



RESEARCH PROGRAM ON  
**Climate Change,  
Agriculture and  
Food Security**



## **CCAFS East Africa 2019–2021 Summary**

**Strategy for Supporting Agricultural Transformation, Food  
and Nutrition Security under Climate Change**







# CCAFS East Africa 2019–2021: Summary

## Strategy for Supporting Agricultural Transformation, Food and Nutrition Security under Climate Change

### What is at stake for agriculture, food and nutrition security under climate change in East Africa?

Since the Maputo Declaration on Agriculture and Food Security in 2003, governments in East Africa have made sustainable transformation of agriculture a priority, as reflected in their development agendas and by increased investments in agriculture. Despite these positive developments, the region has seen very little improvement in food and nutrition security. Growth in the agricultural sector has primarily been achieved through unsustainable practices, such as increasing the total area of land under cultivation with very little improvement in productivity. The sector is still dominated by smallholder subsistence farmers, who are struggling with deep-rooted poverty and have few productive assets.<sup>1</sup> Agricultural systems in the region also face environmental constraints to sustainable growth, such as degradation of soil, land, water and ecosystems. Additional challenges include economic barriers, low human and institutional capacities, poor agro-advisory services, political instability, conflicts and migration.<sup>1,2</sup> Climate change and inter-annual climate variability compound these significant challenges to sustainable agricultural growth. Agriculture is not only impacted by climate change, but also contributes to climate change, necessitating both adaptation and mitigation strategies and actions. Agriculture is currently the main source of national greenhouse gas (GHG) emissions in East Africa, accounting for about 46% in Uganda and about 86% in Tanzania, for example. In the face of a changing climate, effective adaptation and mitigation strategies

focusing on revitalization, intensification, diversification and innovation are thus needed to sustainably transform the region's agriculture and decouple agricultural growth from GHG emissions.

### Policies, strategies and priority actions in East Africa

All East African countries are parties to the United Nations Framework Convention on Climate Change (UNFCCC), and have submitted Nationally Determined Contributions (NDCs) under the UNFCCC framework, communicating their climate goals to the international community.<sup>3,4,5</sup> The NDCs represent key entry points for scientific evidence to inform policies for sustainable agricultural development and climate action. The strategic role that agriculture will play in both adaptation to and mitigation of climate change is also clearly reflected in East African countries' National Adaptation Programs of Action, National Adaptation Plans and Nationally Appropriate Mitigation Actions.<sup>6,7</sup> At the regional level, members of the East African Community, such as Kenya, Uganda and Tanzania, are also guided by the joint East African Community Climate Change Policy.<sup>6,8</sup> In addition, a number of countries in East Africa have prepared National Agricultural Investment Plans (NAIPs) under the Comprehensive Africa Agriculture Development Program of the African Union (AU). NAIPs are designed to scale up climate change adaptation and mitigation actions, among other objectives,<sup>6</sup> and work towards transforming agriculture under the African Agriculture Transformation Scorecard, which was announced at the 30th African Union Heads of State Summit in 2018.

### How CCAFS supports East African countries' priorities

In the context of increasing climate variability and change, agriculture in East Africa is facing enormous challenges of achieving food and nutrition security, adapting to climate change and, where possible, reducing GHG emissions. In response, the CGIAR Research Program on Climate Change, Agriculture and Food Security in East Africa (CCAFS EA) is promoting climate-smart agriculture (CSA), a strategic approach that aims to help solve these challenges by introducing practices and technologies that sustainably increase agricultural productivity, incomes and resilience, while reducing emissions.

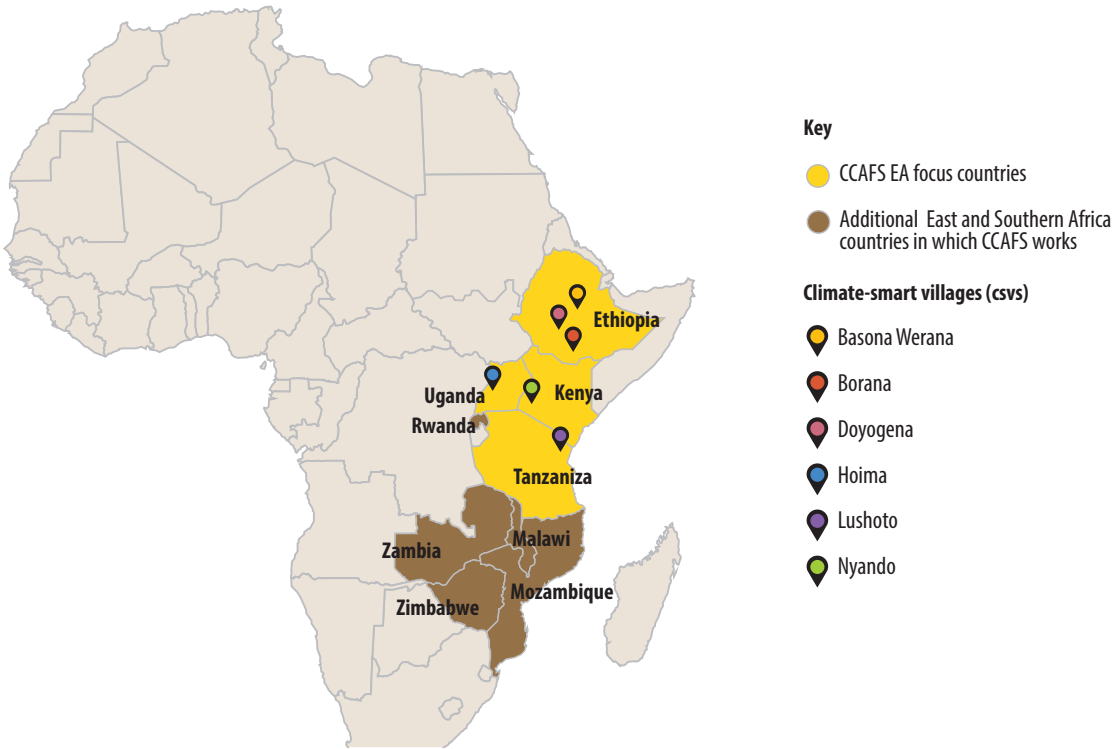
CCAFS EA seeks to support the countries in East Africa, and the region as a whole, in their pursuit to fulfil their national, regional and international climate-related commitments. Countries in East Africa recognize the relevance and efficacy of CSA, and are prioritizing this approach to transforming agriculture, considering it essential to achieve food and nutrition security as well as livelihood improvements in the face of a changing climate.

### CCAFS EA focus countries and research sites

CCAFS EA carries out its research and policy engagement activities mainly in four countries: Ethiopia, Kenya, Tanzania and Uganda. The farming systems in these countries face a wide range of climatic, agro-ecological, environmental and socioeconomic challenges. The agricultural communities in these countries are also highly vulnerable to climate risks and have very low resilience and adaptive capacity, resulting in very fragile existences.

CCAFS EA has established six research sites across these countries to test and implement technological and institutional CSA options (Figure 1). These research sites cut across the main agro-ecological zones and farming systems in East Africa and include Nyando (Kenya), Lushoto (Tanzania), Hoima (Uganda) as well as Borana, Doyogena and Basona Werana (Ethiopia). These sites have been established as climate-smart villages (CSVs), a concept developed by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). The CSVs act as 'lighthouses,' allowing communities to test, co-develop and adopt

Figure 1. CCAFS EA focus countries and research sites



integrated portfolios of CSA practices. The CSVs are expected to continue to provide a solid framework through which the program can investigate how and when technologies and practices can be adopted, building the evidence base to support future scaling up of CSA in the region. The interventions tested vary depending on the climate risks of the CSVs, level of development as well as the capacity and interests of farmers, local government and development partners. Agro-meteorological services, integrated crop, livestock and fisheries schemes, multi-strata agroforestry systems, market and financial services as well as new crop varieties and livestock breeds are among the most successful interventions piloted in the CSVs in East Africa.<sup>9</sup>

Outside the four primary focus countries, CCAFS EA will also work to build capacity for national climate services and improve climate risk management for agriculture in Rwanda, as well as to make value chains and business models more inclusive and to provide innovative finance mechanisms and other incentives to scale CSA in Malawi, Mozambique, Zambia and Zimbabwe.

### CCAFS EA goals and outcomes

CCAFS EA aims to contribute to a climate-resilient East Africa that is food and nutrition secure and that has equitable access to livelihood opportunities for all. Objectives that support these goals include reducing GHG emissions from agricultural systems and value chains through the implementation of innovative, efficient CSA technologies and practices as well as fostering enabling policies and increased investments in agriculture and natural resource management. These goals are in line with CCAFS' overarching aim to catalyze positive change towards climate-smart agriculture, food systems and landscapes. Figure 2 shows CCAFS EA's theory of change, including assumptions, approaches and pursued outcomes in support of East African countries' priorities. This represents the revised regional impact pathway, designed to effectively operationalize the strategy under the current four CCAFS flagships (FPs): Priorities and Policies for CSA (FP1), Climate-Smart Technologies and Practices (FP2), Low-Emissions Development

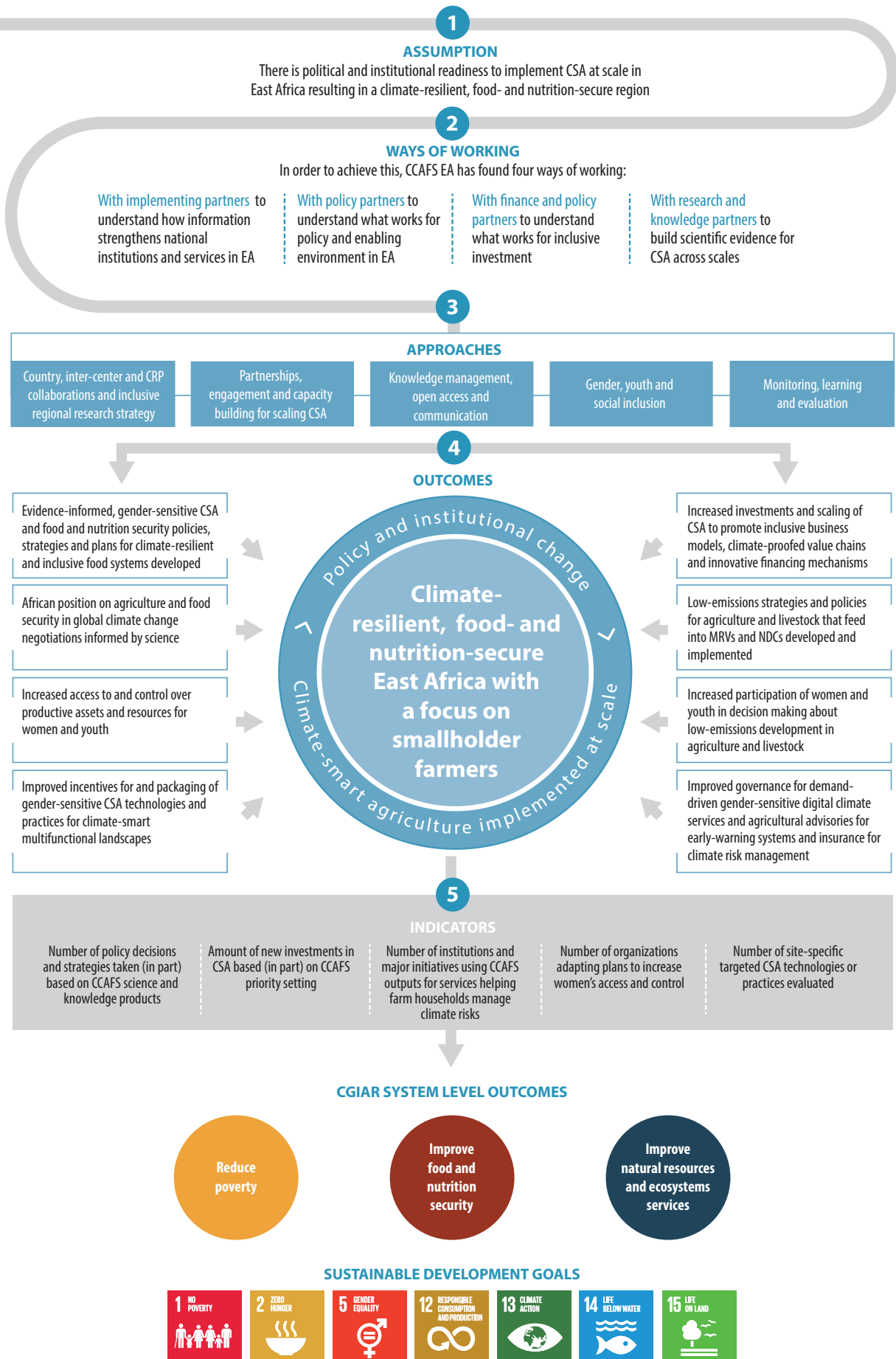
(FP3), and Climate Services and Safety Nets (FP4), and cross-cutting learning platforms (Annex 1). The detailed outcomes and targets, which are aligned to the CCAFS FPs and cross-cutting learning platforms, are presented in Annex 2.

### CCAFS EA research priorities

Following extensive engagement and consultation with national and regional policy makers in the program's four focus countries, CCAFS EA organized a regional strategy revision workshop in February 2018, in Arusha, Tanzania. This workshop brought together research and implementing partners, regional farmer organizations, non-government organizations (NGOs), private sector representatives, CGIAR centers in East Africa, CCAFS flagship leaders and other relevant stakeholders. As a result of this workshop, CCAFS EA identified interconnected strategic research pillars and emerging opportunities to guide the program's research initiatives, engagement activities and communications for 2019–2021. In line with CCAFS Phase II proposal, the directions provided by CCAFS Independent Steering Committee and the national policies and priority actions, CCAFS EA's revised research strategy puts greater emphasis on enhancing agricultural productivity and incomes, boosting food and nutrition security, building resilience and adaptive capacity, and, where possible, reducing GHG emissions. The program plans to take more transformative actions, including using big data and digital solutions that can be implemented at scale to benefit smallholder farmers and other vulnerable groups. The program's strategy also supports ongoing regional and national efforts to sustainably transform agriculture and achieve food and nutrition security under climate change through scaled up implementation of inclusive CSA initiatives. The future CCAFS EA research priorities and emerging opportunities, many of which can be pursued as integrated research activities, are as follows:

**Climate-smart technologies, innovations and policies:** To transition to CSA at scale, CCAFS EA will test, evaluate, increase access to, and promote technologies and innovations to enhance agricultural productivity and incomes,

**Figure 2: CCAFS EA Theory of Change**



build resilience and adaptive capacities as well as to meet farmers' needs. The technologies and innovations include high-yielding, early maturing and multiple-stress tolerant crop varieties (such as to elevated temperature, drought, flood and salinity) as well as varieties resistant to emerging diseases and pests triggered by climate variability and shocks to enhance short- and long-term adaptation. Other efforts will focus on improved livestock breeds, multi-strata agroforestry, solar-powered irrigation, integrated soil and water management, improved agronomic practices and fertilizer use efficiency, aquaculture, and inclusive business models and financing instruments. CCAFS EA will also promote drought-tolerant perennial crops with potential to sequester greater amounts of soil and biomass carbon to increase the potential for farms and landscapes to reduce GHG emissions. These solutions will be customized to the different agro-ecologies and farming systems in East Africa. Promoting a portfolio of contextualized CSA technologies and practices for resource-poor farmers, including women and youth, will be a key priority. Climate, food and nutrition security scenario analyses will be undertaken to provide evidence for multilevel gender- and nutrition-sensitive policies and to guide targeted investments in and implementation of CSA.

**Climate information, agro-advisory and insurance for climate risk management:** Effective climate services will help enable the transition towards CSA in East Africa. The program seeks to ensure that farmers are informed through effective climate services and protected by well-targeted safety nets. The program will focus on early warning, innovative insurance products and climate-informed agro-advisory and market services. These will be supported by activities to build farmers' capacity to use such information to manage climate risks. CCAFS EA will provide evidence to inform policies and investments related to climate information services, agro-advisory and insurance products to maximize benefits for vulnerable farmers.

**Low-emissions development (LED) pathways for agriculture:** East African countries have in their NDCs pledged to reduce their GHG emissions, in adherence to the Paris Agreement. CCAFS EA

will work with governments, the private sector, NGOs, international development partners and other relevant stakeholders to raise awareness of LED systems in crop and livestock sub-sectors. The program will also assess the economic and social feasibility for smallholder farmers to scale LED technologies and practices. Critical first steps include establishing baselines for current emission levels from crop and livestock activities, gathering evidence on how low-emissions technologies and practices contribute to food and nutrition security, and identifying farm- and landscape-level mitigation co-benefits. The program will benefit national LED efforts by developing and strengthening tools for better emissions measurement by improving measurement, reporting and verification (MRV) systems that can support the countries' NDCs and by building technical and human capacities to implement LED at scale.

**Gender, youth and socially inclusive growth:** CCAFS EA will conduct research to inform, catalyze and target climate-smart solutions to women, youth and other vulnerable groups to increase their control over productive assets and resources as well as enhance their access to information and decision making. The program will also prioritize building the capacity of policy leaders to better integrate gender considerations into national climate change policies and programs. Making CSA more attractive and accessible to youth will be another important focus, and potential strategies include improved links between education and business, inclusive financial services and business models, better access to markets and equitable transfers of technology and skills.

### **Emerging cross-cutting opportunities in East Africa**

The revised CCAFS EA strategy will explore and maximize the following emerging cross-cutting opportunities that can help transform the region's agriculture. In doing so, the program will seek to foster South-South partnerships among CCAFS' regional programs and seek out various bilateral opportunities to scale up the main research priorities outlined above.





**Integrated ecological approaches for climate-smart and resilient landscapes:** Climate-smart landscapes have been identified as a key food security and climate change adaptation and mitigation strategy in East Africa. CCAFS EA seeks to support research on contextualized, integrated planning and management of landscapes. Such options must consider the interests of multiple stakeholders; identify synergies on productivity, income, adaptation and mitigation co-benefits; and analyze and negotiate the trade-offs among different uses. The program will pursue landscape approaches that integrate sustainable management of ecosystems with livelihood considerations, including crop–livestock management, agroforestry, sustainable fisheries, afforestation and reforestation, and improved rangeland management. The program will also offer opportunities for reversing deforestation and land degradation as well as for creating synergies between climate change adaptation and mitigation. Making large-scale changes requires improving the enabling policy environment and setting priorities for targeted investments. The program will provide decision makers with evidence on the benefits of CSA at scale as well as trade-off analyses and foresight modelling to help inform policy decisions. CCAFS EA's research

also intends to support governments and the private sector to prioritize CSA investments as well as to create mechanisms for smallholder farmers to access climate finance and thus incentivize them to overcome sustainability- and scaling-related constraints to climate-smart and resilient landscapes.

**Climate-proofing value chains:** Because climate extremes and weather hazards could lead to severe economic and financial consequences for agricultural value chains and markets across East Africa, strengthening and climate-proofing value chains is emerging as an important opportunity. To support this, CCAFS EA has recently developed a large-scale climate and food security program focused on climate-proofing agricultural value chains for Kenya, Tanzania and Uganda in collaboration with the Netherlands Development Organization (SNV), Wageningen University and Research, Agriterra, and Rabobank and with support from the Government of the Netherlands.

**Digital agriculture and advisories:** CCAFS EA is pursuing the application of digital systems and solutions to strengthen agricultural extension systems and advisories for smallholder farmers. The program, in collaboration with regional



governments, farmers, private sector actors and other stakeholders, will conduct strategic research to understand the priorities, policies and systemic bottlenecks for developing and implementing climate-informed digital advisories and solutions at scale. These efforts are expected to support the development of national agricultural digital hubs, which integrate climate, soil, crop, livestock and market information, as well as agricultural decision-support platforms that can effectively engage women and youth to transform the region's agriculture.

**Innovative financing mechanisms:** CCAFS EA will also support stakeholders in the region to identify innovative financing instruments that can generate positive returns on investment as well as generate climate adaptation and mitigation co-benefits for sustainable development, including through CSA and by increasing the resilience and adaptive capacity of the region's smallholder farmers and agribusinesses.

**Private sector engagement:** CCAFS EA will make a concerted effort to engage the private sector to develop climate and market information services and insurance products to sustainably transform agriculture. Through public-private partnerships, CCAFS EA will develop agro-ecosystem-specific, market-driven and climate-informed agricultural advisories, decision-support tools as well as climate and insurance services through digital delivery mechanisms (e.g., web-based services, smart phone-based apps, SMS, interactive voice response, video and radio) or face-to-face interactions. In addition, CCAFS EA will work with national, regional and global partners and relevant stakeholders to incentivize private sector investment in capacity development, extension services, climate-proof crop and livestock value chains, and solar-powered irrigation to enhance efficiency and minimize vulnerability to climate extremes.

### **Delivering impact at scale in East Africa**

CCAFS EA will use strategic research, engagement and communication activities to enhance its ability to generate knowledge, develop innovative

technologies and practices, and strategically position itself to inform policy and deliver impact at scale. The research, engagement and communication efforts are nested within the four CCAFS FPs. Two CCAFS learning platforms, Climate-Smart Agriculture, Gender and Social Inclusion as well as Partnerships and Capacity for Scaling CSA, are also integrated across the regional program (see Annex 1).

Strong partnerships and engagements are critical to innovatively address the seemingly intractable challenges at scale in East Africa. Therefore, CCAFS EA will actively support scientific collaborations and develop effective partnerships with national, regional and international partners, including knowledge, policy, financing and implementing partners, smallholder farmers, farmer organizations, NGOs, women and youth groups, civil society, the private sector and other relevant stakeholders (Figure 3). CCAFS EA will work with these partners to develop and implement evidence-based, contextualized, gender-sensitive and scalable CSA technologies and practices to sustainably boost agricultural productivity as well as food and nutrition security. Such partnerships will also include effective South-South joint initiatives to advance the relevant UN Sustainable Development Goals (SDGs).

CCAFS is an integrative CGIAR Research Program (CRP), and CCAFS EA's research and engagement portfolio is underpinned by close collaboration with other CGIAR centers and CRPs. Individually or through cross-center collaborations, CGIAR centers implement various projects and climate-smart initiatives.

Strategic communication is a critical component of the regional program's strategy and is expected to serve as a bridge to inspire change, build support and leverage impact. Communication plays a key role in strengthening CCAFS EA's support to East African countries' priorities, making its objectives, goals and knowledge products more visible and relevant to partners and other relevant stakeholders. Therefore, the regional program will strategically use a combination of communication approaches and channels to disseminate CCAFS knowledge outputs and research results

Figure 3: CCAFS EA partners



**Key for partner organization acronyms:** [ACMAD] African Centre of Meteorological Applications for Development; [ACPC] African Climate Policy Centre; [AfDB] African Development Bank; [AGN] African Group of Negotiators; [AGRA] Alliance for a Green Revolution in Africa; [ASARECA] Association for Strengthening Agricultural Research in Eastern and Central Africa; [AU] African Union; [EAC] East African Community; [EU] European Union; [FAO] Food and Agriculture Organization; [GRA] Global Research Alliance; [ICPAC] IGAD Climate Prediction and Application Centre; [IGAD] Intergovernmental Authority on Development; [NARS] National agricultural research systems; [NEPAD] New Partnership for Africa’s Development; [NMA] National meteorological agencies; [UNFCCC] United Nations Framework Convention on Climate Change; [WB] The World Bank; [WFP] World Food Programme.

to enhance adoption and scaling of CSA, for example through print, non-print and online media engagement, social media, branding, cross-cutting science and policy meetings, and publications.

Finally, CCAFS EA understands that the funding landscape for agriculture, food and nutrition security, and climate change research is becoming more complex and unpredictable. However, there is a need for sustained and secure investments in agriculture, food security and climate change for CCAFS EA to catalyze positive change towards climate-smart agriculture, food systems and landscapes. Only then can the program contribute to a climate-resilient and food- and nutrition-secure East Africa that will overcome the existing environmental and socioeconomic constraints and challenges related to emerging climate variability and change. Therefore, the program









will continuously work towards mobilizing resources through a range of channels. For example, it will establish mechanisms for provision of knowledge products and services and seek to unlock large sources of funding to scale up CSA and climate-smart landscapes. Private-public partnerships will be pursued for climate-proofing value chains. Climate and land use finance will be used to strengthen partnerships with international development partners (such as the International Fund for Agricultural Development, Department for International Development of the UK, IrishAid, Danish International Development Agency, the Government of the Netherlands, European Union, African Union, and Bill and Melinda Gates Foundation), leading financial institutions (such as The World Bank, African Development Bank) and with non-traditional donors, including private sector and philanthropic foundations.




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# Annex 1: CCAFS Flagships and cross-cutting learning platforms

<b>Flagship program 1</b>	<b>Flagship program 2</b>	<b>Flagship program 3</b>	<b>Flagship program 4</b>
 <p><b>Policies</b> Priorities and for Climate-Smart Agriculture</p>	 <p><b>Practices</b> Climate-Smart Technologies and</p>	 <p><b>Emissions</b> Low Development</p>	 <p><b>Services</b> Climate and Safety Nets</p>
<p> Learning platform on ex-ante evaluation and decision support for climate-smart options</p> <hr style="border-top: 1px dashed #ccc;"/> <p>Food and nutrition security futures under climate change</p> <hr style="border-top: 1px dashed #ccc;"/> <p>Enabling policy environments for CSA</p>	<p> Learning platform on Participatory evaluation on CSA technologies and practices in CSVs</p> <hr style="border-top: 1px dashed #ccc;"/> <p>Evidence, investment planning and application domains for CSA technologies and practices</p> <hr style="border-top: 1px dashed #ccc;"/> <p>Equitable sub-national adaptation planning and implementation</p> <hr style="border-top: 1px dashed #ccc;"/> <p>Business models, incentives and innovative finance for scaling CSA</p>	<p>Quantifying GHG emissions from smallholder systems</p> <hr style="border-top: 1px dashed #ccc;"/> <p> Learning platform on Identifying priorities and options for low-emissions and development</p> <hr style="border-top: 1px dashed #ccc;"/> <p>Policy, incentives and finance for scaling up low emissions practices</p>	<p>Climate Information and early warning for risk management</p> <hr style="border-top: 1px dashed #ccc;"/> <p>Climate information and advisory services for agriculture</p> <hr style="border-top: 1px dashed #ccc;"/> <p> Learning platform on weather related agricultural insurance products and programs</p> <hr style="border-top: 1px dashed #ccc;"/> <p>Climate services investment planning and policy</p>

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>
 Learning platform on Climate-smart agriculture, gender and social inclusion

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>
 Learning platform on Partnerships and capacity for scaling CSA: global, Latin America, West Africa, East Africa, South Asia, Southeast Asia



## Annex 2: CCAFS EA outcomes and targets



CCAFS flagship 2021 outcomes	CCAFS Flagship targets	CCAFS EA 2021 outcomes	CCAFS EA 2021 targets
Number of organizations and institutions in selected countries/states adapting plans and directing investment to optimize consumption of diverse nutrient-rich foods, with all plans and investments examined for their gender implications.	14	National governments, development partners and private sector are using combined climate and food and nutrition security scenarios for multilevel policy development and implementation, with relevant policy change that includes consideration of gender issues being effected.	2
Number of countries/states where CCAFS priority setting is used to target and implement interventions to improve food and nutrition security under a changing climate.	20	National ministries of agriculture and livestock, environment, finance and relevant parliamentary committees, and regional and inter-governmental organizations are collaborating with research institutions (CCAFS, CGIAR and NARS) and private sector to develop and implement evidence-informed gender-sensitive agriculture and food and nutrition security policies, strategies and initiatives for increased investments in climate-resilient food systems.	4
USD million of new investments by state, national, regional and global agencies, informed by CCAFS science and engagement.	450	Development agencies, international and regional organizations (including World Bank and the Green Climate Fund) and national governments use evidence from CCAFS and CGIAR CSA research and CSVs to inform investments in CSA, including the NAIPS.	290
Number of national/state organizations and institutions adapting their plans and directing investment to increase women's access to, and control over, productive assets and resources.	20	National governments are integrating inclusive CSA into their strategies and investment plans to increase women's and youth's access to and control over productive assets and resources	4
Number of policy decisions taken (in part) based on engagement and information dissemination by CCAFS.	11	African Group of Negotiators (AGN) and UNFCCC focal points use CCAFS and CGIAR science and engagement to effectively articulate the African position on agriculture and climate change, including for the Koronivia Joint Work on Agriculture (KJWA) roadmap.	3

CCAFS flagship 2021 outcomes	CCAFS Flagship targets	CCAFS EA 2021 outcomes	CCAFS EA 2021 targets
Number of millions of farm households receiving incentives (training, financial, programmatic, policy-related) for adopting CSA-related practices and technologies that potentially reduce production risks.	6	Farmers and stakeholders across scales receive incentives (contextualized training, financial, programmatic, policy) for adopting and scaling CSA practices and technologies to reduce production risks and enhance resilience and adaptive capacity.	2
Number of subnational public/private initiatives providing access to novel financial services and supporting innovative CSA business models.	15	CCAFS knowledge outputs and products stimulate public and private sector (small and medium enterprises and large financial institutions) investment and scaling of CSA using market-based approaches that promote inclusive business models, climate-proof value chains and innovative financing mechanisms in East Africa.	4
Number of site-specific targeted CSA technologies/practices tested, with all options examined for their gender implications.	50	National agricultural research institutions (Kenya Agricultural & Livestock Research Organization, National Agricultural Research Organisation of Uganda, Africa Research Institute and Ethiopian Institute of Agricultural Research), international agricultural research centres and ministries of agriculture are developing, testing and packaging gender-sensitive CSA technologies and practices for climate-smart multifunctional landscapes to increase agricultural productivity, food and nutrition security, incomes, and build resilience and where possible reduce GHG emissions.	10
Number of development organizations adapting their plans and directing investment to increase women's access to, and control over, productive assets and resources.	15	National governments, development partners and private sector are integrating inclusive CSA into their strategies and investment plans to increase women's and youth's access to and control over productive assets and resources.	3

CCAFS flagship 2021 outcomes	CCAFS Flagship targets	CCAFS EA 2021 outcomes	CCAFS EA 2021 targets
Number of agricultural development initiatives where CCAFS science is used to target and implement interventions to increase input efficiency.	20	Agricultural development initiatives by private sector, agricultural agencies and related national governments in East Africa use CCAFS science, including decision-support tools (DSTs), to develop and implement interventions to increase input use efficiency.	3
Number of low-emissions plans developed that have significant mitigation potential for 2030, i.e., contribute to at least 5% GHG emissions reduction or reach at least 10,000 farmers, with all plans examined for their gender implications.	10	Regional and intergovernmental organizations, national governments and agencies (ministries of agriculture and livestock, environment and climate change and national environmental authorities) use improved GHG measurement informed by science (CCAFS, CGIAR, GRA, FAO) to design, develop and implement low-emissions strategies and policies for agriculture and livestock to support MRVs and NDCs.	2
Number of organizations adapting their plans or directing investment to increase women's participation in decision making about LED in agriculture.	15	National governments, private sector and non-governmental organizations are integrating gender inclusive approaches into their strategies and investment plans to increase women's and youth's participation in decision making about low-emissions development in agriculture.	2



CCAFS flagship 2021 outcomes	CCAFS Flagship targets	CCAFS EA 2021 outcomes	CCAFS EA 2021 targets
Number of institutions or major initiatives using CCAFS research outputs for services that support farm households' management of climatic risks.	40	Academic, national and regional meteorological agencies, the IGAD Climate Prediction and Applications Centre and development organizations closely collaborate and use CCAFS tools and support to improve governance of climate services, and develop and test climate applications for seasonal climate information services, incorporating user feedback, for agricultural management, early warning, decision making and management of climate risks.	4
Number of organizations adapting their plans and directing investment to increase women's access to gender-sensitive climate-based advisories and insurance.	20	Ministries of agriculture and livestock, regional and national meteorological agencies, private sector, NGOs, donors and relief agencies use CCAFS knowledge to develop and provide demand-driven gender-sensitive digital climate services and agricultural advisories for timely and efficient food security decision making, insurance for climate risk management and enhanced investment.	4

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