they have never been recipients of IBRD or IDA grants and do not have in place the specialized systems required by World Bank fiduciary and safeguards policies. Furthermore, CCAFS is an ongoing program with many established partners, most of whom are uniquely positioned to continue collaborating on CCAFS-approved activities under the AICCRA framework. Consequently, CCAFS management anticipates the need for a large number of direct contacts, unusual for a regular World Bank-financed IPF project.

In view of the unique context, AICCRA is designed as an IPF for which the fiduciary and safeguards policies will be applied using a 'shared accountability' approach. CIAT as the IDA grant recipient and Lead Center for CCAFS will be accountable to the World Bank for legal, fiduciary (procurement, financial management, and disbursements) and safeguards compliance, with considerable responsibility for fiduciary management and reporting, and safeguards implementation and monitoring delegated to the CGIAR Partners. This will require the CGIAR Partners to strengthen their existing fiduciary and safeguards systems, which in and of itself will be an important outcome of the operation. At the same time, use of the shared accountability approach will reduce what otherwise would be the extremely unreasonably high cost of having many CCAFS participating organizations put in place many specialized systems for the sole purpose of complying with World Bank policies.

The shared accountability approach is justified given the low level of risk posed by AICCRA. AICCRA is expected to be a low risk project, since the CCAFS activities to be supported by AICCRA are predominantly "soft activities" such as knowledge generation and transfer, capacity building, and technical assistance. A negative list will be used to preclude investment of IDA funds in large scale works or other activities that could generate significant adverse social or environmental impacts. It is expected that the overall risk rating for the project will be Moderate.

Under the shared accountability approach, CIAT and the other participating CGIAR Partners will contract with non-CGIAR Partners working at sub-regional or national level to ensure successful implementation of project-supported activities in the target regions. It is expected that project-supported activities will form part of, or be aligned with, the CCAFS work program that has been reviewed by the CGIAR System Management Office and endorsed by the CGIAR System Council. Many of the non-CGIAR Partners are already known, as they are currently participating in CCAFS. The IDA funds will be used to fill financing gaps in the approved CCAFS work program, as well as scale up CCAFS by extending the scale and coverage of approved activities. A framework will be developed to facilitate the establishment of service contracts with non-CGIAR Partners, which are expected to involve procurement primarily of consultant services, operational costs, and minor quantities of good and services. Because these contracts will support research partnerships that are already in place, use of direct contracting will be justified.

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