

Increasing climate resilience and incomes in the food value chain: Six opportunity areas for private sector support in East Africa

Introduction

The private sector has a role in leading investment to scale climate change adaptation. This policy brief highlights key learnings and recommendations for accelerating climate change adaptation and increasing climate resistant food value chains in East Africa. Through evidence from the Climate Resilient Agribusiness for Tomorrow (CRAFT) project, this brief signifies opportunities for private sector support to ensure food security and increased incomes. One of the main challenges in East Africa is not lack of appropriate policies, but inadequate implementation and uncoordinated, unharmonized implementation by both public and private actors.

The (CRAFT) Project is implemented in Kenya, Tanzania and Uganda by SNV (lead) in partnership with the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), Wageningen University and Research (WUR), Agriterra, and Rabo Partnerships. In an effort to build climate resilient food value chains in East Africa, the Project works with and through private and public sector partners to create an enabling environment – based on field evidence – for wide-scale adoption of Climate Smart Agriculture (CSA) practices at all stages of the agriculture value chain.

The findings and recommendations in this brief are based on lessons from SNV's research and extensive experience working with the private sector in scaling climate change adaptation in food systems.

This brief is for policy makers, agribusinesses, field practitioners, donors, small scale farmers, private financiers, and other value chain actors in East Africa and beyond.

Through evidence, CRAFT has identified six opportunity areas for private sector support in climate action in East Africa. CRAFT has also identified recommendations for governments and development actors to support private sector investment in these areas as evidenced in this Policy Brief.

The private sector in East Africa is diverse, and includes large national corporations, multinational companies, small and medium-sized enterprises (SMEs) and private investors, among others.

SMEs are the backbone of the most national economies in the region – they are many in numbers, and therefore have significant capacity for employment generation, economic growth, social transformation, technological innovation and building resilience to climate change.

When it comes to the food value chains, the term 'private sector' covers a wide range of entities, from individuals, farmer organizations, cooperatives, SMEs, as well as service providers (e.g., transporters, processors, and input dealers).

Private financiers such as commercial banks, microfinance institutions (MFIs) and institutional investors (insurance companies, private equity funds, etc) also fall under this category.

Background: The Impact of Climate Change on Food Systems in East Africa

Agriculture is one of East Africa's most important sectors, with approximately 80% of the population depending on it for livelihoods

However, the agrarian sector in East Africa is mainly rain-fed and therefore highly vulnerable to change and climate variability. Negative impacts of climate change are being felt in food systems through more frequent extreme weather events such as floods and prolonged droughts, shifting agro-ecosystem boundaries, reduced crop quality and quantity, and an increase of invasive climate change related diseases and pests.

Past temperature trends (1960–2005) show that Kenya, Tanzania and Uganda have been experiencing a general warming trend in mean annual temperatures ranging from approximately 1°C–1.3°C.

Relatedly, climate change projections conducted under the CRAFT project in 2019 show similar patterns in the rate of warming across the three countries, where temperatures are forecasted to rise by approximately 2°C over the next 30 years.

The projections also show an overall increase in rainfall during the short rainy season (October, November and December) particularly in Kenya and Uganda, and longer dry spells coupled with a decline in rainfall during the long rainy season (March, April, May).

Value chain actors are experiencing climate risks. Farmers' groups, cooperatives representatives, processors, input suppliers, traders and financial institutions participated in Climate Risk Assessments (CRAs) conducted by CRAFT in its inception stages.

According to the majority of respondents:

- extreme rainfall events have increased
- drought has increased
- extreme high temperature events have increased
- extreme low temperature occurrences have decreased
- rainy seasons have become more unpredictable thereby affecting timeliness in farm operations
- And droughts impact food production more than floods and heat-stress.

To address these evident climate risks and strengthen the resilience of food systems in the region, the Kenyan, Tanzanian and Ugandan governments have put climate



Relatedly, climate change projections conducted under the CRAFT project in 2019 show similar patterns in the rate of warming across the three countries, where temperatures are forecasted to rise by approximately 2°C over the next 30 years.

change adaptation on their political agenda. This includes investing in the development of climate change and climate smart agriculture policies and strategies (such as Kenya's Climate Smart Agriculture Strategy 2017–2026, Tanzania's Environment and Climate Change Law 2021, as well as Uganda's National Climate Change Act 2020), and improving access to reliable markets, providing market information, developing marketing infrastructure, and making investments in renewable energy among other low carbon, climate resilient development initiatives.

The above efforts have been supplemented by development organisations in the region which have implemented projects that have played a catalytic role in:

- Creating community awareness of climate change and its likely impact on lives, livelihoods, and habitats.
- Building the capacity of food value chains to undertake the needed adaptive actions to reduce vulnerability, mitigate risks and build resilience using a range financial and non-financial approaches.
- Strengthening value chain linkages and increasing small holders' capacity to manage businesses.

Key Facts: CRAFT's Private and Public Sector Engagement Strategy in Building Climate Resilient Value Chains in East Africa

CRAFT's strategy is embedded in inclusive and climate responsive investments aimed at strengthening the business performance of agribusiness and farmer cooperatives across seven value chains in Uganda, Kenya, and Tanzania, notably: green grams, potato, beans, sesame, sunflower, soybean and sorghum.

The implementation strategy is based on climate smart agricultural practices and technologies for smallholder farmers.

CRAFT champions innovative public-private investments in specific food value chains by applying learning and knowledge gained:

To catalyse the flow of finance and investments into food systems, **CRAFT de-risks the investments of specific agricultural value chains** in Kenya, Uganda and Tanzania through its Climate Innovation and Investment Facility (CIIF). The risk sharing initiative has helped address issues of low funding levels, including perceived high risks, low productivity, as well as complex credit assessment processes/procedures and high transaction costs, especially for low profit margin food value crops.

Additionally, the initiative has enhanced the adoption of climate smart agricultural practices and technologies for forward and backward supply chains, and improved the bankability of these agribusinesses, thereby attracting private sector investment of more than three million euro.

The project has facilitated the uptake of climate smart technologies by agribusiness farmer cooperatives, SMEs, and small holder farmers to ensure sustainable farming systems, by creating awareness about the value of technology. This includes ensuring availability of technologies by facilitating linkages of tech developers and project-supported food value chains, as well as increasing technology affordability by negotiating flexible financing mechanism between small holder farmers, agribusinesses, and financial institutions.

In an effort to cut greenhouse gas emissions from food systems in East Africa, CRAFT supports the uptake of renewable energy solutions such as solar, wind, and hydro energy, and their efficient use by small holder farmers and agribusinesses. This has been achieved through awareness raising, technology demonstrations, and business development support.

Additionally, **CRAFT engages with financial institutions** such as commercial banks and micro finance institutions to support the development of tailored, affordable, long-term climate smart financial products and services. This includes favourable loan payment schemes and weather-based insurance cover that protects agribusinesses and small holder farmers against the loss of their crops due to climate change related disasters.

Through its emergency response fund, CRAFT supports smallholder farmers and agribusinesses to safeguard their incomes, food security, and health from difficulties generated by unexpected natural occurrences. The aid consists of resources set aside deliberately to support absorption of unexpected occurrences and shocks.

For instance, during the COVID19 pandemic, the project facilitated the incorporation of digital services to reach farmers, integrate adequate sanitation and protective gear in their interventions, and restructure business investment plans to fit into the 'new normal'.

CRAFT has also invested in country and value chain specific climate risk assessments (CRA) across project supported food value chains that were identified in the three countries. The results of 12 analyses have not only been used to update existing technical extension manuals (or prepare new ones where none exist) and prepare a climate and business narrative, but also shared with agro-industries to guide planning and investment in food systems by enabling climate risk analyses to be factored in business projections.

Other climate change adaptation and resilience building practices that the project has facilitated to scale private sector investment in food systems include:

Capacity building and promotion of household resilience in light of climate change, through facilitating climate smart farmer field schools, financial literacy trainings, and a saving culture among smallholder farmers and agribusinesses. This enables them to manage shocks and stresses caused by climate related causes and ensures they are, investment and credit worthy.

Investment in peer learning and exchange, achieved through events that encourage cross-learning amongst agricultural value chain actors

Supporting smallholder farmers and agribusinesses to **access reliable and profitable markets through collective action**.

Key Learnings: Six investment opportunity areas for the private sector in building climate resilient food value chains



Although the impacts of climate change are adverse, mitigating and adapting to effects creates business opportunities. Thus, opportunities for the private sector to invest in climate change action can fit into the following distinct categories:

- **Increasing productivity and income:** this ensures businesses sustainably increase the agricultural productivity and incomes for small holder farmers, with a corresponding increase in business performance (profitability).
- **Adaptation:** this ensures businesses adjust to any consequences of climate change. Businesses face significant exposure to climate risk through their assets, operations, and supply chains, and thus have considerable reason to invest in climate risk management – both to protect themselves, and harness new business opportunities arising from a changing climate (upside adaptation).
- **Mitigation:** this calls for reducing greenhouse gas emissions from business operations to minimise the impacts of climate change in the future. It includes increased energy efficiency and the use of renewable energy alternatives.

When it comes to food systems, the private sector can explore investments that enable climate risk management by different value chain actors, simultaneously reducing risks to their own bottom line. Increased and sustained investment in climate smart practices and technologies by smallholders and agribusinesses is essential to the resilience of the service delivery models that provide them. Opportunities for the private sector to advance this agenda include:

1. **Conduct investment research:** Businesses can conduct risk assessments to explore (physical and transitional risk) impacts of climate change at

The private sector is in a position to support climate action. Securing large scale uptake of a climate smart service delivery model is critical in order to have material impact on climate response as well as to ensure innovations are inclusive, particularly of women and youth. Our learnings show high adoption of certified seeds with drought tolerance and high yielding qualities, increased uptake of optimized fertiliser application, and increased adoption of weather information services.

Some of the opportunities to track and act upon include:

- flood mitigation systems for business infrastructure, storage facilities
- water-saving technologies
- weather observation instruments and early warning systems
- sustainable energy technologies such as solar, hydro and wind
- agricultural insurance and risk management (such as climate/crop index insurance) as well as financial products (for example, long-term and affordable loans)
- and telecommunications (FINTEC-IOT-ICT) applications that can enable agribusinesses and small holder farmers to access market and weather information.

different stages of agricultural value chains and use the findings to inform future investments. Actions include addressing anticipated resource shortages or supply chain disruptions and developing appropriate infrastructure and equipment that can withstand expected climatic changes, particularly extreme weather events.

- 2. Provide and/or guarantee access to sustainable market opportunities for farmer products, especially for low value chain crops:** This can be done by improving access to reliable markets, market information, and investing in food value chains, food safety and quality infrastructure reforms to reduce barriers to market access, as well as developing profitable market linkages between locally based food suppliers, and those at national, regional, and international levels.

The East African region offers two major advantages: the ability to produce agricultural produce with fewer constraints from social and environmental factors, as well as fast growing demand due to increasing population, urbanisation, and the emergence of a middle class. These factors offer large market opportunities for agro-industries.

- 3. Invest in climate resilient innovations and technologies to develop competitive food value chains:** Businesses can either modify and/or initiate the design and delivery of many innovative and adaptive products and services to meet the new and ever-increasing market demands created by climate change.

- 4. Support the production of drought and disease resistant seeds and improved crop varieties:**

The private sector can contribute to efforts aimed at addressing food insecurity for East Africa's growing population amidst the climate challenge. Our findings show a high level of farmers use at least one climate smart input or service.

- 5. Inclusive investments:** Businesses can identify ways to establish a strategic link between core strategies and investments that improve farmer communities' ability to adapt to climate change.

- 6. Advocacy and public policy engagement:** Businesses can engage national and local governments on enabling environment issues related to competitiveness and business opportunities in food systems amidst the climate challenge (for example legal, institutional and regulatory frameworks and other market relations)



Key learnings: Barriers to private sector engagement in climate change action

To thrive and make sustainable investments, the private sector will need support to overcome barriers. These include lack of information and capacity to assess and manage climate related risk within agricultural food value chains, and limited understanding of the potential commercial opportunities that arise through climate action.

The causes of these barriers include perceptions of higher risk, along with lower expected returns than what private investors can obtain elsewhere.

There are also challenges within the food systems themselves that limit the economic opportunity that private actors perceive. These include: low productivity, co-variant risk profiles, fragmented supply chains,

inadequate infrastructure, and sub-optimal policies in areas as disparate as food safety, import regulations and land tenure.

As a result of both perceived and real barriers, the private sector tends to minimise exposure to food value chains within their investment portfolios, and those who invest do so on a short-term basis, which does not meet the financial needs of most food value chains.

Through its engagement with private sector actors, agribusinesses, and climate leaders, the CRAFT project has identified a number of factors that limit private sector involvement in climate change action in food systems. The most significant ones include:

Information barriers

Limited or no access to information or tools to assess risks and opportunities related to climate change e.g., how it impacts the private sector and an understanding on how best to adapt.

Limited or lack of climate risk and vulnerability data and information services that can be used to guide private sector investment decision-making in food value chains.

Financial barriers

Limited or lack of financial resources and budget constraints to invest in climate change adaptation measures in food value chains. For instance, financial institutions are hesitant to invest in food value chains because they consider them to be risk averse.

Lack of market intelligence, including low perceived or actual returns on investment, and inability for the private sector to capture the economic and social benefits generated by climate adaptation investments in food systems.

Political and regulatory barriers

Lack of suitable legal, institutional, and regulatory enabling environment for the private sector to invest in climate change adaptation strategies.

This includes but is not limited to the volatile political environment, unfavourable tax regimes which lead to high costing of climate smart services and technologies, and lack of suitable financial products and services to support adaptation of climate smart technology.

Institutional and capacity constraints

Lack of or limited capacity amongst agro companies to respond to climate change and how they can exploit business opportunities provided by climate change. This may be because of a lack of education, limited skills, and limited awareness on the issue.

Limited awareness and skills amongst farmer communities on the other hand, can negatively affect private sector investments. For instance, it can hinder the uptake of technological innovations meant to combat climate change, which in turn may negatively affect and/or frustrate the efficiency and effectiveness of adaptation efforts by the private sector.

Key Recommendations: Support for involving the private sector engagement in climate action



The effectiveness of private sector engagement in meeting adaptation needs depends on many factors, including awareness, appropriate policy framework, and an enabling environment, as well as the availability of financing.

Governments can therefore play a key role in addressing the above barriers, by:

- Scaling the development and dissemination of localised climate risks and vulnerability assessments (CRVA), including climate risks in capital investment planning.
- Strengthening the engagement and involvement of the private sector in climate change adaptation planning and implementation and development of mitigation pathways.
- Creating an enabling legal, institutional, and regulatory framework and incentives that attract private sector engagement in climate change adaptation.
- Increasing domestic financing (or reducing risks/costs) to attract private actors' investment in food value chains through public finance instruments such as tax benefits, risk sharing mechanisms, credit enhancement, and other targeted risk reduction or revenue-boosting measures.
- Building the capacity of agri-enterprises, farmers, and extension providers on climate smart practices, technologies and climate services. This should be done through collaborative and participatory process by all actors, for example, local and national governments, development partners, climate change leaders, and private sector players.

Development partners can play a key role in addressing the above barriers, by:

- Mobilising and/or increasing **climate change adaptation financing**, especially for developing/vulnerable countries (blended financing).
 - **Strengthening the institutional capacity of key line** ministries, departments and agencies in Kenya, Tanzania and Uganda to develop and implement climate change adaptation and resilience building strategies (inclusive of data and capital investment gaps in food value chains) where private sector support is needed. CRAFT facilitates this with agricultural extension works.
 - Supporting **south-to-south and north-to-south knowledge and technological** transfers towards increased private sector adaptation and mitigation implementation.
 - **Championing and/or facilitating policy advocacy** initiatives with local and national governments to promote climate change adaptation and mitigation planning, as well as action that accounts for private sector interests in food systems.
 - **Supporting the development and dissemination** of relevant climate information services to national and local governments, as well as the private sector, to enhance adaptation planning, investment, and resilience building of food value chains.
 - **Undertaking business related climate risk assessments.** These could look at a) physical risks to resources such as droughts, floods, that can negatively impact different sectors/companies and/or lead to crop failure and b) transition risks, following market and technological shifts, as well as policy and legal changes.
- Such assessment can also include financial evaluations of the climate risks to help the private sector make business cases for investment in food value chains to increase climate resilience.

Financing the development of food value chains to:

- Become bankable and sustainable climate-friendly business models, as a means of attracting private sector investment.
- Improve networking and partnerships among key actors for climate adaptation by strengthening existing food systems and structures at all levels and exploring the role of private sector incentives.

Developed by Sandra Nassali **with technical input from** Marieke van Shie, Anniemarie Groot, Harok Koster & Jacob Etunganan.

Editorial support: Emily ElliotW

Contact the Climate Resilient Agribusiness for Tomorrow (CRAFT) Project for more information [✉ craft-info@snv.org](mailto:craft-info@snv.org)