# Info Note

# Scaling up the use of low-emissions development (LED) research outputs in Kenya

*Operationalizing climate-smart agriculture strategy in the local action plan*

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**Key messages**

- The climate-smart agriculture (CSA) Data Atlas and Training Guidebook can help operationalize Kenya's Climate-Smart Agriculture Strategy (KCSAS) and its framework at the county level by building capacity of local CSA stakeholders and designing the county CSA plans.

- The updated nationally determined contribution (NDC) of Kenya recognizes capacity building need for scaling the process of CSA county plan design and implementation in Kenya. This can lead to increased investment from the public and private sectors, uptake of CSA options, and can generate substantial adaptation and mitigation gains in Kenya's agriculture sector.

- Advancing the impact pathway for large-scale adaptation and mitigation impact of CSA plans requires strong collaboration among the national and county governments, development of self-financing mechanisms, and continuous capacity building of the key stakeholders at national and county levels.

Agriculture is the mainstay of the Kenyan economy that accounts for a large share (~22%) of the gross domestic product (GDP) and contributes to employment and food security for a large part of the population (World Bank 2019). Climate variability and change have adversely affected this sector, and the situation is expected to worsen in the future (Ochieng et al. 2016). The agriculture sector contributes more than 70% of the country's total greenhouse gas (GHG) emissions (FAO 2017). In response to these impacts, the Government of Kenya has developed the Kenya Climate-Smart Agriculture Strategy (KCSAS) to guide investment and implementation of climate-smart agriculture (CSA) (MALFI 2017). CSA aims

to sustainably increase agricultural productivity and income, adapt and build resilience to climate change, and reduce GHG emissions from agriculture, where possible (FAO 2010).

Translating the KCSAS to action requires operationalizing CSA at the local level through a targeted action plan. The United States Department of Agriculture's (USDA) Foreign Agricultural Service (FAS)–with funding from the Department of State through the Enhancing Capacity for Low-Emission Development Strategies (EC-LEDS) program–partnered with the World Agroforestry Center (ICRAF) and the International Center for Tropical Agriculture (CIAT) to support the design and implementation of CSA plans at the county level. This partnership has developed two key research outputs: a CSA Data Atlas and a Training Guidebook for county-level CSA planning.

A database of more than 1,700 studies published on agricultural innovations in Africa provides an ample evidence base for CSA in Kenya (Rosenstock et al. 2015). From this database, the CSA Data Atlas (https://era.ccafs.cgiar.org/)–showing the impact of practicing CSA on productivity, resilience, and mitigation at the farm level–was developed by analyzing technology performance by agroecological zone and farming system. This information, tailored to local context, can provide much-needed input for prioritizing CSA options and investment at national and sub-national levels in Kenya.

The CSA Training Guidebook provides a flexible and concrete approach to develop participatory and evidence-based CSA programs and plans at the local level (Girvetz et al. 2017). Steps in CSA planning include situation

analysis, targeting and prioritizing CSA options, program support, and monitoring and evaluating CSA actions. The mitigation and adaptation priorities are aligned with local needs and synergies or tradeoffs among the CSA options. The target audiences are all local stakeholders interested in CSA knowledge and guidance to implement agricultural programs and projects to address climatic risks and reduce GHG emissions from the agriculture sector.

The USDA EC-LEDS program provided support to enhance the impact of these research outputs by scaling up their use for county-level CSA planning efforts in Kenya. The CGIAR Research Program on Climate Change, Agriculture, and Food Security (CCAFS) Flagship for Low-Emissions Development (LED) and ICRAF–in collaboration with Kenya's agriculture sector policymakers and NDC updating team–jointly evaluated the research outputs (CSA Guidebook and Data Atlas) and co-designed the impact pathway. The objective was to develop an action plan and implement key activities for scaling the process of CSA county plan design and implementation throughout the country.

## The need for upscaling the use of research outputs

Kenya's NDC seeks to reduce its GHG emissions by 30% by 2030 relative to the business-as-usual scenario (MENR 2015). The NDC recognizes agriculture as one of the potential areas of GHG emission reduction to achieve its target. The KCSAS was launched to support the implementation of Kenya's NDC. One of the goals of KCSAS is to reduce the rate of GHG emissions by promoting CSA technologies and practices in the agriculture sector.

The KCSAS identifies limited research and information availability on CSA as key barriers to implement climate-resilient and LED strategies in the agriculture sector (MALFI 2017). While the accompanying Kenya Climate-Smart Agriculture Implementation Framework (KCSAIF) provides several examples of potential CSA options (MALFI 2018), CSA is context-specific and subject to the priorities of farmers, communities, and governments where it is implemented (FAO 2010). Therefore, successful implementation of CSA actions at the local level depends on the evaluation of the current agricultural situation, available evidence of options, actionable implementation plans, and a robust monitoring system for adaptive learning (Rosenstock et al. 2016). To build capacity for the integration of CSA into subnational agricultural planning in Kenya, a CSA Guidebook was tested collaboratively with the agricultural departments in four counties (Kajiado, Nyeri, Taita Taveta, and Busia). This action has led to the development of CSA County Action Plans for implementation at the county level.

The County Climate Change Fund (CCCF) in Kenya mobilizes climate finance from various sources to fund community-led adaptation and mitigation projects (Odhengo et al. 2019). The KCSAIF aims to address climate-smart issues in on-going projects and develop new plans and projects to address gaps and guide investors and development partners at the local level. Thus, the use of the CSA Data Atlas and CSA Guidebook supports the development of county CSA plans in all 47 counties in Kenya and creates an enabling environment for investment in CSA technologies and practices. Scaling the process of the CSA county plan can generate significant adaptation and mitigation outcomes in Kenya's agriculture sector.

## Implementation of key actions

The impact pathway (Fig 1) of scaling the process of developing a county-level CSA plan includes key actions to translate CSA strategy into operation. The key actions were identified by assessing the research outputs including their relevance in the country, communication, and engagement with the stakeholders, as well as the progress along the impact pathway. An action plan was developed in consultation and collaboration with the policymakers in the Ministry of Agriculture, Livestock, Fisheries, and Irrigation (MALFI), Ministry of Environment and Forestry (MEF), and NDC updating team in the Climate Change Directorate.
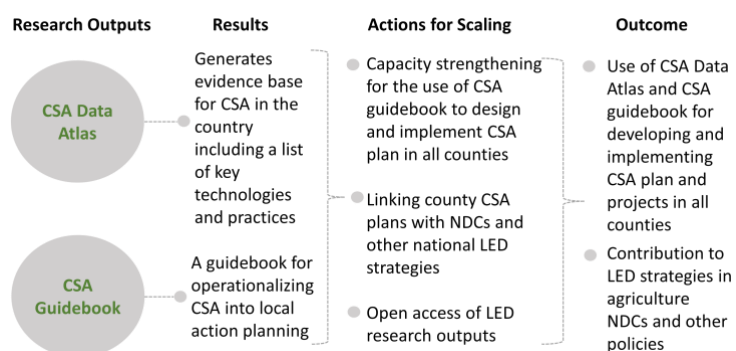


*Figure 1. Impact pathway of scaling the research outputs to support the KCSAS and NDC*

The key actions implemented for scaling the use of research outputs in Kenya include:

**Capacity strengthening**: Local plans often lack the integration of CSA concepts and goals in their agriculture development plans. There is a gap in translating national CSA policies and strategies into local action due to a lack of capacity among technical officers and policymakers. Critical skills and factors to developing a feasible county CSA plan include i) knowledge of climatic risks and impacts in agriculture; ii) identification and prioritization of CSA options for the local context; iii) CSA project design, including required budget and actions; and iv) a monitoring and evaluation plan with key indicators of CSA.

The CSA Guidebook supports government officers, NGOs, community-based organizations, and agriculture experts to develop the skills required to prepare a county CSA plan. A new Training for Trainers (ToT) manual with practice modules was developed based on the CSA Guidebook and Data Atlas. Capacity building training was conducted at the national and sub-national level by using the training modules. Some sample county CSA plans were also developed for four counties in Kenya.

**Linking with national low-emissions development strategy**: Over the past few years, Kenya has made considerable efforts to mainstream climate change mitigation and adaptation actions into the country's policies and programs. The National Climate Finance Policy (2016), Green Economy Strategy and Implementation Plans (2016-2030), and Climate-Smart Agriculture Strategy (2017) are key policy initiatives in place to address climate change impacts in agriculture. These policies and programs provide an enabling environment and roadmaps to enhance climate actions in agriculture and allied sectors. Kenya's Public Finance Management Act (2012) mandates all counties to develop a county integrated development plan (CIDP) for budget management at the county level. A CIDP is a plan that gives an overall framework for county development. County CSA plans are integrated into the CIDPs.

## Key outcome

**Updated NDC recognizes CSA county plan and needs tor capacity building**
Recognition and promotion of county-level CSA plans as an adaptation and mitigation action by the NDCs can stimulate investment from the public and private sectors. Kenya's updated NDC recognizes the process of developing a county-level CSA plan as an approach for promoting adaptation and mitigation in agriculture at the local level. The capacity building section of the updated NDC identifies the EC-LEDS research outputs as tools for capacity building.

Several stakeholder consultation meetings were held to ensure the use of research outputs to inform Kenya's NDC. The first meeting was convened by the Climate Change Directorate (CCD). A consortium of consultants worked with the Climate Change Directorate to update the NDC and reflect progress towards its highest possible ambition. The CCD organized sectoral technical workshops to review and update the emissions data, sectoral climate change vulnerabilities and impacts, and cross-examined plans to address the challenges to update Kenya's NDC commitment.

During the consultation process, it was noted that there is a significant capacity gap among stakeholders in terms of understanding and institutional structures required to deliver the NDC. The need for capacity building on climate change adaptation and mitigation planning in agriculture at the county level is recognized and this will be reflected in the updated NDC. The CSA Guidebook and Data Atlas are the key resources for capacity building and CSA planning at the county level.

## Conclusion and recommendations

The CSA Guidebook and Data Atlas offer a flexible and concrete approach to help operationalize Kenya's CSA strategy and implementation framework at the county level in an effective way. The use of the CSA Guidebook and Data Atlas in some counties in Kenya has already shown potential for improving participatory and evidence-based CSA planning at the local level. The recognition of the process of developing a county-level CSA plan by using the CSA Data Atlas and Guidebook in the updated NDC revealed the scope of these research outputs in Kenya. This can increase the uptake of CSA options, generating substantial adaptation and mitigation gains in Kenya's agriculture sector.

The partnership between the government, research, and development organizations helped to develop and refine the research outputs, build skills, and increased access to LED resources for the CSA policymakers and implementers in Kenya. To advance the impact pathway for large adaptation and mitigation impact of CSA plans requires the following actions:

- Develop a strong collaboration among the Ministry of Agriculture, Livestock, and Fisheries (MoALF), the Ministry of Environment and Forestry (MoEF), and the CCCF for capacity building, designing, and implementing CSA plans at the county level. Currently, CSA actions at the national level and in different counties are implemented by different departments with limited collaboration.

- Develop self-financing mechanisms and leverage financial resources from the public and private sectors to design and implement the county CSA plans.

- Continue capacity building activities for the design and implementation of CSA plans, and build an improved monitoring, reporting, and verification (MRV) system linking with the county CSA plans.

- Enhance collaboration, learning, and sharing of experiences across the counties through the development of a robust knowledge management platform.

## Further reading

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