



Ministry of Foreign Affairs of the Netherlands



CRAFT

Climate resilient value chains
for improved livelihoods



CLIMATE RESILIENT AGRIBUSINESS FOR TOMORROW

Annual Report

January – December 2023

Submitted by SNV Netherlands Development organization in collaboration with Wageningen University & Environmental Research, Agriterra, AICCRA, and Rabo Partnerships



WAGENINGEN
UNIVERSITY & RESEARCH



AICCRA
Accelerating Impacts of CGIAR
Climate Research for Africa



Rabobank





Figure 1 Youth farmer in his sorghum garden

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Acronyms

| | |
|---------|---|
| AICCRA | Accelerating Inputs of CGIAR Climate Research for Africa |
| AMCOS | Agricultural Marketing Cooperative Society |
| ASAL | Arid and Semi-Arid Lands (Kenya) |
| AVSI | Association of Volunteers in International service |
| BAKITA | Baraza la Kiswahili la Taifa (National Kiswahili Council) |
| BC | Business Champions |
| CIIF | Climate Innovation and Investment Facility |
| CRA | Climate Risk Assessments |
| CRAFT | Climate Resilient Agribusiness for Tomorrow |
| CRDB | Cooperative Rural Development Bank (Tanzania) |
| CSA | Climate smart agriculture |
| CV | Climate Variability |
| DCPP | Decadal Climate Prediction Project |
| DFCU | Development Finance Company of Uganda |
| DGIS | Director General for International Cooperation |
| DSSAT | Decision Support System for Agrotechnology Transfer |
| EAF | East Africa Foods Ltd (Tanzania) |
| EKN | Embassy of the Kingdom of the Netherlands |
| FFS | Farmer Field School |
| FI | Financial Institution |
| FLOCCA | Financing Locally Led Climate Change Action programme |
| GESI | Gender Equality and Social Inclusion |
| KALRO | Kenya Agriculture and Livestock Research Organization |
| sKAOP | Kenya Agricultural Observation Platform |
| KCEP | Kenya Cereal Enhancement Programme |
| KCSA | Kenya Climate Smart Agriculture (multi-stakeholder platform) |
| KDPGCUL | Kisumu District Potato Growers Cooperative Union Ltd (Kenya) |
| MAAIF | Ministry of Agriculture, Animal Industries and Fisheries |
| MAM | March-April-May (growing season) |
| MUARIK | Makerere University Agricultural Research Institute Kabanyoro |
| MEL | Monitoring, Evaluation and Learning |
| M&E | Monitoring and Evaluation |
| MoA | Ministry of Agriculture |
| MoFA | Ministry of Foreign Affairs (The Netherlands) |
| MoU | Memorandum of Understanding |
| NMB | National Microfinance Bank (Tanzania) |
| NMS | National Metrological Services |
| NOSP | National Oil Seed Programme |
| MSP | Multi Stakeholder Platforms |
| OND | October-November-December (growing season) |
| P'KWI | Popular Knowledge Women Farmer to Farmer Initiative (Uganda) |
| PSD | Private Sector Development |
| PCT | Potato Council of Tanzania |

| | |
|--------|---|
| QDPM | Quality Declared Plant Material |
| QDS | Quality Declared Seed |
| RIVACU | Rift Valley Cooperative Union Ltd (Tanzania) |
| RP | Rabo Partnerships |
| SACCO | Savings and Credit Cooperative Society |
| SAGCOT | Southern Agricultural Growth Corridor of Tanzania |
| SHF | Small Holder Farmers |
| SME | Small and Medium Sized Enterprise |
| SNV | Netherlands Development Organization |
| SP | Service provider |
| TADB | Tanzania Agricultural Development Bank |
| TMA | Tanzania Meteorology Authority |
| ToT | Training of Trainers |
| TOSCI | Tanzania Official Seed Certification Institute |
| UCSAT | Uganda Climate Smart Agricultural Transformation |
| UNFFE | Uganda National Farmers Federation |
| UNMA | Uganda National Meteorology Authority |
| VC | Value Chain |
| VfM | Value for Money |
| VSLA | Village savings and lending association |
| WENR | Wageningen University and Environmental Research |
| WFP | World Food Programme |
| YADNET | Youth Advocacy and Development Network |
| YEE | Youth Employment and Entrepreneurship |



Figure 2 Well packaged potato in store at a BC premises.

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Figure 3 Soil and landscape management in practice

1 Introduction

In May 2018, the Netherlands Ministry of Foreign Affairs (MoFA/DGIS) awarded SNV the Climate-Smart Agriculture East Africa project (CSA-EA – since then renamed CRAFT) to be implemented in Kenya, Tanzania, and Uganda. This initially five-year project, valued at approximately €36 million, and now six and a half-year with a budget of €40million is being implemented by SNV in partnership with Wageningen University (WUR) and Wageningen University and Environmental Research (WENR), AICCRA (previously CCAFS), Agriterra, and Rabo Partnerships (RP).

The Climate Resilient Agribusiness for Tomorrow (CRAFT) project is a private sector-oriented agribusiness intervention focused on promoting viable business cases (BCs) that are climate-smart (CS), inclusive, scalable and have a clear value proposition to all stakeholders, particularly smallholder farmers (SHFs).

The project applies science to understand how climate change impacts value chains, such as soybean, sesame, potato, green grams, sorghum, common beans, and sunflower, and assesses which risks affect them in East Africa. Whereas prolonged dry periods or high rainfall intensity are regarded as exceptional, they will likely become the new norm in the future. This type of information is used to raise awareness among smallholder farmers and agri-businesses about the risks they are facing.

CRAFT’s overall goal is to **“contribute to the increased availability of accessible and climate resilient food for the growing population in Kenya, Tanzania and Uganda.”** The three planned outcomes are summarised below.

- Increased** adoption of climate smart practices and technologies among smallholder farmers (SHFs), SMEs and cooperatives.
- Increased** business performance for agribusiness SMEs and cooperatives due to climate related investments (25% managed by women and/or youth)
- Improved** enabling environment favourable for large scale roll out of climate smart agriculture.

In terms of targets, the project aims to:

1. Increase production and income for 300,000 SHFs through the adoption of climate-smart agriculture (CSA) practices & technologies in arable crop production farming systems.
2. Improve the business performance for 50 small and medium agribusiness enterprises (SMEs) and 30 cooperatives (25% of which are managed by youth and women) through accelerating investments and business growth in at least seven selected entry value chains (VCs).
3. Promoting climate resilient and sustainable food production on 600,000 hectares (Ha) by creating an enabling environment for scaling CSA practices and technologies.

The implementation strategy of the CRAFT project is based on complementary interventions at three levels: (a) farming systems, (b) inclusive value chains, and (c) the enabling environment. Technical assistance and interventions target project stakeholders (farmers, SMEs, cooperatives, financial institutions, government agencies, service providers, etc.) at these different levels. The three levels are translated in the three workstreams guiding the implementation process to achieve the expected results at output, outcome, and impact level. Two cross-cutting workstreams: (a) Learning and Knowledge Sharing and (b) Gender and Youth inclusion will emphasize targeted interventions.

This annual report details the project performance and key achievements of 2023 and cumulative performance to date, as well as learnings and priorities for the coming year.

2 CRAFT in a nutshell

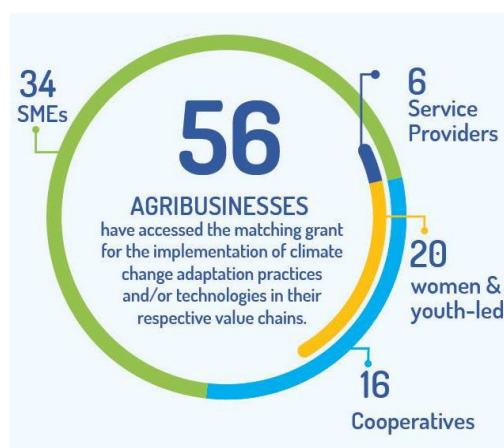
CRAFT works with a private sector driven model, whereby climate smart business concepts and business cases are co-developed and co-funded with lead agribusiness SMEs and agricultural cooperatives. Successful business case leads – ‘Business Champions’ (BCs) - implement the business case that focuses on improving resilience to climate change at business and at smallholder farmer level, with project support. Business cases include training and other extension services on climate smart agriculture (CSA) practices, technologies and services provided through the Business Champion to targeted small holder farmers (SHFs). Each business case is in one of seven farming system entry value chains (four in each country), selected by the project based on importance to the food system and climate risk. The entry value chains consist of common beans, green gram, potato, sesame, sorghum, sunflower, and soybean.

The project interventions are designed to improve the climate resilience of the focus crops by supporting Agri-SMEs, cooperatives and farmers building resilient farming systems that increase productivity and reduce losses throughout the supply chain. The business cases have a function of aggregator, processor or service provider and in some instances enter into contract farming with SHFs to facilitate access to climate-smart inputs, services and technologies. The services of the BCs are designed to advise, support and guide farmers from pre-planting to post-harvest handling.

Summary of key activities and results

Climate Innovation and Investment Facility (CIIF)

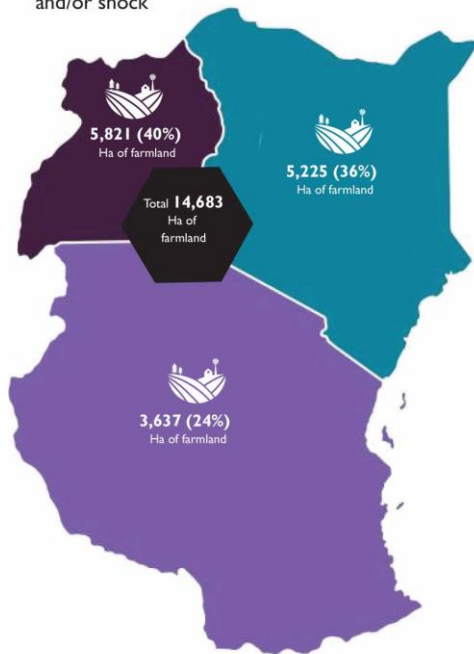
The CIIF portfolio includes 56 business cases of which 16 are cooperatives and 40 are Small and Medium sized Enterprises (SMEs). Of these 56 business cases, 20 are either women- or youth-led. Through the Facility (EUR 7 million in grants), CRAFT has triggered private sector financing (own contribution from grantees) of CSA technologies and practices amounting to EUR 11,726,570 million (of which Euro 1,046,464 million was invested in 2023) against a target of EUR 10 million. By end of 2023, all contracts were completed. The map in Annex 1 shows the locations of the BCs that received grants under CIIF.



Adoption rates of CSA practices and technologies

Most readily adopted CSA practices continue to focus on the use of improved seed, more efficient and correct use of fertilizer, pesticides, and use of weather information to inform timing for planting, spraying of agro-chemicals, and harvesting.

Number of Ha of farmland with agroecosystems that became more resilient to possible stresses and/or shock



Representatives of FIs trained on CS agribusiness, de-risking, and financing for climate adaptation in agribusiness VCs.



Dialogues held with FIs on CS agribusiness, de-risking, and financing for climate adaptation in agribusiness VCs.



268 KE - 43%
TZ - 19%
UG - 38%

SPs representatives trained on profitable CS supply chain development and opportunities



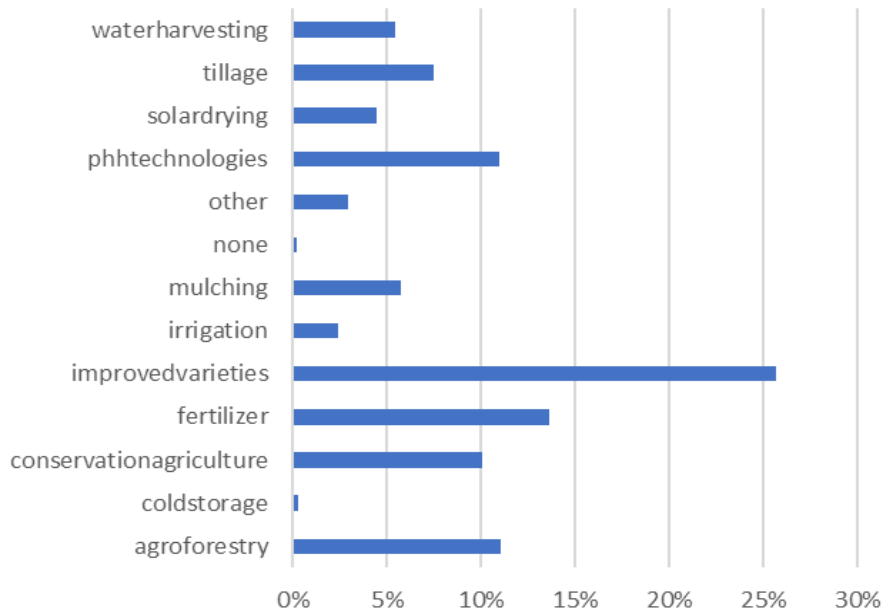
22,409

SHFs that have applied 2 or more climate resilient farming practices in 2023

KE - 46% TZ - 29% UG - 25%

Figure 4 2023 performance for selected indicators

CSA Practices by Small holder farmers



Additional CSA services introduced include weather information, insurance, and soil testing. These have, to varying degrees been adopted by SHFs. More work needs to be done to make these services more readily available and affordable.

Key results (out of a target of 300,000 smallholder farmers)

| | |
|--|--|
| <p>267K Small holder farmers trained in climate smart agriculture practices and technologies. (89%)</p> | <p>147K Small holder farmers have increased their productivity. (49%)</p> |
| <p>168K Small holder farmers have increased incomes. (56%)</p> | <p>213K Small holder farmers applied two or more resilient farming practices in the past 12 months. (71%)</p> |

Figure 5 Cumulative SHFs numbers

Additional financing leveraged in 2023

In 2023, BCs’ own contribution towards the CRAFT project amounted to Euro 1,046,464. In addition, 14BCs managed to secure loans from private financial institutions worth Euro 1,063,576. See annex 5 for details.

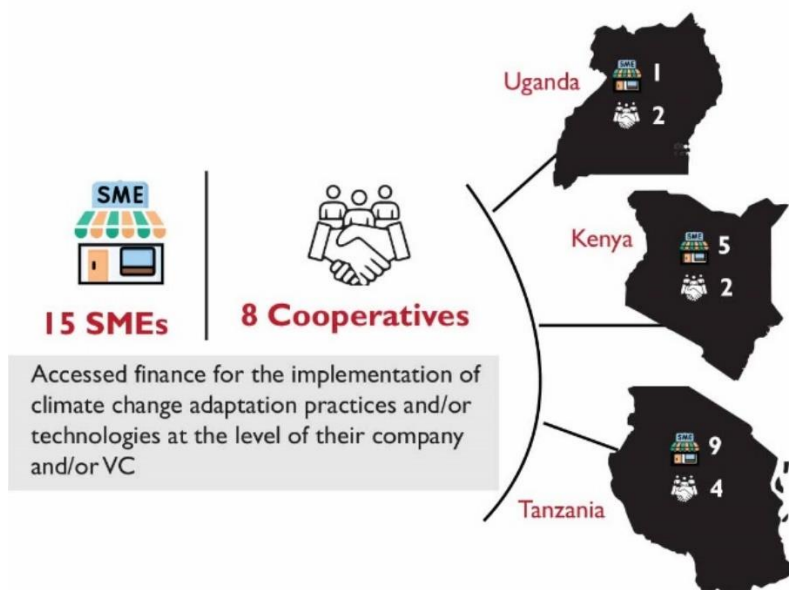


Figure 6 Illustration on additional finance leveraged

Table 1 Illustration of BCs own contribution to the project activities during 2023

| Country | Own contribution (EUR) | Additional finance (EUR) |
|---------------|------------------------|--------------------------|
| Uganda | 161,882 | 48,309 |
| Tanzania | 220,967 | 290,274 |
| Kenya | 663,615 | 724,990 |
| Totals | 1,046,464 | 1,063,576 |

Looking forward – extension 2024-2025

During 2023, SNV and consortium partners drafted an extension proposal, which was submitted to MoFA/DGIS/IGG in late August 2023 and was approved in November 2023. This proposal to extend the current CRAFT project describes how we aim to deepen our work with a focus on increased impact, and long-term sustainability.

CRAFT has faced internal and external challenges to achieving targets during implementation as noted in the mid-term review report in 2022. Reported performance over 2022-2023 has shown that results against targets can be improved.

The approach is to continue to adapt to the unprecedented contextual changes under which CRAFT was implemented from 2018-2023. The extension will help ensure sustainability and long-term impact, especially to embed CRAFT interventions among Smallholder Farmers (SHFs), cooperatives, service providers, investors, and other stakeholders.



Figure 7 A farmer sowing beans in a well-prepared garden

The existing CRAFT Theory of Change will be maintained, focusing on outcomes for SHFs, with an estimated average additional 15% more resilient SHFs and farmland hectares compared to CRAFT 2022 results, as well as further lessons learned, data capture and sharing results to support scaling up. Over an eighteen-month extension period, the CRAFT team will concentrate on the following core activities:

1. Coaching and supporting 19 of the highest performing Business Champions (BCs) with growth potential to improve their performance and their impact to smallholder farmers for sustainability.
2. Improving actionable climate analysis products

The extension period is fully costed. An additional EUR 4 million has been approved by MoFA/DGIS, increasing the original project’s budget to slightly over EUR 40 million and extending the duration with 18 months until June 2025. Annex 6 provides an overview of budget depletion to date (81%), while Annex 7 contains the budget for the extension period and includes the unspent balance from the previous phase.

3 Project implementation

3.1 Workstream 1: CSA Practices and Technologies

CRAFT will facilitate the introduction of CSA practices and technologies and build the capacity of value chain partners to ensure that smallholder producers and agribusiness SMEs understand and adopt the CSA principles.

The main activities implemented under this workstream

Farming systems assessment survey

The CRAFT Project's commitment to enhancing agricultural sustainability and resilience is exemplified through its systematic approach to conducting farming systems assessments in Eastern region of Uganda (Mbale, Bukedea and Kween) in collaboration with Integrated Seed Sector Development (ISSD). CRAFT project recognized the importance and complex interplay of factors influencing agricultural ecosystems. The project employs a robust framework or approach for systematic assessment to comprehensively understand and address the challenges faced by farming communities in the face of changing climate. By probing into the details of agricultural systems based on the lessons learned from the entry value chains, the CRAFT Project major aim was to identify opportunities for improvement, optimize resource utilization, and implement targeted interventions that contribute to the overall well-being of farmers and the ecosystems they rely on for improved livelihoods.

CRAFT realised that sustainability is core in any development work and required multisectoral approach to cause transformation, therefore, the emphasis on farming systems assessment lies in the acknowledgment that agricultural sustainability requires a holistic understanding of the interconnected elements within a given farming system and avoiding interventions in agriculture that have been tackled as sector-specific, leading to suboptimal outcomes and unintended consequences.

The CRAFT project addresses this limitation by employing a farming system approach, considering the ecological, social, economic, and technological dimensions that shape agricultural practices. The background of the assessment also recognizes that farming systems are dynamic and influenced by various external factors, including climate variability, market dynamics, and socio-economic conditions. Conducting thorough farming systems assessments, the project gains insights into the nuances of each unique agricultural context, enabling the development of tailored solutions that align with the needs and realities of the communities involved. This will help the project make informed decision on how various farming systems can be modified to shift farmers economic wellness.

The result of the assessment is that it enabled comprehensive understanding the intricacies of agricultural systems, the project through the assessment identified the leverage points for positive change and will use these outcomes to design interventions that have a meaningful and lasting impact to smallholder farmers and agriculture sector. The understanding of the farming systems approaches also enhanced the adaptive capacity of farming communities, promoted sustainable practices, and hopes to address the root causes of challenges rather than merely addressing symptoms. Lessons learned were that single value chain focus exposes farmers and agribusinesses to more risks in case of

climate and market shocks and stresses. It does not provide soils rejuvenation options especially if the crop promoted or grown is not leguminous.

The project adopted using the resilient value chains as an entry into a corresponding farming system, the project prioritized diversification to allow for a fallback options and recovery after shocks and stresses. The short adaptation strategy was to package the CSA message as a solution to a farming system/ including spillover to other agro enterprises rather than value chain, and this is already happening in the project. The long-term adaptation is to deliberately co-invest in at least three priority value chains per a given agro-ecologically suitable farming system.

The CRAFT project's commitment to farming systems assessment exemplifies a forward-thinking and a comprehensive approach to agricultural development, contributing to the creation of resilient and sustainable farming systems of Uganda. This is through promoting alternative sources of livelihoods, alternative crops/livestock that enhances crop rotation for nitrogen fixing and soil structure improvement. Ensuring application of CSA knowledge across the enterprises at household and at agribusiness level.

Co-production and dissemination of weather/climate outlook information with Uganda National Meteorological Authority (UNMA).

The CRAFT Project's support and participation in the co-production and dissemination of climate outlook, in collaboration with the Uganda National Meteorological Authority (UNMA), represents a significant stride toward enhancing climate resilience in Uganda. Climate variability and change pose substantial challenges to agricultural activities, water resource management, and the overall socio-economic well-being. Recognizing the critical need for accurate and timely weather information, the CRAFT Project engages in a collaborative effort with UNMA to co-produce and disseminate climate outlooks. By leveraging the expertise of both the project and the national meteorological authority, the partnerships aimed to empower communities and other relevant stakeholders with reliable information for informed decision-making, ultimately contributing to the adaptive capacity of the nation in the face of climate-related challenges. UNMA has always projected and shared blanket forecast, however, CRAFT support enabled participation of CRAFT supported business champions/partners in the development of the outlook hence enabling contextualization content to such locations. As a result, the location specific content improved accuracy of the information.

The collaboration between the CRAFT Project and UNMA is rooted in the acknowledgment of the profound impact of climate on Uganda's diverse ecosystems and livelihoods. Historical climate data, combined with cutting edge meteorological research, forms the basis for the co-production of climate outlooks. By bringing together the technical know-how of UNMA and the on-the-ground experience facilitated by the CRAFT Project, the initiative aims to create localized and context-specific weather forecasts. This collaborative approach not only enhances the accuracy of predictions but also ensures that the information is tailored to the specific needs of different users in different regions and sectors. This collaboration which brings together different



Figure 8 A smallholder farmer demonstrating good practices in soybean farming.

stakeholders from different institutions reflects a strategic alliance that seeks to bridge the gap between scientific expertise and the practical requirements of Ugandan communities facing the challenges of a changing climate.

The outcomes of the CRAFT project's involvement in co-producing and disseminating climate outlooks with UNMA are far-reaching. Firstly, the collaboration enhances the reliability of weather forecasts, enabling farmers, policymakers, and local communities to make informed decisions related to agriculture, water management, and disaster preparedness. Reliability is mainly in line with regional specific data due to reduced radius of coverage which contributes to reduction in margin of error, concretised with input from local stakeholders.

Additionally, the project contributes to building climate resilience at both the individual and institutional levels by fostering a culture of proactive response to changing weather patterns. The importance of this collaboration lies in its potential to empower Ugandans, particularly those involved directly or indirectly in agriculture with the knowledge needed to adapt and thrive in the face of climate uncertainty. By co-producing and disseminating climate outlooks, the CRAFT Project and UNMA exemplify a model of effective partnership that aligns scientific rigor with practical application, fostering a more resilient and sustainable future for Uganda's agri-food sector.

In Tanzania, Climate information services mainstreamed by CRAFT aimed at disseminating weather information to farmers, whereby five grantees (Isowelu, EAF, Temnar, IKUWO, and Mpui) in collaboration with TMA disseminated text messages on weather forecasted information to 5,139 SHFs (3,020 men, and 2,119 women). The information assisted farmers in making sound and meaningful decisions, i.e., choosing the variety to grow, a time to start farming activities, and planning or preparing the management of the risk based on the forecasted climate information. For example, in the Njombe region, growing season used to start in December but with the seasonal weather information, it was said that the rain would start in February, so sowing activities to the CRAFT supported farmers commenced in late February and were able to bump harvest by more than 30% of the usual harvest. Their harvested potatoes not only yielded more but their size was promising that contributed to the higher selling price of over 30% of the previous market price. The cooperative continued disseminating the text message on weather information to their members in collaboration with TMA at a relatively low cost. The additional value to the weather information was the extension advice impeded to the forecast that informed farmers of field actions he/she should take to aid productivity.

Regional technology demonstration and learning events for SMEs, Cooperatives and SHFs

The regional technology demonstration and learning events were held in three regions in Uganda. These include Central region at Makerere University Agricultural Research Institute Kabanyoro (MUARIK) on 16th May 2023, focus was soybean as the entry value chain. For the Southern parts of Uganda, the event was at Kachwekano Zonal Agriculture Research and Development Institute in Kabale focusing on Potato value chain.

For Eastern Uganda, the event was at the National Semi Arid Resources Research Institute Serere on 31st May 2023 and the value chain of focus was Sunflower. The business champions that were involved include Byeffe Foods Limited, Popular Knowledge Women Farmer to Farmer Initiative (P'KWI), Alito Joint Farmers Cooperatives, Okeba Uganda Limited, Kisoro District Potato Growers Cooperative Union Limited (KDPGCUL), and Sebei Farmers SACCO. CSA service providers dealing in soil testing, improved seeds which included both foundation and Quality Declared Seeds (QDS), weather information dissemination, post-harvest handling, renewable energy and energy efficient equipment dealers,

transporters and exporters of grain exhibited their technologies to business champions and farmers that participated.

Some of the CSA practices demonstrated included minimum tillage, planting techniques, crop management practices, soil and fertility management, Integrated pest and disease management, crop rotation, water harvesting and irrigation. Makerere University Agricultural Research Institute (MUARIK) demonstrate a crop irrigation system which was supported by the project.

Climate Smart Agriculture extension services

With insufficient well-trained extension workers in the CRAFT-supported value chain, the CRAFT project supported Public and private extension Officers by training them on the basics of climate-smart value chain-specific training. The five-day ToT training was facilitated by the CRAFT technical team, whereby toward the final day of the training each ToT prepared an action plan that showed the flow at which CSA training would be conducted in their localities. Through 208 ToTs, a total of 7,181 farmers and extension officers (4,219 males and 2,962 females) were trained in 2023. The key profitable CSA practices disseminated to farmers via ToT included components of CSA, pre-farming activities, land preparation, crop management, interpretation of weather information, harvest and post-harvest management, and marketing aspects. The 2023 survey showed that more than 53% of farmers were satisfied by the extension services provided by the ToTs which were the basis for their improved productivity by over 30%.

As part of extension messages, the CRAFT Kenya project in partnership with other stakeholders continued to support BCs to provide weather information through partnerships with service providers. Specifically, the engagement with KALRO to support access to information by farmers through the Kenya Agricultural Observatory Platform (KAOP). Through continued support the platform provides weather information with agro advisory through a mobile App, SMS, USSD and a call centre to diversify access to information.

CSA practices and technologies

Of the 7,181 SHFs trained in 2023, 90% of the SHFs applied more than two CSA practices and technologies. Key CSA practices and technologies were promoted by CRAFT through the 164 established farmer field schools in 2023. These practices include adoption of improved seed varieties (with early maturing, high yielding and pest resistance traits), adoption of weather forecast information for decision making (on time to start planting, type of seed variety to grow time to spray and time to harvest and dry crops), soil and water management practices (soil analysis, fertilizer application and liming to control soil salinity), crop rotation, mulching, crop cover, post-harvest management practices and technologies (i.e. threshers, tarpaulins, pics bags), and irrigation technologies. The latter enables farmers to have an additional farming season on top of the rainfed season, which is especially valuable in the potato and common beans growing areas.



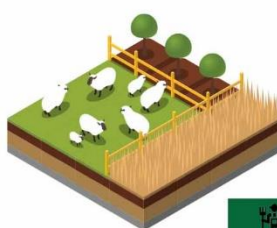
Figure 9 Photo demonstrating spraying using contact pesticides

The top three highly adopted CSA practices and technologies were use of fertiliser, use of improved seed variety and post-

harvest technologies. The higher adoption rate of the improved post-harvest practice and technologies was the result of the contributions from the other donor funded intervention under the Helvetas and WFP which also capitalized/ invested to reduce the post-harvest losses in the Southern Highlands of Tanzania therefore CRAFT supported farmers were privileged with refresher trainings and additional mentorships. The overall outcome of the intervention has been reduced post-harvest loss as well as good quality produces which benefited farmers through fetching better prices from buyers (CRAFT supported BCs).

Farming systems approach and diversification for improved resilience to climate change

Through demonstration and Farmer Field School (FFS) plots, uses of improved seed varieties, appropriate use of fertilizers, pesticides use, lining and pegging, and timely harvesting were promoted, additionally in 2023, CRAFT promoted the farming system approach that emphasizes mixed cropping and regenerative agriculture to enhance resilience among the participating farmers. Farmers in the southern and northern zones of Tanzania where Temnar and RIVACU operate were encouraged to rotate sunflowers with common beans and pigeon peas respectively.



20,247

SHFs whose farming enterprise became more resilient to possible stresses and/or shocks



A focus on farming system reinforced diversification at household and a agribusiness level. 82% of farmers practiced mixed farming while 18% only grew crops. Potato farmers diversified their crops with beans, maize, carrots, cabbage, peas, and a variety of other produce such as tea, sugar snaps, oats, wheat, onions, yams, cassava, and assorted vegetables. Green gram farmers primarily diversified with millet, pigeon peas, cowpeas, common beans, and sunflower. In regions characterized by aridity, common bean farmers supplemented their crops with maize, sorghum, and millet, while those in more higher altitude areas incorporated maize, Napier grass, potatoes, various vegetables, sweet potatoes, onions, pyrethrum, and bananas. Sorghum farmers additionally grew cassava, peas, maize, millet, fruits, groundnuts, beans, cowpeas, sunflower, yams, African leafy vegetables, sweet potatoes, arrowroots, soybeans, cotton, and rice. Additionally, livestock farming was prominent across all value chain farmers, with beef and dairy cattle, local chicken, goats, and sheep being the primary animals raised. The percentage of farmers without an off-farm income source was less than 1%. The majority either operated a business or engaged in casual labour.

Figure 10 Farmers who became resilient in 2023.

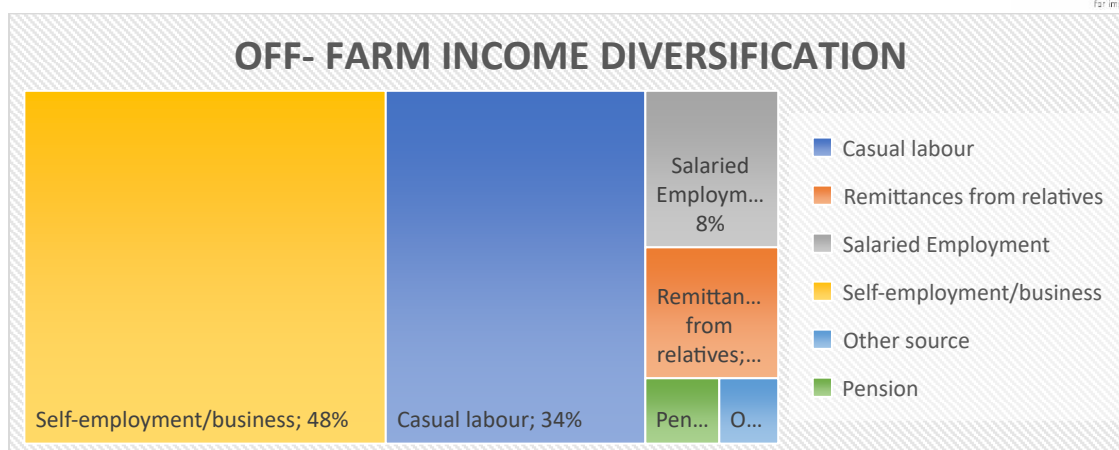


Figure 11 illustration for off- farm diversification example

Farmer field days



Figure 12 Farmers participating in a farmer field day at P'IKWI in Bukedea district.



Figure 13 Farmer participating in the exhibition in Tanzania

Farmers’ field days were conducted at the business champion level by involving the ToT, public extension officers, soil testing company, service providers of the farming input, and farmers, with government officials from the regional and district levels officiating the events. About 2,000 farmers participated in the farmer field days with 60% being women. the trained ToTs co-facilitated the farmer field days in their localities in collaboration with the government extension workers.

In the quest to Increase availability of high quality and affordable climate smart services, the project continues to support linkages to service providers, though farmer field days, service provider trainings and introduction to and partnerships with extension providers/ToTs during farmer group visits. Demand for climate smart services has continued to grow with 9,891 additional farmers (+17% in 2023) indicating that they have used various CSA solutions such as soil testing, irrigation technologies, post-harvest handling among others. The service provision linkages have been facilitated by the business champions while other service providers were crowded in to provide a healthy competition and hence availability and affordability to the beneficiaries.

Farmer exhibitions

To showcase the services and products resulting from CRAFT support, Isowelu, Ikuwo, Mpui, and EAF business champions participated in the national Farmers' exhibition in Mbeya with Hon. President Samia Suluhu officiating the closing ceremony. During the event, Isowelu was awarded a tractor as it emerged as the best cooperative that provided its members with both technical and farming input



Figure 14 Farmers listening to a ToT during a farmer field day.

through the CRAFT initiative. The tractor assisted the Cooperative in increasing its income base and attracted more farmers to join the Cooperative. The tractor services become additional income stream to the cooperative as it was hired to plough gardens of those farmers with had flat and reasonable acreage and could afford the service. For other farmers with smaller plots, and on highly terrains, they continued using hand hoe, oxy ploughs and other small implements. The tractor received by the Cooperative from the government came with the disc plough, harrow and trailer used for tillaging and transporting of the farming input/produce. The tractors assisted members to timely prepare their land/farm and transport

their produce timely hence contributing the reduced PHL. The tractors cultivate at least 10 acres per day for up to 45 days per year in the potato growing areas. It is estimated that more than 300 acres were cultivated using the tractor received from the government alone and the same were harrowed by the coop own tractor. Following these services, the membership of the coop increased by 15% for the past one year.

Farmer exchange visits

Exchange visits were organized for farmers to gain exposure to well-performing agribusinesses and input- and/or service providers. In the case of Isowelu, 90 members (47 men, and 43 women) visited Silverland, a renowned seed potato multiplier of Sagitta and Jelly varieties to learn various CSA practices and technologies required when managing potato seed farms. Following the visits, board members decided to seek a plot for multiplying seeds in the 2024 cropping season, moreover because of this visit, the cooperative selected 15 members who underwent Quality Declared Planting Materials (QDPM) training in collaboration with TOSCI for establishing seed potato farm in the 2024/2025 season. The output of the QDPM is expected to decrease the seed gap from the current 500 tons to 200 tons (per acre the yield is 10 tons) which will allow many members to use improved seed varieties unlike now whereby only about 300 members use the resilient seed. It is estimated that over 80 percent of Isowelu members will access improved potato seed because of the local multiplication capacity enhancement.

A glimpse on the CSA service and adoption

Farmers continued to adopt various CSA solution across the four value chains in Kenya. Out of the wide range of CSA solutions, the most readily adopted were drought tolerant certified seeds for grains, soil testing, fertilizer application based on soil test results, use of herbicides for weed control, ripping technology and use of planting basis for in-situ water harvesting for the grains, surface planting blended with ridging for potato, dehauling, run-off water harvesting through water pans, solar drip irrigation for potatoes, use of threshing (mechanized) for grains, use of harvester for potatoes, customized Climate change/CSA extension services and provision of weather information.



Figure 15 A farmer using mulching as a water conservation practice

Safe use and application of agrochemicals

Past negative experiences on the use of agrochemicals by sorghum farmers has negatively affected the adoption of agrochemicals. First, the availability of crop specific agrochemicals for sorghum are not in the market, and this has been a major challenge for the farmers as the use of other agrochemicals in the market has often resulted in stunted growth or complete crop loss. A challenge highlighted by farmers is the ability of farmers to use both the chemical and any equipment required for application. Most farmers seem to have a negative view on the use of herbicides, but it was noted that the negative impacts they experienced were due to poor agrichemical handling at the wrong stages of the cropping calendar. The market also has some fake agrochemicals which affected farmers crops.

Responsible application of fertilizers

Green gram (mung bean) has the lowest use of inorganic fertilizers with most farmers using farmyard manure. The use of inorganic fertilisers in ASAL areas is usually lower due to inadequate rainfall and require consistent moisture to be effective. In addition, the soils in ASAL areas are often highly alkaline which can reduce the effectiveness of inorganic fertilisers which is consistent with why farmers in the Eastern region believe that their soils are fertile. Additionally, their use may not be economically feasible due to low crop yields and high cost of fertilizers. Potato value chain has the most use of inorganic fertilizer and crop-based fertilisers as they have agrochemicals specifically for the value chain and the crop has higher nutritional demands as compared to the other value chains. For farmers with small land sizes, the purchase of fertilizer in some areas is limited by the packaging of fertilizer in 50 kg bags. Some agro dealers are unwilling to sell in smaller amounts.

Soil testing services were key in ensuring that only the deficient nutrients are applied. This reduced wastage, but also prevented contamination of the soils with excess fertilizers.

Linkage of soil testing service providers to BCs has improved access to service by ToTs and the farmers.

ToTs work with the service providers in collecting the soil samples from the farmers and interpreting the results to the farmers. Soil testing has contributed positively to soil nutrition as farmers can now use fertilizers that are suitable for the specific crop grown to maximize on production. CRAFT Kenya signed an MoU with Cropnut Laboratories who have been training ToTs in detail on soil health and nutrition to support increased productivity and sustainable land use.



Figure 16 A service provider demonstrating soil sample collection for testing

Post-harvest management practices and technologies

For potatoes, at the time of maturity, dehauling becomes a challenge to the farmers during harvest as the brokers like to see green crops in the farm before they bargain for sale. Most potato VC farmers prefer to sell immediately after harvest to avoid post-harvest loss. Depending on the variety grown, varieties with long dormancy periods has reduced the losses. The common variety grown, Shangri, is highly susceptible to PHL and farmers who keep the harvest to speculate market prices often lose out from rotten potatoes. Only a few farmers use the recommended aerated storage bags.

Due to demand of aflatoxin free produce of sorghum, BCs such as Quinam and Sopa have been linked with the service producer and county governments to supply aflasafe to farmers to control aflatoxins. This has reduced rejection of the produce by buyers hence increasing volumes purchased from farmers. Previously, some of the rejected produce was destroyed, whereas that found to be within the safe range was sold to other markets at lower prices. For example, World Food Program conducted its own aflatoxin tests and bought some. The use of threshing services and tarpaulins have also reduced the incidences of pest and diseases from the grain mainly from the soil and moisture and led to maximization of grain extraction. 52% of farmers were able to access spraying services to ensure proper agrochemical handling. Nonetheless other farmers are familiar with spraying programs and have knapsacks which they use for spraying agrochemicals. 94% of farmers used one or more agrochemicals for crop protection.

Examples of outcome level project impact realised in 2023.

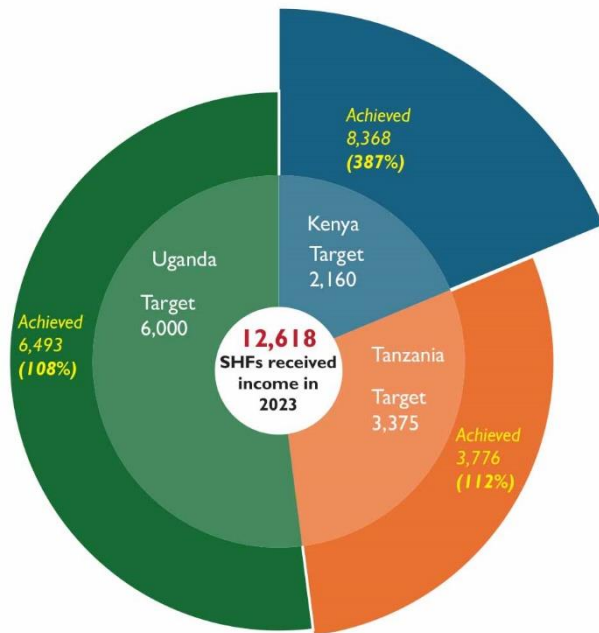


Figure 17 Illustration of increase in incomes in 2023

Increase in income for smallholder farmers

In 2023, 52.59% of 7,181 SHFs trained in Tanzania demonstrated an increase in income. The increase is attributed to adoption of CSA practices and technology such as improved seeds, as well as better market prices and an increase in yield for potato, common bean, and sunflower. The farmer field school approach promoted CSA practices and technologies which contributed to increased income. The baseline status was used to compare farmer normal practices to the performance with application of the CSAs. Below is the graph showing percentage increase income per value chain compared with status at baseline, which used as a reference.

In Kenya, 2023 annual results indicate an increase in yield in potato and a decline in common bean. The decline in yield is attributed to weather shocks. Potato value chain continue

to excel year after year compared to other value chain in terms of yield. This is due to increased awareness of SHFs on CSA practices and technology.

2023 annual results indicate an increase in yield in potato and a decline in common bean. The decline in yield for common beans is attributed to drought which hit most of the growing areas.

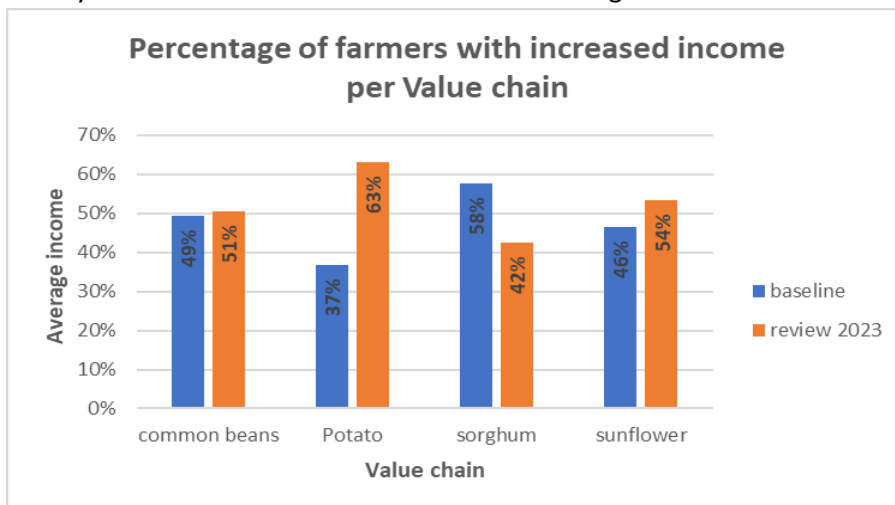
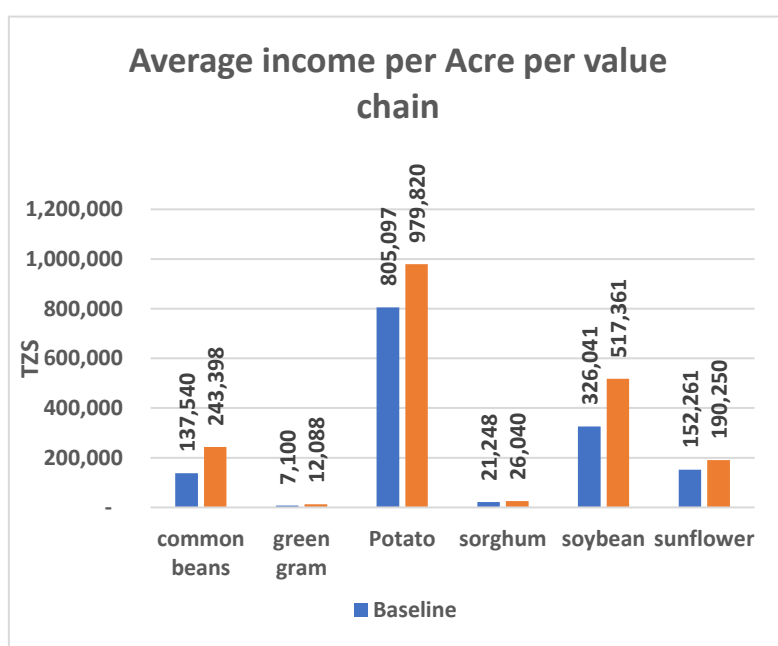


Figure 18 An illustration for changes in income for farmers growing the different crops



Figure 19 A happy farmer after harvesting potato



In 2023, 65.77% of 7,181 SHFs trained became resilient to climate shocks and stresses. 81% from potato value chain, 77% from common bean value chain, 60% from sunflower value chain and 40% from sorghum value chain. Farmer reported different challenges faced during the year such as weather variability, dry spells, flooding, scarcity of improved climate resilient seeds and other agro inputs. The adjacent chart shows average gross income per acre for the various crops grown by CRAFT farmers in Tanzania.

Figure 20 Average smallholder farmer gross income in Tanzania shillings per acre of selected value chains. (Note: 1 EUR = 2,784 TZS (May 2024))

Reach and income increase

In 2023, 8,368 SHF who were reached in Kenya reported increased incomes. Cumulatively, the total number of farmers registered by end of 2023 stood at 71,459 with 54,009 farmers having increased incomes from project inception. Accordingly, 10,515 farmers were trained on components of CSA and 80 demo gardens were established as learning sites on CSA practices and technologies.

Table 2 Hectares cultivated by the farmers reached

| Value chain | Farmers reached by VC | Total land area cultivated by farmers (all crops, ha) |
|--------------|-----------------------|---|
| Common beans | 5,384 | 2,423 |

| | | |
|--------------------|---------------|---------------|
| Green Grams | 5,274 | 7,067 |
| Potato | 18,932 | 14,767 |
| Sorghum | 45,079 | 49,136 |
| Grand Total | 74,699 | 69,470 |

75% of farmers had an increase in income attributable to increased yields and in some value chains, increase in prices per kg. For potato farmers, due to varying terrains and distances to different markets, farmers have encountered fluctuating market prices. Although they can readily access urban markets, there are still transportation and distance to market challenges which leaves them vulnerable to exploitation from brokers. For green gram farmers, despite high domestic demand for green grams, the dip in exports of green grams to the foreign markets (mainly Asia) has led to lower prices being offered to farmers. This has significantly led to lower farmer incomes despite improved yields. The reduction in revenue affected the farmers margins from the crop. However, due to diversification, farmers were able to absorb shocks using proceeds from other crops and livestock. The average prices for farmers were lower in 2023 than the prices in the previous years. Most common bean farmers sold to local traders with prices varying based on location. Sorghum is in high demand from East African Malting hence the prices are relatively stable as they determine the market prices. The prices were relatively higher in 2023 compared to 2022 which could be attributed to high demand and lower average yields. The effects of inflation were mitigated through signing supply contracts which had indicative prices between buyers and farmer groups. Although in some cases farmers were trained on how to safely store their crop as they wait for prices to recover.

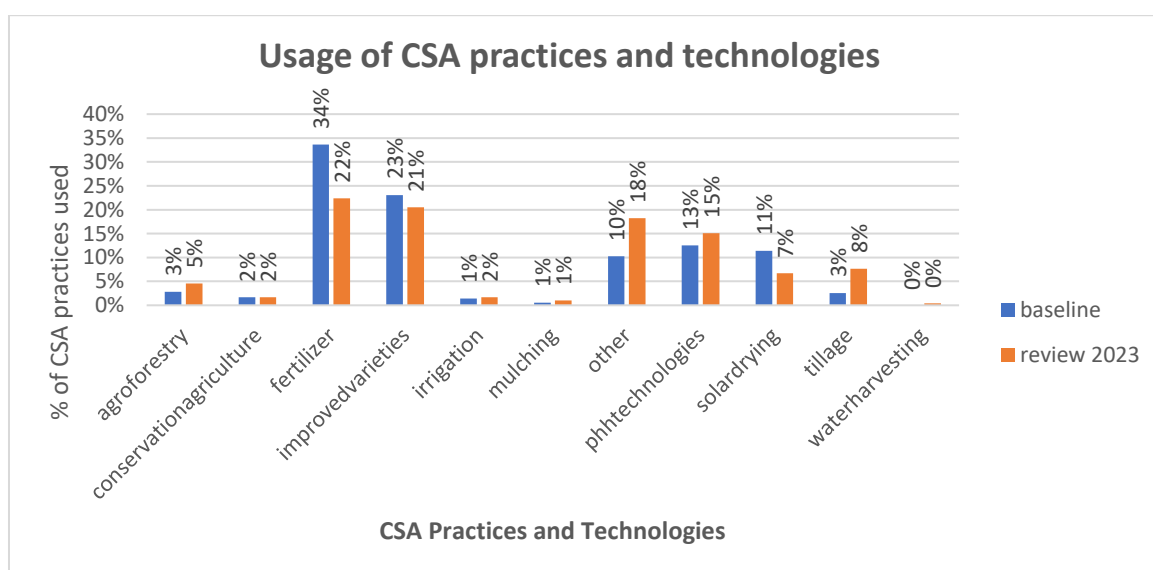


Figure 21 Illustration on the use of CSA practices and technologies

The adoption rates of the promoted technologies differ across the CRAFT supported value chains and farmers. Adoption rates were higher amongst potato farmers compared to the other crops because of the two main reasons which include the stable input supply model employed by BCs such as Isowelu, who have strong links with financial institutions, enables timely support to farmers with input loans. Secondly, the revenue from potato is much higher compared to the other crops. Potato farming generates higher revenues from an acre compared with sunflower or common beans. Moreover, there was weather variations in the sunflower and common beans growing areas.

Many farmers have experienced crop loss due to unpredictable weather events such as hailstone storms. For example, seven out of the 40 supported QDS producers under Ikuwo experienced complete crop loss due to hailstones in the 2023 growing season. CRAFT in collaboration with other stakeholders conducted an agricultural insurance awareness campaigns and linkages with insurance service providers, a CSA intervention whose adoptions rate is low for all the VCs, due to limited availability of service providers. Only 5.87% reported to use index insurance. The project will seek to expand coverage during the project extension period for the continuing BCs.

Reduction in post-harvest handling losses due to CSA practices and technologies.

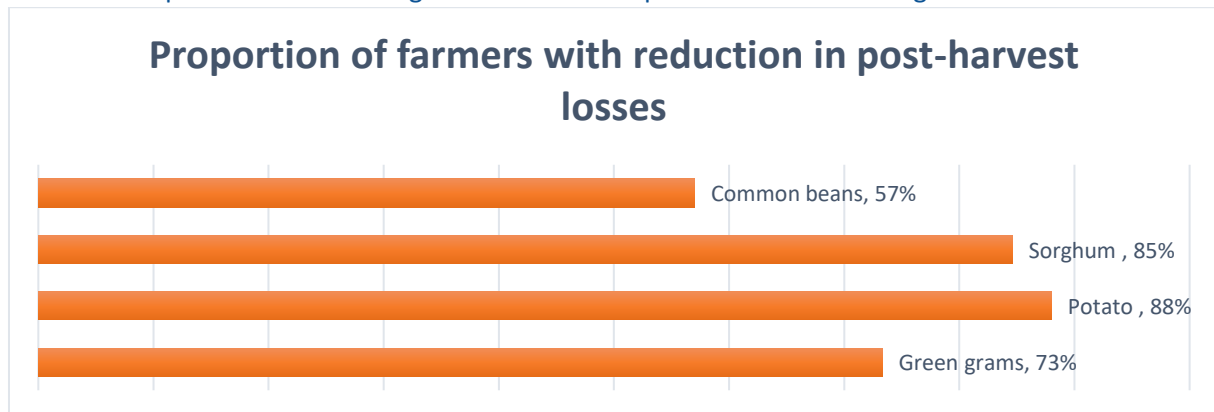


Figure 22 Illustration of farmers with reduced losses from the selected crops.

Example of the SHFs who become more resilient to stresses and/or shocks

Compared to 2022, which was affected by drought, in Kenya, 2023 was mostly a wet year with most of the year having rainfall and OND season experiencing heavy rainfall following the prediction of the El Nino phenomenon. There was a reduction in the number of farmers experiencing dry days after planting and an increase in proportion of farmers experiencing prolonged rainfall even during the dry season between December and January as well as June to August. This is indicative of the increased frequency of extreme events and unpredictable rainfall patterns. Application of CSA increased the farmers chance of realising some harvest in case of shocks and stresses compared to farmers who did not use any CSA practices and technologies. For example, farmers who use early maturing/ drought tolerant varieties and soil and water management practices, including irrigation during dry seasons will realise some harvest. Having favourable weather conditions further improves yields for the crop based on the water requirement. The choice of CSA practices has also been critical to addressing different climate risks e.g. a farmer who used planting basin during the prolonged rainfall season experienced crop loss compared to a farmer who used cut-off drains/terraces during such a season. From the inception of the project, CRAFT did not use randomised control trials as a methodology for Evaluation of CSA practices and technologies impact but from demonstration plots that have been established, conventional methods vs CSA practices tested have shown CSA demos to have better yields. CRAFT plans to conduct profitability analysis for selected CSA practices and technologies in 2024. This data will include that from control plots.

Overall, 76% of farmers became resilient to possible stresses and/or shocks which was measured by farmers who reduced crop loss during annual surveys as compared to losses realised during baseline data collection, against the climate risks they were facing, in this case drought was a prevalent risk at both baseline and during annual survey. Over 90% of farmers adopted 2 or more CSA practices and

technologies. 2023 was a wetter year compared to the previous year of 2022 which saw an increase in prolonged rainfall, flooding, and a decrease in dry days. There was however an increase in pest and diseases.

During the year, 5,225 hectares of farmland with agroecosystems became more resilient to possible stresses and/or shock. The data represents the hectares under cultivation using CSA. Here, we are assuming the continuous adoption of CSA practices and technologies on farmers who are experiencing reduced crop loss is making them more resilient. The data represents the hectares under cultivation using CSA technologies and practices.

During the reporting period, 7,916 smallholder farmers had their farming enterprise become more resilient to possible stresses and/or shocks in 2023.

A snapshot on the yields for selected crops

The data represents average, some farmers' gardens performed well whereas others were affected by unfavourable weather conditions.

Table 3 Average yield per acre per crop per season during the reporting period

| Value chain | Baseline | Review 2023 | %increase or decrease in yield |
|--------------|----------|-------------|--------------------------------|
| Common beans | 342 | 459 | 34% |
| Green grams | 145 | 302 | 108% |
| Potatoes | 4079 | 6825 | 67% |
| Sorghum | 822 | 679 | -17% |

*The yield is based on the quantity harvested by farmers with 1 to 2 acres.

Sorghum experienced stunted growth due to excessive rainfall, though when the precipitation decreased, growth rate increased. During field visits, the impact of heavy rainfall was evident as sorghum stems were observed to bend downward. Even with increased rainfall amounts, different crops and varieties have different ecological requirements which affect their growth rate and productivity.

The graph below illustrates the level of idle land at the household as land sizes increase. Farmers tend to utilise more of their land when they own up to three acres which may be due to the capacity to cultivate or the related cost of production.

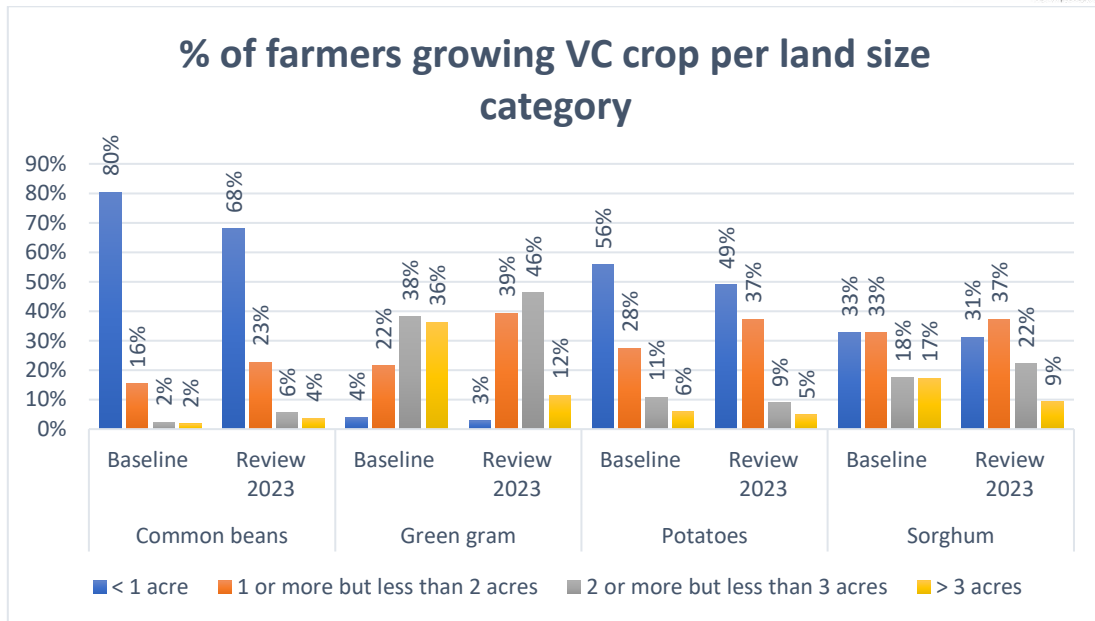
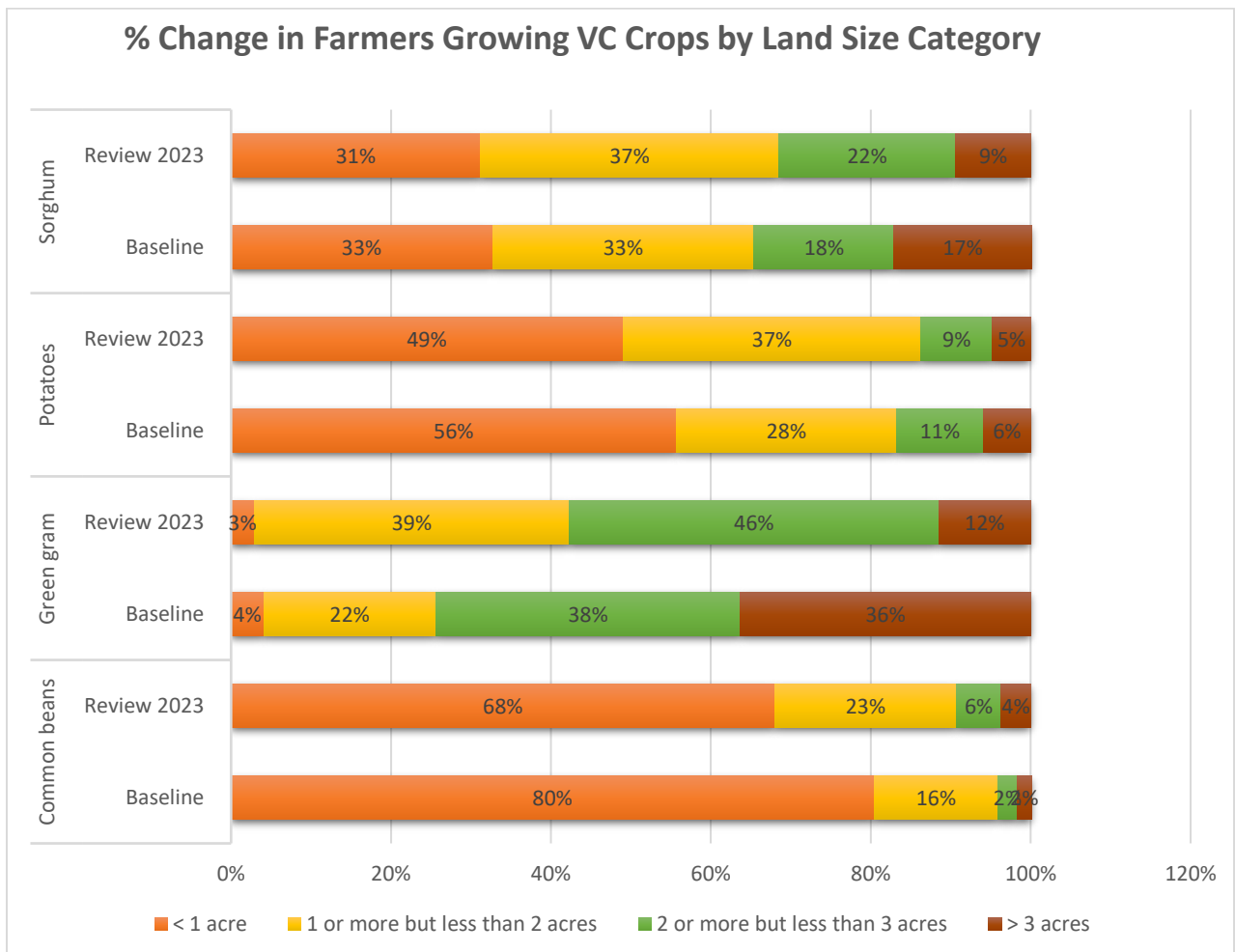


Figure 23 Percentage of farmers growing crops per land category.



Changes in climate risk experienced by farmers

Table 4 Changes in climate risks experienced by farmers

| Climate risk | Baseline at different point in time | Review 2020 | Review 2021 | Review 2022 | Review 2023 |
|-------------------------------------|-------------------------------------|-------------|-------------|-------------|-------------|
| Flooding during growing season | 19% | 22% | 13% | 13% | 17% |
| Increased dry days after planting | 55% | 62% | 56% | 68% | 36% |
| Prolonged rainfall | 37% | 23% | 18% | 27% | 57% |
| Prolonged drought during dry season | 51% | 56% | 48% | 65% | 38% |
| Storms | 22% | 39% | 12% | 19% | 22% |
| Pest and diseases during wet season | 75% | 90% | 62% | 65% | 75% |
| Pest and diseases during dry season | 55% | 69% | 54% | 56% | 46% |
| Landslides | 4% | 2% | 3% | 4% | 2% |

| Climate risk | 2020 | 2021 | 2022 | 2023 |
|---|------|------|------|------|
| Drought (increased dry days after planting) | 50% | 59% | 68% | 34% |
| Flooding during growing season | 25% | 14% | 13% | 16% |
| Prolonged rainfall during the season | 44% | 27% | 27% | 59% |
| Storms | 23% | 19% | 19% | 22% |
| Pests and diseases in wet season | 81% | 70% | 65% | 75% |
| Pests and diseases in dry season | 61% | 55% | 56% | 45% |
| Landslides | 5% | 3% | 4% | 1% |

Climate change impact assessment at cropping system level

WENR supported workstream 1 by developing insight into 1) the impact of climate change on crop yield at cropping system level and 2) the potential effectiveness of various adaptation measures on crop yield for three types of cropping systems and three different types of households (poor, moderate, well off). These assessments have been carried for three regions in Uganda (Kigezi, Mubende, Bukedea).

- potato-fallow-beans-fallow
- soybean-fallow-bean-fallow
- maize-fallow-bean-fallow cropping systems

These climate change impact assessments at cropping system level were conducted with the use of the DSSAT (Decision Support System for Agrotechnology Transfer) crop modeling framework¹. Some results have been discussed in a meeting with the Dutch Ministry of Foreign Affairs (2 June 2023) and in the regional workshop held in Mbale, Uganda (27-30 June 2023). Box 1 presents examples of the results.

¹ DSSAT is a widely used software package that integrates crop models with climate, soil, and management data to simulate crop growth, development, and yield under various climate scenarios. In our case, we modeled the impacts of climate change based on the SSP3-RCP7.0 climate scenario by calibrating the DSSAT model based on FAOSTAT, 2023 yields at various household types.

The applied methodology and used data sources are described in a technical note (Arumugam, P. et al., 2023)

Box 1: Results of 1) impact assessment of climate change on crop yield for a dominant cropping system, and 2) potential impact of adaption options for poor, moderate and well-off household types in Kigezi (Uganda)

For Kigezi region, climate change impact assessment on beans yields and potato yield for the potato - fallow- beans -fallow cropping system and three different household types (poor, moderate, and well-off) have been carried out (figure 1, 2 and figure 3)

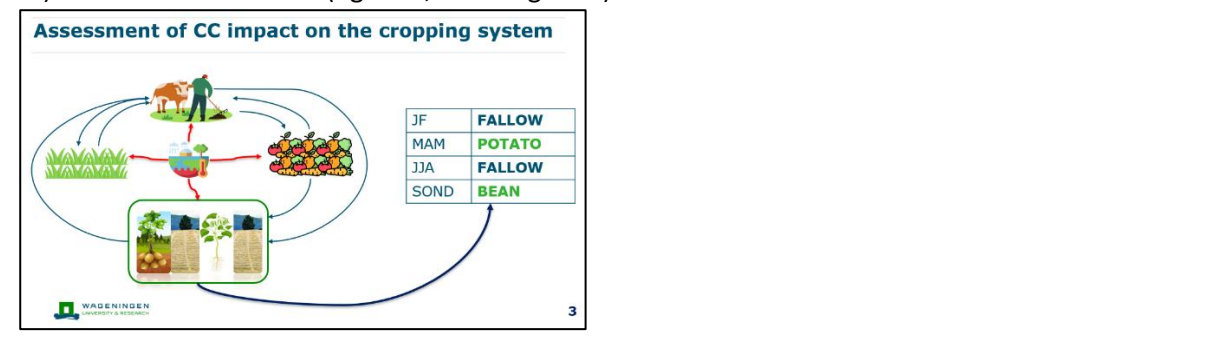


Figure 24 example of components of a cropping system analysed by WERN

Assessment of the impact of climate change on crop yield for a dominant cropping system (potato-fallow-beans-fallow) in Kigezi (Uganda).

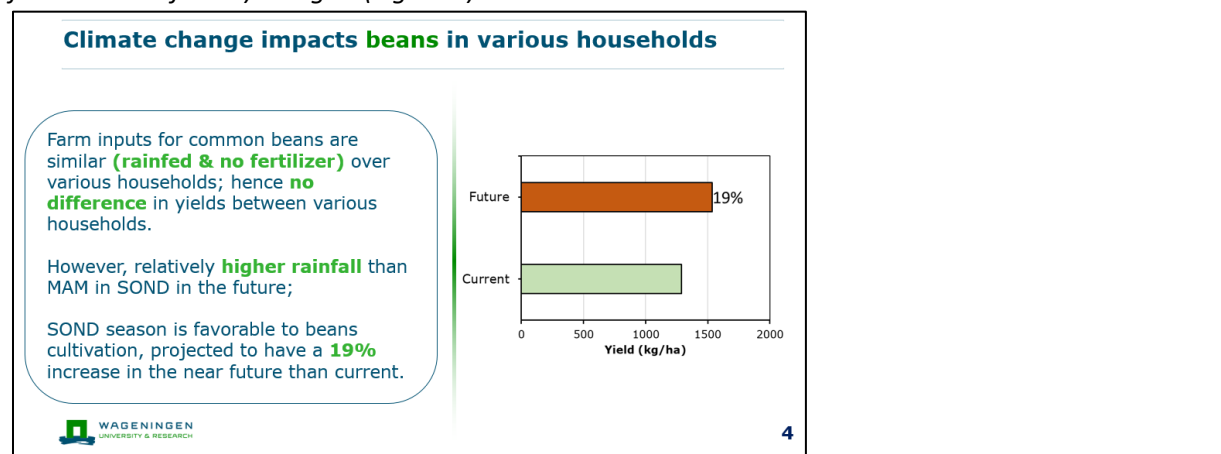


Figure 25 Impact of cropping system on yields

: In Kigezi (Uganda), climate change is expected to increase beans yield in 2050 due to an increase in rainfall during the September – December season. There is no difference between poor, moderate and well-off households as common beans is a crop cultivated under rainfed condition with no input.

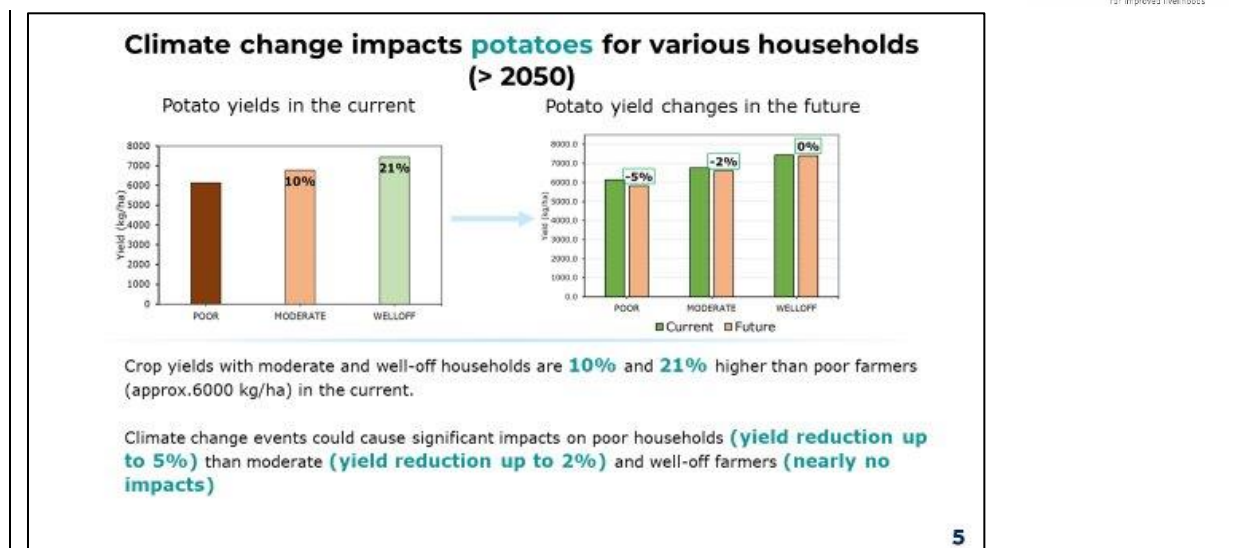


Figure 26 Illustration of impact on potatoes

In Kigezi (Uganda), climate change is expected to adversely affect potato yield for poor households more than for moderate and well-off household.

WENR also evaluated the potential impact of two different adaptation measures (mulching; intercropping with soybeans) on potato yield for the dominant cropping system (potato-fallow-beans-fallow) in Kigezi (Figure 4).

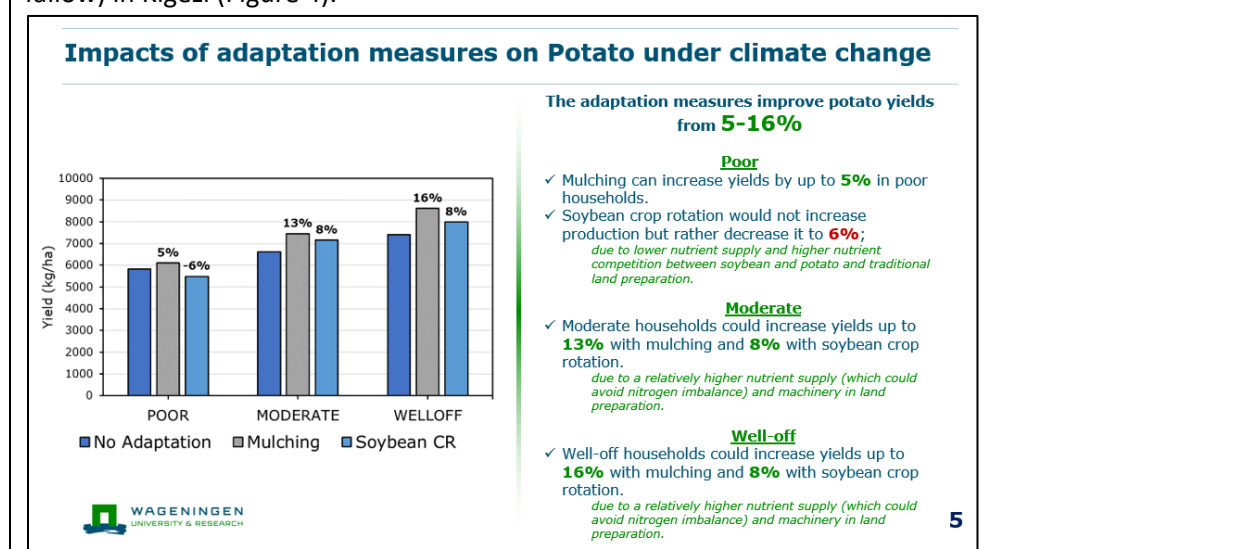


Figure 27 Illustration of adaptation measures on potato

The Impact of two adaptation options (mulching; intercropping with soybeans) on potato yield compared for the three different household types. Well-off households are expected to slightly benefit more from the adaptation options than moderate and poor households.

Updating long-term crop suitability maps

In 2023, 11 crop suitability maps have been adjusted dated with the use of the updated climate change projections (ILRI)². Crop suitability maps show the optimal regions for growing specific crops, considering local biophysical and socioeconomic conditions as well as climate change.

² CCAFS/ILRI updated earlier climate change projections in 2022/2023. For the updated projections an ensemble of (new) climate change models were used.

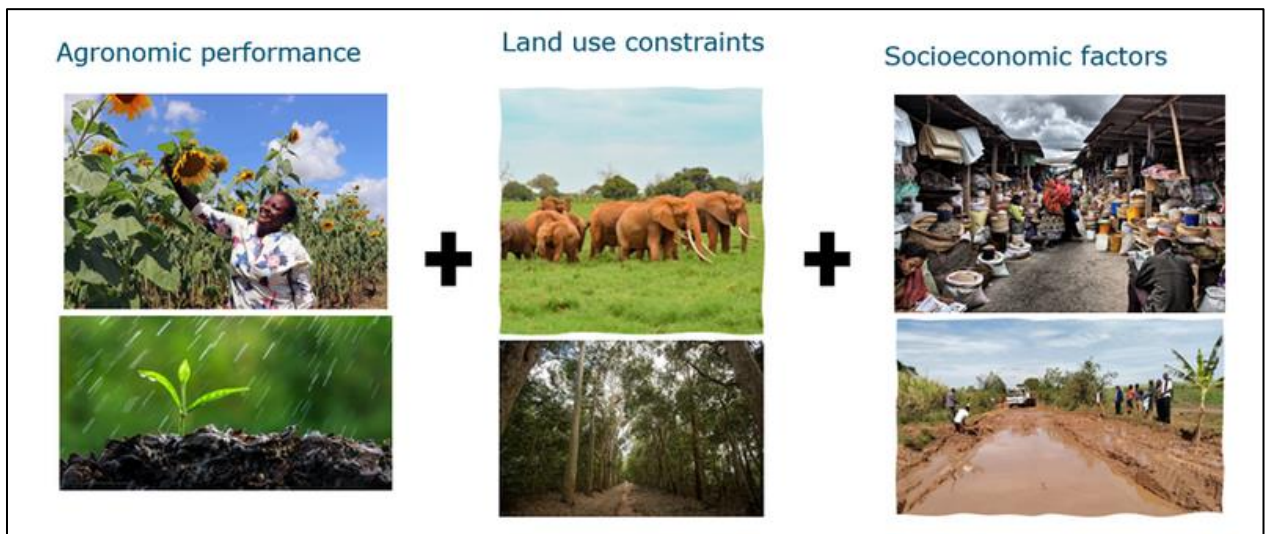


Figure 28; Example of categories of factors used to assess crop suitability.

In 2023, WENR worked on *long term* suitability maps for the period 2041 – 2070. Long-term suitability maps are useful for climate change adaptation interventions, agricultural development planning and land - use. The methodology and data sources used for the development of long-term crop suitability maps are described in a technical note (Duku & Groot, 2023).

However, to better support local banks and business champions in making short-term investments, the decision was made to develop short term suitability maps (2023-2030) based on *decadal forecast data*. As a first step in the development of these short-term suitability maps, decadal forecast data has been analysed.

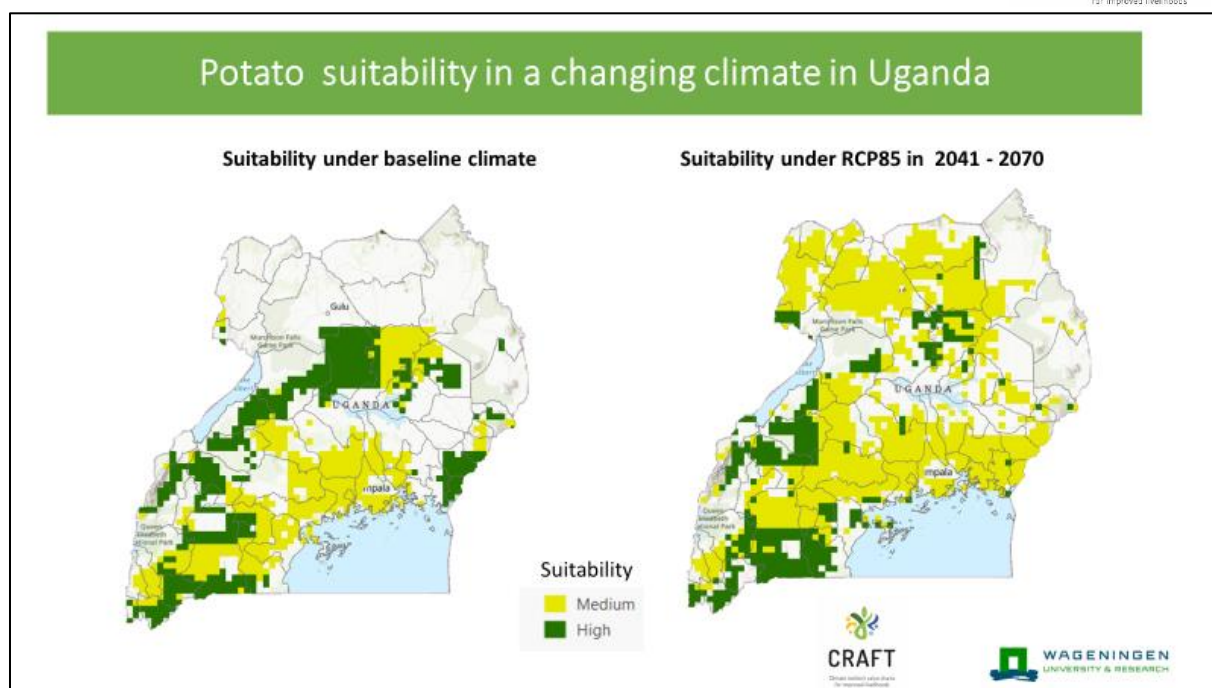


Figure 29; Example of a long-term suitability map for potato in Uganda

Decadal Climate Prediction

In July -Sept WENR started with the first steps of analysing decadal forecast. The analyses make use of results of the Decadal Climate Prediction Project (DCPP). This project investigates the ability to skilfully predict climate variations from a year to a decade ahead utilizing a series of retrospective forecasts. These datasets are available from various Global Circulation Model groups and mainly ongoing projects. WENR explored and created accounts to download the DCPP data from various climate data nodes.

Specific activities included:

- Downloading data from various climate models
- Processing the data based on developed scripts (for one climate model -EC-Earth 3 - only)

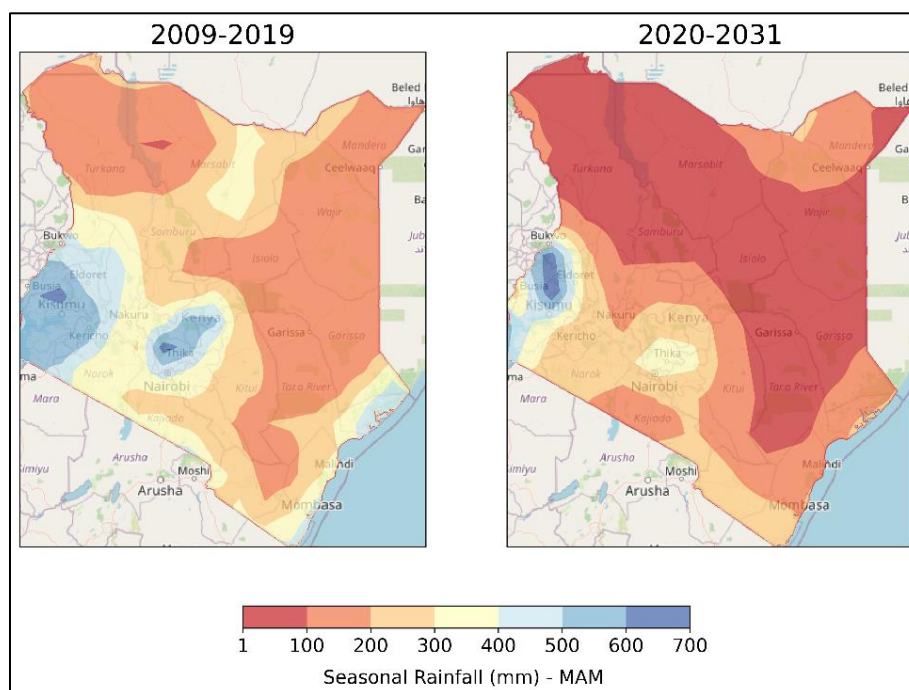


Figure 30: Seasonal rainfall Kenya (MAM season)

Updating climate risks assessment fact sheets

Climate risks assessment factsheets have been updated for the 12 different value chains the CRAFT project is addressing. The update included the updated climate change projections (rainfall, temperature, drought, and flood risks), updated climate change impact maps and crop suitability maps.

3.2 Workstream 2: Investments in inclusive value chains

The project will co-invest and assist in building up the Business Cases and financing solutions necessary for the wide scale adoption of climate smart practices in selected crop specific value chains

Agribusiness support

2023 was characterized by concluding BC reporting, conducting end of business case audits as well as business case closure processes. However, six business champions (Okeba Uganda Limited, Alito Joint Farmers’ Cooperative, Byeffe Foods Limited, Sebei Farmers SACCO, P’KWI Cooperative, Kisoro District Potato Growers Cooperative Union) and one Service Provider (e-Prod Solutions) business cases were extended for about six months. One service provider (DMI) business case was allowed to conclude their engagements which spread into 2023. The business case extension was premised on supporting business champions with sustainability and scaling initiatives. For example, Sebei farmers SACCO was supported to carry out proper financial analysis especially focusing on cash flow projections, and management. As well as importance of preparing monthly financial statements. With this support, the cooperative developed a draft 5-year strategic business plan for sunflower cooking oil processing.

All the 20 agribusinesses were fully audited during the period and none of them received a qualified audit opinion. This underscores the quality of BCs that the project worked with during the period. All the 20 agribusinesses grant agreements were full closed and close out certificate signed by SNV and the BC representative.



Figure 31 A farmer showing sample of improved bean seed

Closure processes involved conduct feedback sessions with all partners that were part of the grant validation meeting during onboarding. Performance results from the multiple annual reviews were shared with stakeholders for information and validation. Key lessons were shared which are the basis for scaling CSA interventions. Farmers were given an opportunity to share highlights of the project and how it impacted their farming systems especially towards boosting their resilience to climate shocks and stresses.

Farmers, cooperatives and SMEs trained on profitable climate smart practices and technologies

The CRAFT project continued to provide technical guidance (on climate-smartness, and gender and social inclusion) to cooperatives and SMEs. During the same period, a total of 71,459 farmers were reached through training on CSA and climate smart Agronomic practices and technologies. This was carried out by TOTs and extension service providers linked to the business champions with support from the public extension service providers. A total of 114 ToTs were trained on climate change and CSA to strengthen their ability to deliver services to smallholder farmers. The agronomists and field staff were trained on profitable CSA service provision to support on setting up demonstration farms to show case different climate smart practices and technologies where farmers can learn by practicing and seeing the results during the training sessions. A total of 80 demonstration farms were set across during the period and used as learning sites for farmers.

Agribusiness digitalization learning event



Figure 32 A farmer showing weather status information received from meteorological authorities.

Seven business champions (Okeba, KDPGCUL, Alito, DMI, Byeffe, Sebei SACCO, P'KWI) participated in the business digitalization learning event. The event highlights opportunities for digitalization of the business systems and why this is vital to remain competitive in the current business landscape. The digitization training package entailed human resource modules, contact module, production module, credit module, collection module, stock module, communication module, and monitoring and evaluation reports module. CRAFT project digitized agribusinesses and farmers in Uganda through its partnership with eProd solutions. The collaboration between CRAFT Project and eProd

Solutions marks a significant milestone in the digitization of business champions, farmers' organizations, and smallholder farmers that CRAFT is working with in Uganda. Recognizing the transformative potential of digital technologies in agri-food systems, the CRAFT Project forged a strategic partnership with eProd Solutions to harness their expertise in developing tailored digital solutions for the profiling and improving the business performance of farmer institutions. The program envisions empowerment of farmers' organizations with advanced tools for data management, traceability, marketing, and decision-making. Through embracement of digitalization, the CRAFT Project sought to revolutionize the way agricultural activities are planned, executed, and monitored especially among farmers' institutions and smallholder farmers, eventually contributing to the modernization and resilience of Uganda's agribusiness and farming communities. The key learning is that digital service providers need to rethink their business models to reduce over dependence on grants for sustainability.



Figure 33 A BC worker inputting sunflower in the oil extraction machine

The adoption of the digitalization among the BCs are at different levels, but some of the outcomes have been realised from the CRAFT-eProd partnership. The major outcome of the CRAFT project's partnership with eProd Solutions is that it resulted into digitizing farmers' organizations through customized software to improve their data accuracy, better supply chain visibility, and enhanced decision support for farmers for example at Okeba Uganda Limited in Mubende, Uganda. The digitalization of BCs agricultural processes can lead to increased productivity, reduced post-harvest losses, and improved market access for smallholder farmers since they can get market information, train, and follow-up on their farmers in real time.

Farmer field days for SHFs at BC level

During the reporting period, the project supported five farmer field days to facilitate peer-to-peer knowledge sharing among smallholder farmers. 867 smallholder farmers from 14 districts participated in the farmer field days during the reporting year. The districts include Kisoro, Mubende, Mbale, Manafa, Bukedea, Kapchorwa, Pader, Kole, Lira, Apac, Kwanja, Oyam, Nwoya and Agago.

Annual harvest money expo in Kololo, Kampala

The annual harvest money expo is an opportunity for business champions and farmers to link up, the event is attended by diversity of potential customers and business partners. The Embassy of the Kingdom of the Netherlands in Kampala supports a pavilion and the event. CRAFT Uganda supported three agri-businesses showcase and exhibit their different climate smart products and services to the participants.

Jinja National Agricultural Show (CSA knowledge sharing and exhibition)

CRAFT project collaborated with Uganda National Farmers Federation (UNFFE), the Ministry of Agriculture, Animal Industries and Fisheries (MAAIF) and other stakeholders to implement the 29th National Agricultural show in Jinja. The theme of the event was “*Fostering Resilient Agriculture Value chains to drive Agro-Industrialization*”. The annual event provided an opportunity for CRAFT and its partners to showcase traction in climate change resilience building in a farming system.

Capacity enhancement focusing on internal processes and supply or chain constraints

As part of the project exit strategy following years of co-funding partnership with selected Agribusiness SMEs and Cooperatives in the implementation of CSA practices and technologies, the project consulted business service providers to coach BCs on potential sustainability and scaling strategies. The business development services support package included business planning, financial analysis, bookkeeping, budgeting, marketing, and staff soft skills.



Figure 34 Farmer loading produce for the market

One-on-one coaching of BCs on finance and administration for business improvement

The CRAFT Project and Frontier Advisory Partners collaboration represents a dynamic effort to empower cooperatives and SMEs in Uganda through personalized coaching in finance and administration. In recognizing the vital role these entities play in the agricultural landscape and transformation of the country’s economy; the CRAFT Project has strategically partnered with Frontier Advisory Partners to offer targeted support aimed at enhancing finance management and administrative practices of CRAFT supported agribusinesses. The intervention affiliates with the Uganda’s broader objective of fostering economic resilience and sustainability in the agricultural sector by equipping cooperatives and SMEs with the necessary skills and strategies for business improvement.

The partnership with Frontier Advisory Partners is established in the understanding that effective financial and administrative management is critical for the success of cooperatives and SMEs. The agribusiness grapple with challenges related to financial literacy, record-keeping, and compliance, hindering their growth and impact. Frontier Advisory Partners brings to the collaboration/partnership a wealth of expertise and experience in providing tailored coaching and guidance to businesses, particularly in the field of finance and administration. Benefiting from the expertise of Frontier Advisory, the CRAFT Project intend to address the specific needs of cooperatives and SMEs, offering them the knowledge and tools necessary to navigate financial complexities, improve operational efficiency, and sustainably contribute to the agricultural value chain enhancement for profitability.



Figure 35 A potato garden with a good vegetative and flowering stage

The partnership with Frontier Advisory Partners is geared towards tangible improvements in the financial and administrative capacities of cooperatives and SMEs. Through one-on-one coaching sessions, tailored advice, and capacity-building initiatives, businesses are expected to enhance their financial literacy, implement effective administrative practices, and make informed decisions that lead to increased productivity and profitability. The importance of this collaboration lies in its potential to strengthen the economic stuff of the agricultural sector, particularly BCs supported by CRAFT. Through strengthening the financial resilience of cooperatives and SMEs, the project not only contributes to the individual success of these entities but also fosters a more robust and sustainable agricultural ecosystem among individual families and entire communities. In the coming period, the priority BCs will be supported to streamline their CSA related business process and develop comprehensive business sustainability plans. The plans will include business and market strategy, stakeholder analysis, financial/cash-flow projections and financial management/using analysis to make business decisions.

Business Champions Portfolio

CRAFT-TZ onboarded 21 business champions: four in potato, three in sorghum, four in common beans, and nine in sunflower. Their grant agreements ended in 2022. CRAFT developed and rolled out an exit strategy, to better prepare CRAFT-supported agribusinesses to become stronger value chain actors, beyond financial support through the project’s grant facility. Eight grantees received a no-cost one-cropping cycle extension to scale out CSA practices and technologies mainly, PHH technologies, soil testing, crop insurance, and integrated crop and pest management to aid service delivery to customers and members. The eight grantees were selected based on the following criteria, consistent with the terms and conditions outlined in the grant agreement, technical coherence/business sense, viability/SHF benefits, and good reputation with the LGAs.

Crop insurance

Weather variability and climatic change turn farmers into massive poverty. Climate change is one of the most challenging factors affecting farmers. Frequent heavy fog, drought, heavy rainfall, and other factors such as bacterial, fungal, and viral diseases lead to loss of crops on the farm thus affecting the social-economic and general livelihood of farmers in the CRAFT operational areas and Tanzania in general. In recent years, Njombe, Singida, Manyara, Mtwara, and Ruvuma where the CRAFT project worked with Isowelu, Mwenge, Temnar, and RIVACU have suffered from several weather-related disasters (drought, pest, and flood) leading to loss of crops, life, property, and environmental destruction. Agriculture Insurance has been the security to farmers by protecting them from farm financial loss caused by climate extremes events. Temnar, EAF, and Isowelu AMCOS collaborated with Reliance and Jubilee Insurance Company to train farmers on Agriculture Insurance. 35 ToTs were trained



Figure 36 A smallholder farmer harvesting her potatoes

on weather-related aspects including synthesis of weather information and insurance packages. In collaboration with the Tanzania Meteorology Authority (TMA), the BCs disseminated weather information to 5,139 farmers through their lead farmers and ToTs. This enabled all contracted farmers to decide on when to plant and taking on additional cropping cycles that boosted their commitment to the CRAFT-supported value chains and other crops fitting their ecological zones. Lessons learned from insurance is it has worked well where it has been bundled with other services which reduced implementation costs, In Uganda, the government implemented a subsidy to promote uptake. In some cases, it has not worked because of accessibility to the service providers, who are usually far from the smallholder farmers and the high transactional costs involved.

Potato sector mapping and insurance

Following the ToT training, a total of 576 farmers (218 Females and 358 males) applied for crop insurance services that covered three major problems, high/low rainfall, pests and diseases, and draught. The insurance component came into action after the awareness

meetings conducted in the villages and farmers informed the importance of insurance as a mitigation factor to the climate risks. Potato sector mapping was conducted by Rabo Partnerships. The mapping exercise identified the value chain friction points (working capital to acquire CS input and services, quality of input especially seeds/fertilizers, storage facilities, compliance aspect i.e., size of the packaging materials, and dependence on the rain for farming resulting to insufficient produce supply). The mapping exercise showed the emergence of many active players from the input side, aggregation, storage, transportation, and processing with the overall trend going upwards. The summarized findings were then presented to the CRDB bank officials during the dialogue in April which was later followed by training on climate-smart agribusiness, de-risking, and financing for climate adaptation in agribusiness value chains.

A total of 11 CRDB staff from the agriculture department participated. The food and agriculture (F/A) strategies for financial institutions were designed during the training and the following were the opportunities that CRDB should eye for excelling in the F/A financing sector; a) irrigation schemes, b) input financing, c) research especially on seed varieties and pest management, d) Carbon trade, and e) crop insurance and innovative financial services. As CRAFT extended its work with eight BCs and kept in contact with the other BCs, following the training an MoU was developed to formalize collaboration at which CRAFT supported agribusinesses and cooperatives should be accessing credit financing from the above opportunities. Isowelu AMCOS accessed input financing from CRDB for the 2023/2024 cropping season. All in all, NMB, Equity, and CRDB financing institutions offered financial services for climate adaptation in the common bean, sunflower, and potato agribusiness value chains.



Figure 37 A farmer laying irrigation pipes in his garden

Nane Nane tradeshow- Farmers Exhibition

Exhibition is among the promotional tool that brings producers, buyers, sellers, and the competitors in a commercial setting, so it's an important part of the promotional mix of agriculture and industrial markets. The 2023 farmers exhibition was held nationally in Mbeya with the Vice President officiating on 1st August and President Samia Suluhu officially closing on 8th August 2023. The theme of the exhibition was '*Vijana na wanawake ni Msingi Imara wa mifumo endelevu ya chakula*' (youth and women are the cornerstones of sustainable food systems in Tanzania). The objective of the exhibition was to capture key CSA practices and technologies that can easily be adopted by farmers, creates awareness, and develops relationship with new prospects, gathers competitive intelligence and brand building among business partners/grantees.

BC Grant portfolio status

In total, 14 business champions had active contracts terminating in Q2 and others by end of Q3. In 2023, the project in Kenya had disbursed Euro 197,431 bringing the total disbursed funds to Euro 1,681,881 which represents about 78% of the total grants committed for Kenya. All cooperatives successfully met the minimum co-investment threshold set at 30%, with contributions ranging from 36% to 122% towards the CIIF advanced funds. Furthermore, all small and medium-sized enterprises (SMEs) significantly surpassed their co-contribution obligation of 50% towards the CIIF.

Rabo Partnerships

The make durable impact beyond the scope of the CRAFT project, it is critical that climate smart business propositions are developed together with local financial institutions, tailored at CRAFT priority value chains, that address a friction in the prioritized value chains and tackles a key client need. For the client this proposition needs to be affordable and beneficial whereas for the financial institution the business proposition should provide sufficient risk adjusted returns.

The key question that Rabo Partnerships attempted to answer in the CRAFT project is how best financial institutions can be engaged in the transition towards a sustainable food and agribusiness sector. Banks can and should be active in shaping the avenue to a climate resilient food and agribusiness sector. Rabo Partnerships recognize that financial institutions need guidance in this journey. Providing finance to value chain actors such as SMEs and primary producers is perceived as highly risky based on experience or lack of experience.

In 2023, Rabo Partnerships completed the following deliverables:

- A learning document based on RP's experience in the CRAFT program (key learnings are presented in section
- Sunflower sector credit risk policies and framework, which can also function as a blueprint for other food and agribusiness value chains in DFCU Bank (Uganda).
- Dry run to create a climate smart financing solution for an eligible sweet spot client.
- Alignment and further strengthening of the climate smart business proposition for the sunflower value chain in the DFCU Bank organisation including identification of challenges and opportunities, defining target markets, sweet spot analysis, market segmentation, and product proposition.

Rabo Partnerships made a number of interesting observations based on their work with financial institutions in Uganda and Tanzania (for CRAFT Kenya, support from RP was not deemed a priority).

- Climate data can play an important role in developing tailored financial services (e.g. credit-scoring models) that may be beneficial for financial institutions to mitigate production risks.
- The business plans developed by the BCs at the start of the partnership require revamping to demonstrate the viability of the business especially beyond the co-funding period, in many cases not bankable. Many business plans do not have clear investment plans, and often lack scenarios of financial projections. Business plans should contain a base case, a management case, and a best-case scenario.
- All steps across a sector are closely connected. Investing at farmer level in irrigation equipment to increase production without considering access to sufficient seed potatoes, storage capacity, and market access will not be a sustainable solution and will result in an unbackable project. For a bank it means it has to offer an integrated finance solution: input finance for pilot farmers to enable them to invest in high quality inputs, working capital for an aggregator during harvest season, and finance for irrigation infrastructure.
- Financial institutions consider farmer finance as a high-risk market. Banks will look for risk mitigating elements. Preferably, a bank would like to route the finance through one of the stronger partners in the value chain, not at farmer level but through an input provider or off-taker, for instance. This way, the bank can rely on the balance sheet risk of these stronger partners.
- For a finance institution to be able to offer a value chain solution, it will need to be satisfied that there are reliable input providers and access to agronomical advice on correct application resulting in higher yields, strong relationships between borrower and farmers, and access to sufficient storage, and a well-known off-taker and a transparent off-take agreement including quality and quantity requirements.
- Climate smart recommendations should include a clear business case for the envisaged investments. Affordability is a major bottleneck for adoption. For example, drip irrigation and solar dryers are quite expensive, and some CSA practices come with relatively high labour costs. Calculating the return on investment can contribute to adoption of CSA investments. Cost benefit analysis for selected CSAs will be conducted in coming period which are expected to inform prioritisation decision making.

Supporting financial institutions

WENR supported Rabo Partnership in several workshops with local banks about climate change related risks. Anonymized client information from banks were combined with long term suitability maps showing where the banks' investment portfolio was at risk due to climate change. Adding information on the potential of adaptation options, provided banks with opportunities to minimize these risks. WENR collaborated with Rabo Partnership and Capgemini on the development of an interactive demo allowing users (i.e., banks) to access and use the CRAFT climate related information in an interactive way. Unfortunately, because the sustainability of the demo could not be guaranteed (Rabo Partnerships stepping out the consortium, CRAFT phasing out), this activity ended without tangible results.

3.3 Workstream 3: Enabling environment

By working with national and regional government agencies, extension services, researchers, meteorological services, and financial service providers the most significant institutional and socio-economic barriers for large scale CSA adoption will be addressed, in cooperation with other climate funding programmes.

Multi-country highlights- summary

The CRAFT project continued to contribute towards influencing the enabling environment to harness widescale investment in climate smart agriculture practices and technologies by private and public stakeholders. CRAFT used evidence generated over time to contribute to discussions that are geared towards minimising or eliminating scaling barriers. Some of the inherent barriers identified include high and indiscriminate interest rates on agricultural loans, counterfeit products which hinder uptake of technologies among others.

Joint field monitoring with UNMA, MAAIF, Local Government and CRAFT business champions

CRAFT project organized joint field monitoring visits involving government departments and ministries (MAAIF & UNMA), local governments (Kole, Lira, Bukedea, Kween, Mbale, Mubende, Kisoro among others), CRAFT staff and farmers' organizations/BCs (Okeba, KDPGCUL, Alito, Nyekorac, Byeffe, Sebei SACCO, P'KWI). The background and need for CRAFT to conduct joint monitoring stems from the recognition that the resilience of farmers is intricately linked to the collaborative efforts of diverse stakeholders. The joint monitoring field visit were implemented to strengthen the bond between agribusinesses, smallholder farmers and the authorities. The visits were premised on the deliberate efforts to handover and enable scaling of CRAFT supported CSA practices and technologies beyond the project.

By fostering this collaborative approach, the project will further strengthen the agricultural ecosystem, promote sustainable practices, and empower farmers to navigate challenges effectively. The outcomes of CRAFT joint monitoring initiatives are multifaceted and contribute significantly to farmers' resilience enhancement. Joint monitoring field visits allowed agribusinesses and smallholder farmers to be linked to government programs in the region such as micro-irrigation project (U-gift).

Climate smart agriculture multi-stakeholder engagement platform

The CRAFT Project in collaboration with the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) conducted a CSA multi-stakeholder platform (CSA-MSP) workshop in Kampala, on November 8, 2023.

The purpose of the MSP was to enhance sector wise coordination in the promotion and adoption of Climate Smart Agriculture (CSA) practices and technologies in Uganda. The event also provided an opportunity for stakeholders to share their lessons and experiences in promoting CSA practices and technologies. The CSA-MSP at national level is under the auspice of MAAIF and it is scheduled to meet



Figure 38 Potato grading machine

regularly to enhances synergies. A steering committee and thematic working groups were formed to spearhead and guide the processes.

Potato Council

In 2023, CRAFT in collaboration with EKN, SAGCOT, and other stakeholders in the potato sector facilitated the design, formation, registration, and operationalization of the Potato Council of Tanzania (PCT). The PCT which in its first year comprised mainly farmers and a few private sectors, established the mechanism for stakeholders to systematically engage in dialogues, to advocate for a more sustainable potato sector in Tanzania. Led by the task forces, the council conducted a potato farming awareness campaign to all the suitable regions that expanded the production areas from Mbeya, Njombe, and Iringa regions to Songwe, Rukwa, and Ruvuma regions which boosted the annual potato production from 40% to 60% in 2022 and 2023 respectively.

CRAFT together with EKN supported the potato sector in Tanzania by organizing meetings with high-ranking Government officials, seed potato companies, and other stakeholders and penetrating an agenda that ensured potato farmers access to better seed potatoes at an affordable price. The project aligned with the Tanzania Official Seed Certifiers Institute (TOSCI) to empower lead farmers with basic seed multiplication skills that contributed to the availability and use of improved seed varieties by 43% of farmers under CRAFT.

Dialogues with value chain actors on CSA policy development and improvement

The project has been actively supported activities that enhance the enabling environment through the Kenya Climate Smart Agriculture Multi-stakeholder platform (KCSA-MSP). This platform brings together stakeholders united in their aim to lead climate initiatives. Managed by the Climate Change Unit of the Ministry of Agriculture and Livestock Development, the platform operates at both national and county levels. Its activities encompass research, extension services, farmer engagement, policy advocacy, program development and execution, monitoring and evaluation, climate action reporting, capacity building for institutions, as well as data gathering, information handling, and dissemination. In 2023 through KCSA-MSP, CRAFT was able to participate in the various activities such as supporting counties in developing CSA strategies for the priority value chain within the counties.

The project also supported the domestication of KCSAS and KCSAIF for Nakuru County, contributed in developing COP 28 expectation paper to advocate for enhanced ambition towards implementation on climate actions in agriculture. Six key areas of action were identified aimed at calling upon the Kenyan government and other stakeholders at COP 28 to prioritize discussions on implementing climate actions in agriculture and food systems. CRAFT is also supporting counties to implement the action plans for CSA MSPs formulated through SNV CRAFT and capacity building partners to access funds under the Financing Locally Led Climate Action (FLLOCA) program spearheaded by the County Governments.

3.4 Workstream 4: Learning & knowledge sharing

The project will further the existing knowledge base on CSA in food systems through monitoring and applied research related to market-driven adoption and scaling of technologies and practices for climate resilient value chains.

Launch and commissioning of CSA training manuals

In Uganda, the CRAFT project in partnership with MAAIF and other stakeholders designed climate smart agriculture training manuals to complement the public extension fabric with CSA oriented training materials. As sequence of reviews by the MAAIF technical team led to subsequent approval of the



Figure 39 Official launch of technical CSA training manuals in Uganda by the MAAIF state minister and the SNV country director in Uganda

manuals by MAAIF Permanent Secretary. The manuals focus on four entry value chains (potato, sesame, soybean, and sunflower) although most climate smart information is applicable to other value chains. The primary objective of development of these manuals was to coordinate and promote CSA at national and sub-national levels, addressing critical issues related to climate change, risk management, and the integration of CSA Practices and technology

in the farming systems. The manuals were launched by the MAAIF state minister and the SNV Country Director, who added their voice to the necessity of increasing the resilience to climate change, especially in the agri-food sector.

In Tanzania, CSA manuals for four crops prioritized were finalized, edited, and reviewed. BAKITA (National Kiswahili Council) reviewed and approved the Swahili version. Sample manuals were printed to be endorsed by the Permanent Secretary under the Ministry of Agriculture. The launching is expected to be done in May 2024.

A review of the four Swahili climate-smart value-specific technical manuals delayed its endorsement by the Ministry of Agriculture, however designing and branding of the manuals were all done, and samples were shared with the MoA for validation and approval. It is anticipated the signing and launching of the manuals be done in the first quarter of 2024.

Climate Risk Assessment (CRA) workshop

CRAFT-TZ organized a light CRA workshop in Morogoro that called upon actors and stakeholders working in the sunflower sector and in the climate change arena that discussed the impact of climate change on the sunflower sector. The workshop was meant to enrich participants' understanding on how climate is likely to change in the future in the sunflower growing areas as well as its impacts to yield in relation to cooking oil availability. In addition, participants reflected on the CSA policies and influencing factors to address the identified impact of climate change on the sunflower sector.

Stakeholders were able to understand climate change and how climate is changing, how crop yield/quality and VC actors are impacted by climate change, suitable areas for sunflower production, how is climate change expected to affect sunflower yield and how will climate change affect other value chain actors and activities. In addition, conversation on suitable adaptation strategies that will increase the adaptive capacity and resilience of the actors within the sunflower was undertaken. There was an



Figure 40 A farmer harvesting sunflower

increased awareness among stakeholders on the policy issues related to climate change in the sunflower sector and what the sector needs to do to inform policymakers at national, regional, and local levels as well as overview of oil sector and sunflower sub-sector.

M&E support for the business cases

The project continued to closely monitor implementation of the business cases by supporting them with training and maintenance of the M&E systems. The support focused on deepening the understanding by the BCs on the CRAFT M&E processes (expected results and milestones) and MIS system – the central database for collating and reporting progress on implementation of partnerships. In this period, all BCs conducted their annual review survey that enables the project to evaluate performance and progress towards the achievement of the project objectives.

Learning events

In 2023, CRAFT participated and hosted a side event at the Africa Pavilion during the Adaptation Futures 2023 conference, a knowledge sharing event using practical project case studies, to exchange ideas on how to mobilise climate-smart finance and accelerate the implementation of agricultural practices and technologies that improve resilience and food security.

Presentation at the Adaptation Futures Conference (4 October 2023)

WENR (Annemarie Groot, Ponraj Arumugam, Confidence Duku) gave a presentation ‘Importance of climate science in making climate smart investment decisions’ at the Adaptation Futures Conference’ (4 October 2023).

Supporting PhD candidate

WENR supported the PhD candidate (Bio-physical focus) in finalizing his 2nd paper and developing the 3rd paper. The 2nd paper (Thomas Kirina, Iwan Supit, Fulco Ludwig, Annemarie Groot, Teferi Demisse, Confidence Duku, Dinah Borus, Ferdinand Anyika, John Kalaye Kigwinya and Gerald Baguma. Modelling potato yield gap and variability under tropical farming systems conditions in East Africa) has been submitted to the Heliyon journal. This 2nd paper describes and discusses the calibration and validation of a model for measuring and understanding differences in potato yield (for different variables). The 3rd paper focuses on the expected impact of climate change on potato yield (for different variables).

3.5 Workstream 5: Gender Equality and Social Inclusion (GESI)

CSA planning inclusive of gender equality and opportunities for youth can provide economic opportunities for enterprise development and the creation of an on- and off-farm labour force if systematically integrated throughout all workstreams.

Multi-country highlights- summary

The CRAFT project has a gender-responsive approach to Climate Smart Agriculture (CSA) that focuses on ensuring that needs, priorities, and realities of men, women, and youth are recognized and adequately addressed in the design and application of CSA benefit equitably. In 2023, CRAFT conducted various initiatives across the three countries. The intervention focused on institutionalizing youth participation in governance through establishing avenues for participation, and engagement of youth in policy formulation; For example, in Kenya and Uganda, through the CSA-MSP, whose establishment was facilitated by CRAFT, various stakeholders within the agricultural sector converged to align their initiatives. This platform serves as a conduit for youth to contribute to the identification of critical policy areas. The project conducted gender training in collaboration with the government and cooperatives to enhance youth and women inclusion. In Tanzania, mass media campaigns advocating for youth and women inclusion were conducted. At the global level, the CRAFT project participated in the Global Youth Empowerment and Entrepreneurship conference with youth drawn from Starlight cooperative participating. Additionally, CRAFT engaged women councils that encourage women to participate in leadership and advocacy initiatives. Through advocacy, and appropriate extension service, CRAFT has been able to increase awareness, skills, and education as a catalyst for change thus improving the pace of enabling more women have access to productive land and control over their incomes from their agribusiness activities.

Youth in agriculture event and inclusion

Under the auspices of Uganda’s Ministry of Gender Labour and Social Development (MGLSD), [CRAFT project](#), in collaboration with [AVSI](#), and [Youth Advocacy and Development Network \(YADNET\)](#), organised the Youth Agricultural Conference in commemoration of the international youth day 2023. The objective of this conference was to bring together over 100 young people from different regions of Uganda and experts in the field to discuss and share opportunities, thereby reducing some of the barriers youth face in participating in climate resilient farming systems.



Figure 41 Poster used during the youth event

This conference, while serving as a valuable component, represented a fraction of the concerted efforts that CRAFT made to tackle the multifaceted barriers hindering youth engagement in the agricultural

sector. Therefore, CRAFT used the conference to call on the government of Uganda, donor organisations and development partners to:

- Invest in youth-Led and owned initiatives: This will enable these initiatives to leverage investments and mature to a stage where they become self-sustaining and capable of attracting further financing. This approach not only encourages innovation but also cultivates an environment where young individuals can access the resources required for their initiatives to flourish. For example, CRAFT, funded by the Dutch Ministry of Foreign Affairs, invested €6.9 million in 56 agribusinesses across Uganda, Kenya and Tanzania, 20 of which were led by youth and women.
- Institutionalizing youth participation in cooperatives: Youth should be involved in cooperative structures through established and institutionalized avenues for participation.
- Facilitating youth engagement in policy formulation: An essential aspect of amplifying youth involvement is their active participation in the policy-making process. For example, through the CSA-MSP, whose establishment was facilitated by CRAFT, various stakeholders within the agricultural sector converge to align their initiatives. This platform serves as a conduit for youth to contribute to the identification of critical policy areas. By integrating youth perspectives, these policies can become more inclusive, comprehensive, and attuned to the sector's dynamic needs.

The project had special areas of attention under this work stream to capitalize on the youth and women inclusion project intervention and create equal business opportunity and income generation from the CRAFT supported value chains. Therefore, in 2023 CRAFT TZ in collaboration with the project grantees and the Government conducted gender training to youth and women from the BC management levels



Figure 42 Management team meeting of Isowelo Cooperative, Tanzania

especially for the contracted cooperatives to enhance youth and women inclusion. Whereby each of the three supported cooperatives (RIVACU, Mpui, and Isowelu) have formed youth clubs which are enabled to campaign for the GESI agenda in the daily cooperative operations. The same was applied to the companies whose contracts were extended for one more year including Mwenge,

Kimolo, Temnar, and Ikuwo which invested into monthly radio campaigns to advocate for the GESI agenda by working supporting the successful champion youth and women from the locality to sensitize other.

Out of the eight grantees supported by CRAFT TZ in 223; one (EAF) is considered a youth-lead SME and two (Mpui and Isowelu) are youth-lead cooperatives. The lessons drawn from the GESI program was that the GESI interventions can easily be cascaded from the management level to the farmers, especially in cooperatives.

Ikuwo piloted the access to finance intervention through a Village Savings and Lending Association (VSLA) program and training of farmers on common beans value addition in Rukwa region. The general observation was that youth and women participation in VSLA program was high and this intervention provides positive sign towards increased economic benefits among women and youth in the farming business as through landing and saving these groups are able to generate their own capitals and invest in improved climate smart technologies such as quality beans seed varieties.

In 2023, CRAFT Kenya conducted activities in support of gender and youth inclusion within the project. This reporting period focused on the Global Youth Employment and Entrepreneurship (YEE) conference which was attended by staff and a youth representative from Starlight Cooperative. The primary goal of the Youth Global Forum was to strengthen collaborations, actively engage in and shape discussions on youth employment and entrepreneurship within the environmentally conscious industry at both regional and global levels. Additionally, the forum aims to showcase effective strategies, facilitate networking, and encourage the exchange of ideas among young individuals to foster innovation among the youth.



Figure 43 Women sorting their potato harvest

Engaging with harmful gender norms and stereotypes to increase women’s empowerment and positive masculinity

CRAFT takes cognizance of empowerment as a tool for increasing personal, social, or economic capacities of individuals and communities. CRAFT has engaged women councils, which are umbrella structures around the agrifood systems and value chains, in trainings and advocacy meetings which has seen the women break their personal limitations to achieve self-determination. Women have participated in leadership and advocacy trainings organized by CRAFT developed various capacities including, economic independence, awareness, and exercise of rights. Women have since participated in the election processes of various agricultural organizations including cooperatives.

- *Unpaid care work in the home and how it's a barrier to women's participation in technical skill building and setting up their own business.*

Women have for long been involved in both household chores to the extensive farm care. With agriculture being the leading employer of over 70% of the people in the rural population, it is also



Figure 44 A female farmer overseeing ploughing on her farm

imperative that 70% of the said population is also women who work as labourers in the farms owned by men. Through advocacy providing appropriate extension service through engagement of both men and women, CRAFT has been able to increase their awareness, skills, and education that has helped both men and women become catalysts for change thus improving the pace of

reversing the scourge and enabling more women have access to productive land and control over the incomes from their agribusiness activities.

- *Negative stereotypes about women as leaders of men (applicable to the target community)*

The communities have for long had the male dominance in all aspects of leadership all the way from their homes to associations and groupings denying women in the associations the opportunity to be part of decision-making processes. CRAFT has had trainings and advocacy meetings with producer groups and cooperatives mainly on leadership and governance. Gender mainstreaming has been done through such engagements to the point that the women's voice being strengthened for leadership and decision making in the groups and cooperatives. Through their participation in the agricultural associations and cooperatives' leadership, women have also had an opportunity to access suitable financial services through CRAFT negotiated financial service providers like the Agriculture Finance Corporation who have tailor made products that favour women and youths particularly giving them opportunities to access loan without collateral.

- *Norms around participation in agricultural work by women*

CRAFT used a participatory integrated development approach to identify the gender-based barriers to meaningful engagement in agricultural activities by women. This led to the development and use of a gender sensitive approach to agri-enterprise development that facilitated access to markets through the SME's it engages with, finance, education and training, technology, and infrastructure. This substantially promoted growth, accelerated poverty reduction, while catalysing food and nutritional security.

Underlying social norms and gender roles

CRAFT has been engaging both men and women in examining the underlying social norms and gender roles that prevent women’s participation in learning and entrepreneurship or access to and control over productive resources including land, technology, digital finance, advanced tools and machinery, agricultural inputs such as fertilizer and improved seeds. CRAFT has engaged men and women in development of gender transformative activities such as women council trainings and advocacy, cooperative leadership trainings, community advocacy meetings on gender roles that has seen more women attend and participate in the community-based trainings. This CRAFT project has also seen the women participate in meaningful commercial agriculture and access infrastructure and farming technologies for ploughing and harvesting. Through the increased access to extension services, for both men and women, there has been a



Figure 45 Farmer reading a weather advisory on her phone

heightened level of income diversification with most individuals having more than one income stream in agricultural enterprises. The extension services from CRAFT have improved the capacity and skills for both men and women in the on-farm and off-farm agricultural activities aimed at being resilient to climate change impacts through adoption of CSA. CRAFT has been instrumental in improving the communities access to climate information services. This has helped in promotion of climate resilient certified seeds and fertilizer use by most communities. Additionally, CRAFT focuses on training women farmers through ToTs to ensure that they have access to the CSA pts and technology, and we also link them up to financial institutions so that they can be able to acquire mechanized products such as threshers which helps them reduce post-harvest losses and saves their time since they have triple roles at home.

Barriers to inclusion in CSA

CRAFT advocacy activities aim to address these barriers through specific actions, one aspect of their advocacy involves lobbying influential individuals within society. They actively invite board members to attend female leadership trainings and women council trainings. The purpose of these sessions is to raise awareness about the content presented to their members and emphasize the importance of having women representatives and youth representatives on the board of management of the cooperatives. Additionally, CRAFT advocates for continuity by engaging youths and providing them with opportunities to showcase their skill sets. This involvement of young individuals helps to foster a thriving management system within the board. CRAFT, also, through commercialization trainings, encourage ToTs who are in the category of senior men to give space to women and youth to have small farms where they can have an opportunity to farm using the CSA practices and technologies and make decisions over what and how they can use the money they generate from these gardens.

4 Key learnings

Smallholder Farmers (SHFs)

- Working through SMEs and farmer cooperatives offered greater extension coverage, and it is more cost-effective. Using this approach, SMEs and Cooperatives were able to co invest. The project leveraged the private sector extension structure to reach the last mile smallholder farmers who had for long been disenfranchised. Collaboration with local government extension workers complemented the efforts of reaching the last mile farmers who are usually not interesting to SMEs and cooperatives.

- Embracing the farming system perspective at household level has reinforced resilience, in addition to diversification of household incomes, SHFs were able to cascade CSA knowledge across a wider spectrum of agro enterprises.

- Farmers are rational decision-makers. Farmers, like individuals in other contexts, assess risk levels differently. For example, they may see "copycatting" as rational if it offers benefits, just as resorting to subsistence farming can make sense when access to food or markets is limited. The team observed that farmers are receptive to new ideas and are willing to take calculated risks if they believe it will yield positive outcomes. They are also inclined to change their practices when introduced



to suitable, affordable, manageable, and effective new technologies. Training programs and connections with service providers and buyers have helped farmers understand the benefits of investing in their farms.

- Correct use of quality inputs is a recipe for success. Quality inputs are costly but when farmers see that benefits outweigh costs, they are willing to invest. Demonstration plots by lead farmers have successfully convinced networked farmers that improved input use is worth the price. Ensuring access to affordable, high-quality inputs is vital to continuing the gains achieved. The system and business models for input suppliers needs to continue to adapt to locate increased stocks of quality inputs closer to farming communities.

- Mechanization improves efficiency but farmers and the market must be ready. Mechanization encourages expanded cultivation, reduces post-harvest loss, and addresses manual labour shortages, but certain prerequisites must be in place. Farmers invest in mechanization when they see demonstrated benefits in terms of productivity. Affordability is an issue, but not every farmer needs to own equipment. Producer organizations can pool funds to buy equipment and provide services to members and other farmers in the community and can turn this into an income stream.

Figure 46 Husband and wife inspect their sorghum crop

- But to make mechanization efforts successful, operators need to know how to properly run equipment and have access to trained mechanics for repair services and spare parts. Our experience showed that despite willingness to buy and use equipment, lack of familiarity with equipment resulted in less-than-optimal use or even damage.

Business Champions

SMEs

- Business Champions continued to manage transition from cost sharing to full cover of CSA practices and technologies. The major lesson from the working with and through the private sector is the ability to sustain and scale some of the CSA technologies and practices beyond the grant period. The relationships and partnerships built with value chain actors have continued to benefit all in terms of improved access to services and markets.
- Only products designed to address clients' key concerns/needs, make a difference; the main concerns considered are lack of access to high-quality seeds, access to (working) capital, and PHH technologies i.e., storage facilities.
- BCs CSA learning event/sharing with their peers leads to upscaling of the CSA practices to other farmers instructions which CRAFT has not partnered with, hence reducing the CSA knowledge gap among farmers exposed BCs and fostered sustainability.
- Tailored support supervision: Most of the agribusinesses are family-owned, and they are not used to progress report write-ups, therefore, coaching the grantee on the implementation and regular observation if the activities are leading to the targeted milestones/results are compulsory to attain the desired output/results.
- Both technical and finance/accounting staff have a role to play in quality grants management to enable the financial report to speak to the tech report to qualify for further payment disbursement. The mismatch between the reports caused delays in project implementation and jeopardized quality aspects.
- Strong M&E system/s essential for execution of performance-based grants.

Cooperatives

Financial institutions' risk appetite for climate-smart agricultural business is still low. Subsequently, cooperatives faced significant challenges in raising the required capital to invest in their businesses to create value. Cooperatives have developed modalities such as share capital and members' subscriptions. Farmers also leverage on other household incomes to be able to contribute to shares. CRAFT cooperatives follow



cropping calendars to implement most of these modalities because farmers cannot save or invest in shares when it is off-season. Therefore, the cooperative advisors need to implement the modalities mainly during harvest time when farmers have extra produce to contribute in-kind or sell and contribute cash. Extension services provided by cooperatives are much more effective with improved beneficiary targeting through increased use of lead farmers (ToT system) and diversified extension methods. Bundled services to members will

Figure 47 Potato buyers at a cooperative in Tanzania

reduce the costs of production and build member loyalty to the cooperative. Cost benefit analysis of these service will support decision making. Some of these will be part of the planned analysis. Provision of mechanization services by cooperatives is profitable and reduces costs of production for members. The mechanisation needs to be tailored to the needs of the farmers in terms of the topography, land size and affordability. Some of the equipment include tractor, oxy plough, among others. Taking advantage of economies of scale to bulk-source inputs for onward selling to members at lower prices can be a sustainable business unit on its own. The cooperative business model is a strong and reliable vehicle for the dissemination of CSA services and technologies.

Service providers

Financial institutions

- Increasingly, sustainable business models correlate with more attractive risk profiles. Financial institutions can benefit from selecting those outperformers capable of applying sound agronomical and sustainability practices, resulting in higher risk-adjusted return on investment.
- Digitalization offers unprecedented opportunity to develop a more climate-resilient smallholder ecosystem by offering financial services. To do this, banks have to bring transaction costs to virtually zero, especially when they want to target farmers in remote areas and scattered value chains.
- Apply a firm sector approach. A Bank must understand the risks and mitigation factors, investment needs, and the local dynamics from 'farm to fork' to support the transition pathways needed to create a climate-resilient sector and to tailor its product offering to the cash-flow cycle in the sector.
- Collaborating with leading partners in the sector gives good insight in the local dynamics, which is a mitigation factor for experienced risk and creates an interesting deal flow that drives profit and positions the bank as the leading bank in the food and agribusiness sector. This will attract other clients in other sectors as well.
- Financial institutions are eager to contribute to the SDGs. The bank's food and agribusiness strategy need deliberate attention to the overall sustainability goals, credit-risk policy, and risk appetite of the bank.

Crop insurance

The penetration of index-based agricultural insurance has not achieved the expected results. After now close to two decades, index-based agricultural insurance is still largely in the pilot stage. Key challenges to adoption and scaling of index-based agricultural insurance include Data constraints (both agricultural and climatic data). Less data leads to higher premium rates charged by insurers for index insurance products. Farmers pay premiums, losses occur, but no claims payments come through. This leaves the smallholder farmer worse off. Basis risk. This refers to the failure of index insurance to cover all losses that may be experienced by the insured. It is possible for the insured to suffer a significant loss without receiving a payout, and conversely, it is possible for the insured to receive a payout without suffering a significant loss. Low demand: Farmers and or their aggregators are not ready to buy stand-alone agricultural insurance products. The low demand for agricultural insurance is probably due to low awareness and weak understanding of how index-based insurance works. Pricing dilemma: Due to lack of reliable data, pricing of agriculture insurance product is usually high (4% to 18%) compared to other classes of insurance leading to a catch-22 situation. Since data is scarce, uncertainty is high. The uncertainty is loaded onto the price, making the price high. Since price is high, penetration is low, and

since penetration is low, prices cannot come down. Scepticism. Farmers have low trust on the viability of index insurance has hindered uptake. Farmers still don't understand the payout mechanism.

Enabling environment

- Aligning project intervention with government priorities fast-tracked buy-in by respective government bodies.
- Involving government in CSA activities allows for real time appreciation of the scaling barriers that require advocacy, this close working relationship has resulted in more ownership and a great potential for sustainability. For example, because of this relationship and evident climate smart agriculture experience, the government of Uganda through MAAIF asked SNV to partner on the World Bank funded - Uganda Climate Smart Agricultural Transformation (UCSAT) Project. SNV is involved in the project implementation plan development, SNV and MAAIF are in the process of drafting terms of reference to establish a working relationship on the project, the CSA extension manuals have been adopted to support knowledge and skills capacity enhancement on the project.
- Working with public extension officers/district extension workers guaranteed doorstep technical backstopping to the averagely technical trainers of trainers.
- Project staff, partners, and equipment suppliers are generally not knowledgeable and offer limited support. Equipment suppliers need to sell standardized equipment, have readily available spare parts, provide customer support, and offer effective operation and maintenance training. Currently there is a shortage of equipment trainers and mechanics, but on the plus side, this offers extensive business opportunities.

5 Planning for the year ahead

Key priority areas for 2024

- Support identified BCs' needs (needs assessment) and conduct one-on-one coaching and mentorship to the BCs to improve their service delivery, impact, and sustainability.
- Organize learning events with CSA service providers to demonstrate application of hitherto less adopted CSA services and technologies.
- Refresher training of high performing BCs on Farming systems, CSA practices and technologies.
- Support BCs organize farmer field days for sustainability of the CSA technologies.
- Support BCs participate in the national and international Exhibition for sustainability and impact showcasing.
- Support BC in the development of sustainability plans and diversification of income streams.
- Support MSP to enhance relationships, coordination and networking among BCs and different partners for sustainability.
- Link BCs to the specific service providers to meet their requirements for sustainability of business cases.
- Support high performing BCs develop business models to diversify their income for more impact and sustainability.
- Support BCs to embrace recycling of reusable materials as a way of protecting environment and diversify their income streams for sustainability.

- Support the high performing BCs to share CSA practices and technologies with their competitors (Agribusinesses, cooperatives, and companies) to sustainably scale CSA-approaches and promote fair competition among agribusinesses.
- Conduct stories generation on the impact of CSA interventions on income (documentation).
- Support joint monitoring with key public stakeholders for sustainability and ownership of CRAFT interventions.
- Dissemination of knowledge products (manuals, policy briefs, Info notes, etc)/digitalize the knowledge products).
- Conduct comprehensive profitability analysis to demonstrate the impact and relevance of specific CSA technologies on SHF's income and livelihood.
- Support annual evidence gathering for documentation, reporting and communication of CRAFT impacts and sustainable interventions.
- Support a regional Learning Event for sharing of results/impact, sustainability approaches, and methodologies.
- Support analytics at SHF and BCs level on the positive impact of CSA adoption on their businesses and livelihoods.

ANNEX 2: PERFORMANCE INDICATOR TARGETS TABLE - 2023

SO. 1 - Increased income for SHFs and SMEs

IR 1.1 – Increased adoption of CS practices and technologies among SHFs, SMEs and Cooperatives

| Performance indicators | | Target 2023 | Achieved 2023 | Achieved to date (where applicable cumulative) | Overall target | Comment |
|---|--------------|---------------|--|--|----------------|--|
| Ind. 1 - Reached number of SHFs with increased income | KE | 2,160 | 8,368 | 54,009 | 100,000 | 75.58% out of 10,515 reached in 2023. |
| | TZ | 3,375 | 3,776 | 40,338 | 100,000 | 52.59% of 7,181 SHFs trained in 2023 had an increase in income. The increase is attributed to better market prices and an increase in yield for potato, common bean, and sunflower |
| | UG | 6,000 | 6,493 | 75,183 | 100,000 | 9,543 SHFs were reached with CSA trainings in 2023; out of it 68.04% had increased income. |
| | Total | 11,535 | 12,618 | 163,511 | 300,000 | |
| Ind. 2 - Percentage increase in yield for selected crops due to application of CSA practices and technologies | KE | 20% | Common beans (+25%) Green Grams (52%) Potato (66%) Sorghum (-24%) | Common beans (+34%) Green Grams (106%) Potato (+67%) Sorghum (-18%) | 20% | 59.71% of farmers had increased yields. |
| | TZ | 15% | Potato Common Beans Sorghum Sunflower | Potato (19%) Common Bean (-20%) Sorghum (-14%) Sunflower (2%) | 20% | 49.90% of farmers reported increasing in yield. 2023 annual results indicate an increase in yield for some VCs like Potato and Sunflower and a decline in common bean. The decline in yield is attributed to weather shocks. |
| | UG | 10% | Soybean+62.91% Potato +36.92% Sunflower+60.5% Sesame 0% | Soybean (+76.36%) Potato (-2.92%) Sunflower (+57.91%) Sesame (0%) | | The 2023 data shows a general increment in yield of all the 3 VC (Potato, Sunflower & Soybean). Sesame VC BC was not reviewed. |
| | Total | 16.3% | N/A | N/A | 20% | |
| Ind. 3 - Reached number of SHFs whose farming enterprise become more resilient to | KE | 2,880 | 7,916 | 53,791 | 100,000; | 75.99% of the 10,417 farmers who adopted (applied two OR more CSA practices over several seasons) |
| | TZ | 3,225 | 4,723 | 50,447 | 100,000; | 65.77% of 7,181 SHFs trained in 2023 reported that their enterprises became more resilient due to and the option of CSA technologies. |

| Performance indicators | | Target 2023 | Achieved 2023 | Achieved to date (where applicable cumulative) | Overall target | Comment |
|--|--------------|--------------------------|---------------------------------|--|--------------------------|--|
| possible stresses and/or shocks | UG | 3960 | 7608 | 90177 | 100,000 | 79.73% of the total reached SHFs had their farming enterprises resilient to possible stresses and shocks in 2023. |
| | Total | 10,065 | 13,195 | 185,363 | 300,000 | |
| Ind. 4 - Number of SHFs that have applied 2 or more climate resilient farming practices in the past 12 months | KE | 3,480 | 10,417 | 70,787 | 100,000; | 99.06% of farmers applied 2 or more CSA practices in only two seasons. (source new farmer questionnaire) |
| | TZ | 6,150 | 6,531 | 69,761 | 100,000; | 90.95% of 7,181 SHF trained in 2023 applied 2 or more CSA practices during the reporting period. |
| | UG | 3960 | 5461 | 89902 | 100,000 | 57.23% of the SHFs applied at least 2 or more climate resilient farming practices on their farms. |
| | Total | 13,590 | 17,147 | 225,388 | 300,000 | |
| | | | | | | |
| Ind. 5 - Reached number of Ha of farmland with agroecosystems that became more resilient to possible stresses and/or shock | KE | 1,930 | 5,225 | 35,502 | 200,000; | Av. Farmland under cultivation, representing 0.66 ha per farmer became resilient (9,287 in 2023) |
| | TZ | 2,257 | 3,637 | 30,844 | 200,000; | A total of 30,844 Hectares were reached by SHFs that became more resilient in 2023. |
| | UG | 3960 | 5821 | 52471 | 200,000 | 5821 hectares of farmland became more resilient to possible stresses and shocks, with the average hectares of 0.61 |
| | Total | 8,147 | 9,287 | 113,421 | 600,000 | |
| Ind. 6 - Number of SME businesses and cooperatives applying at least 2 CS practices and technologies within their business and/or VC | KE | 5 SMEs, 4 Coops, 2 SPs | 6 SMEs, 4 Coops | 8 SMEs, 5 Coops, 1 SP | 15 SMEs, 10 Coops | All except STAWI, IMCOS, Smart logistics, EPROD who did not implement in 2023 |
| | TZ | 5 SMEs, 3 Coops | 5 SMEs, 3 Coops | 14 SMEs, 3 SPs, 4 Coops | 17 SMEs, 10 Coops | A total of 8 BCs (5 SMEs, 3 Coops) in 2023 applies at least 2 CS practices and technologies |
| | UG | 5 SMEs, 3 Coops, 2 SP | 3 SMEs, 4 Coops | 15 SMEs, 10 Coops, 2SPs | 18 SMEs, 10 Coops; | Only 3 SMEs, 4 Coops were extended in 2023. |
| | Total | 40 SMEs, 17 Coops | 30 SMEs, 6 SPs, 15 Coops | 34 SMEs, 16 Coops, 6SPs | 50 SMEs, 30 Coops | |
| Ind. 7 – Number of SP representatives trained on profitable CS supply chain development and opportunities | KE | 50 | 114 | 164 | 50 | Commercialisation trainings for BC staff and ToTs held in Eldoret and Meru. Additionally, Woman and youth leadership follow up trainings by SNV and Agriterria on entrepreneurial skills on CSA. |
| | TZ | 0 | 52 | 158 | 50 | In 2023 refresher training was conducted to the same 52 service providers, these include: Agro input providers, ToTs who provide services, Soil testing and weather information Service providers). Knowledge sharing events were also held. Focus was on improved service delivery to farmers |
| | UG | 50 | 102 | 716 | 50 | 102 SPs were trained during different CS events and workshops held in 2023 |
| | Total | 100 | 154 | 874 | 150 | |
| Ind. 8 – Number of SHFs, cooperatives and SMEs that are | KE | 3,360 | 8,193 | 55,681 | 100,000; | 77.92% of farmers reached |
| | TZ | 3,525 | 3,824 | 40,844 | 100,000; | 53% of 7,181 SHF trained in 2022 were satisfied with the quality of CS services however, affordability for most of the |

| Performance indicators | | Target 2023 | Achieved 2023 | Achieved to date (where applicable cumulative) | Overall target | Comment |
|---|--------------|---------------------------------|--------------------------|--|------------------------------|--|
| satisfied with the quality and affordability of CS services provided | UG | 6000 | 7370 | 91456 | 100,000; | farmers is still a challenge and thus affect satisfaction for the 47%. 7,370 SHFs, cooperatives and SMEs that are satisfied with the quality and affordability of CS services provided. Representing 77.23% of reaches SHFs |
| | Total | 12,885 | 12,555 | 181,149 | 300,000; | |
| | KE | 3,560 | 9,891 | 67,221 | 100,000 | Expected cumulative reach by end of 2023 was 52,754 |
| Ind. 9 –Number of SHFs using CS inputs and services | TZ | 5,850 | 5,780 | 61,738 | 100,000; | 2023 results indicate that 80% of 7,181 SHFs trained in 2022 are using CS inputs and services. Farmers can attend different training at different times. Current data captures just training. |
| | UG | 6,000 | 9,408 | 120,733 | 100,000; | 98.59% (9408) of SHFs used CS inputs and services in 2023 |
| | Total | 15,410 | 16,358 | 240,971 | 300,000; | |
| | KE | 8 SMEs, 5 Coops | 6 SMEs, 4 Coops | 8 SMEs, 5 Coops, 1 SP | 15 SMEs, 10 Coops | 2 BCs and 1 SP were closed out in 2022. 1 BC wasn't closed by Mar 2023 but did not implement in 2023 -SLS |
| Ind. 10 – Number of CS BCs implemented under the project | TZ | 5 SMEs, 3 Coops | 5 SMEs, 3 Coops | 14 SMEs, 3 Sps 4Coops | 17 SMEs, 10 Coops | A total of 8 BCs (5 SMEs, 3 Coops) were extended into 2023 CRAFT project extension |
| | UG | 5 SMEs, 3Coops | 3 SMEs, 4 Coops | 15SMEs, 4Coops | 18 SMEs, 10 Coops; | Only 3 SMEs, 3 Coops were extended in 2023. |
| | Total | 15 SMEs, 10 Coops, 2 SPs | 14 SMEs, 11 Coops | 37 SMEs, 13 Coops, 4 SPs | 8 SMEs, 6 Coops, 1 SP | |
| | KE | 4,000 | 10,515 | 71,459 | 116,000 | BCs with cost extensions continued with trainings in 2023 |
| Ind. 11 – Total number of SHFs reached by training on CS practices and technologies for their farming system(s) | TZ | 7,500 | 7,181 | 76,703 | 117,000 | 95% of 7,181 SHFs were trained on CS practices and technologies for different VCs. |
| | UG | 6000 | 9543 | 127974 | 117,000 | A total of 9543 SHFs were reached by training on CS practices and technologies for their farming system. |
| | Total | 17,500 | 18,393 | 266,992 | 350,000 | |
| | KE | 2600 | 16,021 | 111,082 | 200,000 | This indicator looked at all the land the Farmer accesses for agricultural purposes. This is because farmers do crop rotation and some leave land fallow or diversify their farming enterprises. CSA spillover has also been reported. Average per Farmer per VC is as follows- Common beans- 0.78ha, Potato-1.27 ha, sorghum 1.66 ha, green grams- 2.55 ha |
| Ind. 12 – Total number of Ha of farmland reached by the project | TZ | 6,000 | 5,745 | 61,362 | 200,000 | 2022 results indicate that 5,745 hectares of farmland were under production for all the SHFs that were trained. On average, an individual farmland under production is Tanzania: 0,8 Ha (1.97acres) |
| | UG | 7,292 | 5,439 | 74,011 | 200,000 | With an average Ha of 0.57; 5439 Ha of farmland was reached by the project. |
| | Total | 15,892 | 22,163 | 241,413 | 600,000 | |
| | KE | 0 | 67 | 427 | 83 | In 2023, there were commercialization of CSA trainings done for ToTs and BC staff |
| Ind. 13 – Number of SME representatives that | TZ | 0 | 171 | 1,032 | 83 | In 2023, refresher training to BC extension staff and TOTs whose capacity was |

| Performance indicators | | Target 2023 | Achieved 2023 | Achieved to date (where applicable cumulative) | Overall target | Comment |
|---|---|-----------------------|-----------------------|--|--------------------------|--|
| trained on CS practices and technologies relevant to their company and/or VC. | UG | 0 | 102 | 1,215 | 84 | enhanced to mobilise and facilitate Farmer trainings 60 trained during learning event, 6 at national trade show, 30 at digitalization learning event, 6 at harvest money expo. |
| | Total | 0 | 340 | 2,674 | 250 | |
| | KE | 0 | 47 | 144 | 50 | In 2023, there were commercialization of CSA trainings done for ToTs and BC staff |
| Ind. 14 – Number of representatives of farmer cooperatives trained on CS practices and technologies relevant to their cooperative and/or VC. | TZ | 0 | 70 | 186 | 50 | Refresher training to Cooperative staff and TOTs whose capacity were enhanced to mobilise and facilitate farmer engagement and services. |
| | UG | 0 | 87 | 322 | 50 | BCs ToTs and extension staff; and government agriculture extension officers were refreshed on CS practices and technologies relevant to their vc. |
| | Total | | 197 | 652 | 150 | |
| | SO 2 - Increased business performance for agribusiness SMEs and Cooperatives due to CS investments | | | | | |
| IR 1.2 – Increased investment and business growth in CS VCs | | | | | | |
| Ind. 15 – Number of agribusiness SMEs and cooperatives that have increase their turnover due to climate related investments | KE | 5 SMEs, 4 Coops | 4 SMEs, 3 COOPs | 6 SMEs, 4 Coops | 15 SMEs, 10 Coops | This is for the BCs that reported increased turnover from the VC crop against the baseline. |
| | TZ | 5 SMEs, 3 Coops | 8 SMEs,3 Coops | 8 SMEs, 3 Coops | 17 SMEs, 10 Coops | Agribusiness companies with an increase in turnover attribute the business performance to support provided to SHFs to increase productivity, which ultimately increased their turnover |
| | UG | 9 SMEs, 3 Coops | 3 SMEs, 4 Coops, 1 SP | 12 SMEs, 7 Coops | 18 SMEs, 10 Coops; | 3 SMEs, 4Coops, & 1 SP extended and implemented in 2023 |
| | Total | | | | 50 SMEs, 30 Coops | |
| Ind. 16 – Number of agribusiness SMEs and cooperatives that have worked to improve key manageable climate risks | KE | 8 SMEs, 5 Coops | 6 SMEs, 4 Coops | 8 SMEs, 5 Coops | 15 SMEs, 10 Coops | This is for the number of BCs engaged in 2023 either through cost and no-cost extension. |
| | TZ | 5 SMEs, 3 Coops | 5 SMEs, 3 Coops | 14 SMEs, 3 SPs 4 Coops | 17 SMEs, 10 Coops | Agribusiness companies that are adopting CSA technologies and practices to respond to manageable climate risks. |
| | UG | 5 SMEs, 3 Coops, 1 SP | 3 SMEs, 4 Coops, 1 SP | 15 SMEs, 10 Coops, 2 SPs | 18 SMEs, 10 Coops; | 3 SMEs, 4Coops, & 1 SP extended and implemented in 2023 |
| | Total | | | | 50 SMEs, 30 Coops | |
| Ind. 17 – Number of agribusiness SMEs, cooperatives and farmer organizations that accessed finance for the implementation of climate change adaptation practices and/or | KE | 5 SMEs, 4 Coops | 5 SMEs,2 Coops | 9 SMEs, 5 Coops, 1 SP | 15 SMEs, 10 Coops | Those which have received finance from FIs and other sources. SMEs- SOPA, Quinam, Shalem, Fresh Crop, Sereni Coops- Kaplomboi, Marakwet |
| | TZ | 14 SMEs, 4 Coops | 9 SMEs,4 Coops | 9 SMEs, 4 Coops | 17 SMEs, 10 Coops | Agribusiness companies that have accessed additional external financing to implement CS services. |
| | UG | 5 SMEs, 3 Coops, 1 SP | 2 Coops, 1 SME | 8 SMEs, 3 Coops | 18 SMEs, 10 Coops; | 3 SMEs, 4Coops, & 1 SP extended and implemented in 2023; only Alito Joint, P'KWI & Byeffe accessed finance for implementation of CC adaptation practices. |

| Performance indicators | | Target 2023 | Achieved 2023 | Achieved to date (where applicable cumulative) | Overall target | Comment |
|--|--------------|--------------------------|-------------------------|--|---------------------------------|--|
| technologies at the level of their company and/or VC | Total | | | | 50 SMEs, 30 Coops | |
| Ind. 18 – Amount of private sector funds invested as part of matching grant/investment facility | KE | € 785,266 | | €4,471,785 | €3,333,333 | This is the total amount co-invested till Dec 2023 |
| | TZ | € 2,727,953 | € 1,292,002 | €5,504,717 | €3,333,333 | Total amount invested in in 2023 |
| | UG | 220,000 | 161,881.62 | 161,881.62 | 3,333,333 | This is the total amount spent till Dec 2023 |
| | Total | € 5,533,081 | €1,453,884 | €14,620,138 | €10,000,000 | |
| Ind. 19 – Number of representatives of FIs trained on CS agribusiness, de-risking, and financing for climate adaptation in agribusiness VCs. | KE | 0 | 0 | 0 | 25 | No training done |
| | TZ | 3 | 12 | 27 | 25 | Training was conducted to CRDB bank representatives. The training was done by RABO Bank |
| | UG | 6 | 3 | 52 | 25 | DFCU Bank, Post Bank, and Equity Bank |
| | Total | 9 | 15 | 79 | 75 | |
| Ind. 20 – Number of dialogues held with FIs on CS agribusiness, de-risking, and financing for climate adaptation in agribusiness VCs. | KE | 0 | 1 | 5 | 2 | Coop bank and Rabo partnerships engaged starlight and Fresh Crop farmers to access loans to acquire irrigation infrastructure |
| | TZ | 6 | 3 | 9 | 2 | Dialogues with CRDB bank focus on financial products that address financial needs of SHFs and the Agribusiness company's needs. Two CRA workshops in Dodoma, Morogoro. |
| | UG | 7 | 4 | 10 | 2 | 4 FIs participated in the national level policy forums such as women's day, youth day, manual launch, and weather information co-production |
| | Total | 13 | 8 | 24 | 6 | |
| Ind. 21 – Number of FIs reached with training or dialogues | KE | 0 | 1 | 5 | 5 | Coop bank |
| | TZ | 1 | 1 | 7 | 5 | CRDB bank |
| | UG | 0 | 4 | 6 | 5 | Not targeted for Uganda in 2023. |
| | Total | 1 | 6 | 18 | 15 | |
| Ind. 22 – Number of SMEs and cooperatives that have developed a bankable business plan and apply for finance for their CS BC | KE | 5 SMEs, 3 Coops, | 4 Coops | 9 SMEs, 5 Coops, 1SP | 15 SMEs, 10 Coops | The Coops revised their business plans to be more sustainable through support from Agriterra . Others will be developed during extension phase after needs assessments are done. |
| | TZ | 5 SMEs, 3 Coops | 5 SMEs, 3 Coops | 14 SMEs, 3 SPs 4 Coops | 14 SMEs, 3 SPs, 10 Coops | Total of 21 (14 SMEs,4 Coops and 3 SPs) developed bankable business plans, applied, and accessed financing |
| | UG | 8 SMEs, 5Coops | 3 SMEs, 4Coops | 12SMEs, 6Coops,2SPs | 18 SMEs, 10 Coops; | Agriterra and the BD service provider supported the coops and SMEs to develop their bankable business plan. |
| | Total | 18 SMEs, 11 Coops | 8S MEs, 11 Coops | 35 SMEs, 15 Coops, 6 SPs | 47 SMEs, 30 Coops, 3 SPs | |
| Ind. 23 – Number of finance institutions offering financial | KE | 23 | 4 | 4 | 2 | All banks provide climate finance. Some BCs received finance from other sources that are not FIs through grants. Efken provided asset financing to Fresh Crop for purchase of machinery. |

| Performance indicators | | Target 2023 | Achieved 2023 | Achieved to date (where applicable cumulative) | Overall target | Comment |
|---|--------------|---------------|-----------------------------|--|----------------|--|
| services for climate adaptation in agribusiness value chains | | | | | | Fresh Crop farmers linked to coop bank to access input credit. Quinam and Kaplomboi accessed overdraft for Buyback from Equity bank. Sopa accessed loan from family bank to improve warehouse and buy machinery. |
| | TZ | 0 | 0 | 0 | 2 | There was no financial institution offering services as a results of CRAFT intervention in 2023 |
| | UG | 3 | 3 | 3 | 2 | Post Bank, DFCU, and Equity Banks offered financial services to the BCs. |
| | Total | 26 | 7 | 7 | 6 | |
| Ind. 24 – Number of private sector partners (SMEs, finance providers, others) that have signed a letter of intent on co-funding of BC activities to be developed under the project. | KE | 0 | 0 | 13 | 15 | None during the reporting period since the onboarding process ended |
| | TZ | 0 | 0 | 0 | 17 | |
| | UG | 0 | 0 | 0 | 18 | |
| | Total | 0 | 0 | 13 | 50 | |
| Ind. 25 – Percentage of SMEs and cooperatives managed by women and youth | KE | 0% | 40% | 50% | 25% | Quinam, Shalem, Starlight, SOPA-3 SMEs, 1 Coop out of 10 BCs engaged in 2023 |
| | TZ | 0% | 0% | 48% | 25% | Since the start of the project 48% of the supported BCs were managed by women and youth. |
| | UG | 0% | 43% | 43% | 25% | 1 SME and 1 Coop managed by women; and 1 Coop managed by youth (3 out of 7 BCs implemented in 2023). |
| | Total | 0% | 54.3% | 47% | 25% | |
| Ind. 26 – Number of women and youth-led businesses that received matching grant/investment facility allocations | KE | 3 | 4 SMEs, 3 Coops | 4 SMEs, 3 Coops | 4 | Cost-extensions given to Shalem, Quinam, Marakwet, Nandi, Sereni, Starlight, Fresh Crop |
| | TZ | 3 | 1 SME, 2 Coops | 7 | 4 | EAF, Isowelu and MPUI All youth led Businesses |
| | UG | 3 | 3 (2 Coops, 1 SME) | 6 | 5 | 1 SME and 1 Coop managed by women; and 1 Coop managed by youth (3 out of 7 BCs implemented in 2023). SEBEI SACCO, P'KWI & Byeffe |
| | Total | 9 | 13 | 20 | 13 | |
| Ind. 27 – Number of women and youth farmers engaged in farmer groups and cooperatives | KE | 3,120 | 7,991 | 56,771 | 35,000 | 76% of SHF engaged in the project are women and youth |
| | TZ | 4,500 | 4,595 | 49,090 | 35,000 | 64% of SHFs are women and youth engaged in farmer groups these also include cooperative members. |
| | UG | 6,000 | 4,746 | 82,712 | 35,000 | Out of 9543 reached in 2023 45.23% and 54.14% are youth and women respectively. |
| | Total | 13,620 | 12,932 | 184,173 | 105,000 | |
| Ind. 28 – Number of women and youth employed in SMEs, | KE | 227 | 519 (355 female, 462 youth) | 772 (458 female, 616 youth) | 300 | This included casual workers, those on contract and those with permanent employment based on 11 BCs surveyed - 6SMEs, 5 Coops. |

| Performance indicators | | Target 2023 | Achieved 2023 | Achieved to date (where applicable cumulative) | Overall target | Comment |
|--|--------------|-------------|----------------------|--|----------------|--|
| farmers groups and cooperatives | TZ | 50 | 57 women, 106 youth | 195 women, 384 youth | 300 | Most of the SMEs did not recruit more women and youth in 2023. They worked with existing employees. some employees are seasonal and are engaged during harvesting, aggregation, and sorting. |
| | UG | 0 | 266 women, 498 youth | 266 women, 498 youth | 300 | This number remained the same as 2022. |
| | Total | | | | 900 | |
| SO 3 – Improved enabling environment favourable for large scale roll out of CSA. | | | | | | |
| IR 3.1 – Increased collaboration and exchange among public private actors on large scale roll out of CSA | | | | | | |
| Ind. 29 – Number of CSA related legal, policy and institutional frameworks developed and operationalised with support from CRAFT | KE | | 2 | 2 | 1 | Draft of Bean Strategy for Bomet County and Domestication of the KCSAS&KCSASIF for Nakuru County developed with different county state depts, CASCOS and CSA MSP members |
| | TZ | 0 | 0 | 0 | 1 | |
| | UG | 0 | 0 | 2 | 1 | Not targeted in 2023 for Uganda. |
| | Total | 0 | 2 | 4 | 2 | |
| Ind. 30 – Number of best practices in CS BCs captured and disseminated | KE | 3 | 4 | 2 | 4 | Mechanisation of planting, harvesting, sorting, land preparation Other VCs- Mechanised Threshing Other practices- Soil testing, surface planting, improved varieties, climate information for timely planting, crop specific fertilisers, aflasafe for sorghum, GAPs. Not all have been disseminated yet apart from the mechanisation ones. |
| | TZ | 6 | 5 | 5 | 7 | Documented best practices in CS technologies, practices, and science: like soil testing, seed multiplication, mechanization, and weather information services. |
| | UG | 1 | 2 | 4 | 7 | 2 best practices in CS BCs captured and disseminated in 2023. |
| | Total | 10 | 11 | 17 | 20 | |
| Ind. 31 – Number of tested and tried inclusive CS farming system or service delivery models developed and disseminated | KE | 10 | 6 | 16 | 1 | Hub model for decentralised access to inputs and services- Fresh Crop Extension model (ToTs as FSCs – Quinam) One stop shop for input access- Marakwet and Fresh Crop Model Demonstration farms (Inclusive farming systems- Kitui and Oljororok) |
| | TZ | 4 | 1 | 1 | 1 | |
| | UG | 0 | 0 | 3 | 2 | Not targeted in 2023 for Uganda. |
| | Total | 14 | 7 | 20 | 4 | |
| Ind. 32 – Number of CSA learning events organised | KE | 6 | 10 | 15 | 2 | Workshop with KALRO &KMD to develop localised Climate information. AGRA-regenerative agriculture. SNV GESI training workshop. Commercialisation of CSA interventions- 2 Indigenous knowledge webinar. Kenya BC learning events- 2 MEL COP. KE learning exchange visit. Monitoring visit for DGIS. Validation and launch workshop for the FOLU Strategy 2030. |
| | TZ | 4 | 4 | 10 | 2 | (Dodoma and Morogoro) 2 National CSA/CRA learning events for potato and |

| Performance indicators | | Target 2023 | Achieved 2023 | Achieved to date (where applicable cumulative) | Overall target | Comment |
|---|--------------|---------------|---------------|--|----------------|--|
| | | | | | | sunflower. CRAFT and EKN potato sector workshop – Mbeya. CRAFT, EKN and SAGCOT – Potato council Arusha, |
| | UG | 2 | 14 | 21 | 2 | In 2023 CRAFT Uganda organized 7 farmer field days, 4 CSA learning events with research stations, 1 digitalization learning event with eProd, 1 national trade show, and 1 Harvest money Expo. |
| | Total | 12 | 28 | 46 | 6 | |
| Ind. 33 – Number of learning and exchange visits organised for smallholder farmers, cooperatives, and private sector partners | KE | 10 | 4 | 25 | 4 | Field day – Oljororok and Fresh Crop, Quinam-field day Nandi exchange visit to Fresh Crop |
| | TZ | 5 | 7 | 14 | 4 | Isowelu Coop visited Silverland a renowned seed potato multiplier of Sagitta and Jelly varieties. Farmer field days TEMNAR, KUWO, MPUI, RIVACU, MWENGE, KIMOLO, to learn various CSA practices and technologies required |
| | UG | 4 | 4 | 19 | 4 | 4 learning events with research stations. |
| | Total | 19 | 15 | 58 | 12 | |
| Ind. 34 – Number of national policy dialogues held on CSA and policy-related enabling factors | KE | 10 | 2 | 28 | 2 | WRI workshop on developing a protocol for food loss and waste – CRAFT gave significant input on potato VC. (30). Contribution to Position paper for COP 28 by CSA MSP on 6 areas for climate action. (25) |
| | TZ | 2 | 1 | 5 | 2 | Agribusiness policy dialogue 2023 in Dodoma. |
| | UG | 1 | 4 | 6 | 2 | Women’s day, youth day, weather information launch, and CSA manual launch on policy related debates. |
| | Total | 13 | 7 | 39 | 6 | |
| Ind. 35 – Number of value chain actors reached through policy influencing activities and/or national policy dialogues | KE | 4 | 55 | 79 | 15 | See Ind. 34 |
| | TZ | 44 | 150 | 450+ | 15 | All the participants were engaged in the above dialogues and Policy engagement platforms. |
| | UG | 60 | 427 | 492 | 15 | The participants for women’s day, youth day, manual launch, and weather information comprised of Value chain actors from different institutions and departments. |
| | Total | 108 | 632 | 2,021 | 45 | |
| Ind. 36 – Number of farmers that have access to climate/weather information services | KE | 1,720 | 5,186 | 36,842 | 100,000 | 49.32% of farmers accessed. Lack of mobile phones and reliance on traditional methods are the greatest inhibitors |
| | TZ | 3,750 | 1,899 | 20,280 | 100,000 | 26% of 7,181 SHFs accessed weather information services in 2023. |
| | UG | 6,000 | 6,896 | 68,480 | 100,000 | 72.26% of the 9543 farmers reached in 2023 accessed weather information services |
| | Total | 11,470 | 7,589 | 119,210 | 300,000 | |
| Ind. 37 – Number of farmers that have access to index-based insurance products | KE | 0 | 482 | 3,421 | 333 | 4.58% of farmers received insurance in the ASAL areas and Western Kenya through other programs such as KCEP and WFP. |
| | TZ | 420 | 422 | 4,510 | 333 | Index insurance is very low in Tanzania, this is due to a limited-service providers on index insurance |
| | UG | 2,000 | 217 | 12,060 | 333 | Few farmers accessed index-based insurance because the service providers are centralized in major towns only and the insurance premium |

| Performance indicators | | Target 2023 | Achieved 2023 | Achieved to date (where applicable cumulative) | Overall target | Comment |
|---|--------------|---------------|---------------|--|----------------|--|
| | | | | | | if expensive for most SHF; only 2.27% of SHFs accessed the services. |
| | Total | 2,420 | 920 | 19,790 | 1000 | |
| Ind. 38 – Number of farmers that received extension services on CS practices and technologies | KE | 4,000 | 7,572 | 51,458 | 116,000 | 72.01% of farmers received extension services within the year. |
| | TZ | 7,500 | 5,139 | 54,889 | 117,000 | In 2023 more SHFs received extension services compared to 2021 due to the high demand and interest of farmers in CSA knowledge and services. |
| | UG | 6,000 | 7,339 | 100,899 | 117,000 | 76.9% of the SHFs reached in 2023 received extension services on CS practices and technologies |
| | Total | 17,500 | 13,247 | 200,443 | 350,000 | |
| Ind. 39 – Number of extension service workers trained on CS practices and technologies | KE | 0 | 114 | 1,049 | 333 | Commercialisation trainings for BC staff and ToTs held in Eldoret and Meru. Additionally, Woman and youth leadership follow up trainings by SNV and Agriterra. |
| | TZ | 0 | 254 | 1,021 | 333 | Same extension workers were trained in 2023 under the various technical trainings in the targeted CRAFT crops |
| | UG | 44 | 288 | 453 | 333 | 48 reached during joint monitoring, 35 during digitalization training, 35 during field days, 83 during national CSA manual launch and 87 during ToT refresher training |
| | Total | 44 | 656 | 2,523 | 1,000 | |

ANNEX 3: CASE STORIES

UGANDA

Diffuse light store poised for increasing availability of potato seeds in Kisoro District

It was all jubilation in Gatete Cell in Kisoro district where Kisoro District Potato Grower’s Cooperative Union (KDPGCU) launched a diffuse light store. The 65 MT capacity facility in Chihafi Town Council, was constructed with support from Climate Resilient Agribusiness for Tomorrow (CRAFT) project at a cost of UGX 40M through cost sharing.

Commissioned in August 2022 by Kisoro Resident District Commissioner, Mr Shafiq Ssekandi, with presence of other district leaders, CRAFT team (Agriterra and SNV), the cooperative management team and farmers, the facility is used to store potato seeds produced by seed multipliers that were trained with support from CRAFT. The cooperative also procures seeds from National Agriculture Research Organisation’s (NARO) Institute in Kachwekano, in Kabale, and other seed multipliers such as Namakwalandi.

Mr Shafiq Ssekandi lauded CRAFT for addressing challenges in agriculture in a changing climate, citing how he made losses from prolonged dry spells and called upon farmers to take farming as a business.

“The seasons are changing, when it shines, it takes too long and our crops are affected,” I planted eight acres of maize last season and they dried at flowering stage, I lost five acres because I could not afford irrigation, when we cut the trees and encroach on wetlands, we are becoming a problem ourselves, I am happy the project is addressing such issues of climate change, environmental conservation and agriculture. Shafiq Ssekandi, Kisoro Resident District Commissioner.



Figure 48 The diffuse light store

The facility comprised of two multitiered rows has a provision for separate storage of different varieties such as Kinigyi, Rwangume and Taurus and is roofed with the translucent sheets to allow for the use of sunlight to reduce electricity/energy usage during the day. Currently, 120 seed multipliers have been trained and this according to Fidel Kamari, the cooperative’s Chairperson, has increased availability and affordability of potato seeds to small holder farmers in local communities since the cooperative stores’ seeds for an extended period without compromising quality.

The significance of diffuse light store

One of the CRAFT’s key commitments with the cooperative was increasing productivity of potatoes and enhance the capacity of 3,000 smallholder farmers through climate-smart agronomic practices and technologies such as access to improved seeds, integrated pest management, ridge making, use of fertilisers and linkages to input suppliers, and mechanized farming.

Although, Kisoro is predominantly a potato growing area, farmers were not accustomed to climate smart agriculture practices and technologies such as improved seeds, neither did the farmers pride in growing improved varieties. Fidel Kamari attributes this to the high cost that was involved in accessing seeds from NARO in Kabale district with a sack of improved seed costing UGX300,000 which was addressed by CRAFT through creating linkages with NARO and supporting the subsidy of potato seed cost, which included other on farm trainings and sensitisation.

“We were using our home saved seeds and after joining CRAFT, we realised a difference in using improved seeds that we got from Kachwekano. We would plant one sack of potatoes and harvest five bags, but with improved seeds, we harvest between 8-9 bags, therefore having seeds nearby will motivate us to mobilise more farmers to join our group to grow improved seeds and increase on pieces of land.” Enid Sayuni, chairperson of Ndimiro Farmers’ Group



Figure 49 Seed potato starting to sprout in the diffuse light store

Additionally, through CRAFT’s linkages, the cooperative sourced foundation seeds from NARO that was distributed to trained farmers for multiplication.

“We trained our seed producers, but we had been challenged by poor seeds arising from poor storage. Our seed multipliers grow and handle the seeds very well but when it comes to storage, they lose it”. Fidel Kamari, Chairperson KDPGCU.

Fidel Kamari added that the cooperative has already registered the significance of the (CIIF) facility. It was against this background that CRAFT together with KDPGCU decided to build a diffuse light store for seeds produced by trained seed multipliers to maintain quality since most small holders in seed multiplication had no capacity to construct standard storage facilities on their own.

“Farmers from the cooperative members are all buying the seeds from us because the transport cost to buy from Kabale district has reduced. We can store quality seeds for farmers, which was a problem before, it stores many bags which an individual farmer cannot construct. Farmers must trace the source of the seeds in case there is a problem. Now that farmers have known the importance of buying seeds from the right seed source, they expect quality seeds that yield highly, that are not attacked easily by diseases, and this facility will help us to store seeds from our farmers well and meet expectations from farmers”. Fidel Kamari, Chairperson KDPGCU.

Supporting the seed production

Seed is the single most important input in crop production, carrying the genetic potential of the variety and determines the ultimate productivity of other inputs. The cooperative distributes foundation seeds procured from NARO to seed multipliers at no cost and sell the quality declared seeds to the cooperative, which is sold to farmers, both on cash and on credit as confirmed by Edward Hagiteka, one of the trained seed multipliers.

“When we went to Kachwekano, I realised that the potato seeds are generated from our usual potatoes, as a ToT (Trainer of Trainers), I encouraged my group members to take up the potato seeds and grow them.” Edward Hagiteka, seed multiplier.

“When you plant a bag here, you expect to harvest not less than eight bags minimum, but before SNV, we could plant one bag and we harvest around four bags, Rwangume variety produces more tubers than Kinigyi and one plant, you get 18 tubers.” Fidel Kamari, Chairperson KDPGCU.

Fidel Kamari hopes the cooperative will construct screenhouses and start producing foundation seeds. This will help the cooperative to reduce the cost of procuring foundation seeds from NARO in Kabale District.

The cooperative is finalising the ware potato store which will ease the challenges involved in hooding potato during marketing. The ware potato store will be a one stop centre for potato buyers hence increasing the cooperative and farmers bargaining power. The current buyers incur costs of aggregating produce from multiple bulking centres, but with this facility access to market will be so much simplified.

TANZANIA

Growing a sunny future for potato farmers in Njombe through farmer field schools

In the Njombe region of Tanzania, many farmers engaged in potato farming to sustain their families. The growing market demand for Irish potatoes presents an opportunity for farmers to generate income from this crop. However, many smallholders struggle to produce high-quality potatoes due to a lack of awareness about Climate-Smart Agriculture (CSA) practices and the necessary equipment to tap into the commercial potential. One prevalent issue in Njombe, especially in Mtwango ward, is soil acidity, leading farmers to frequently apply fertilizers. This prolonged use of fertilizers has contributed to declining crop yields in the region. Consequently, the income of both farmers and non-farmers is affected. Farmers, who rely on selling their produce for livelihood, face challenges due to the low quantity and quality of their crops. Non-farmers, who depend on employment opportunities during cultivation activities, such as weeding, planting, fertilizer application, chemical spraying, and harvesting, also feel the impact.

ISOWELU AMCOS is addressing these challenges by assisting Irish potato farmers in adopting best practices for planting and growing potatoes. The organization is also introducing a drought-tolerant seed variety through the establishment of Farmers Field Schools (FFS) under the CRAFT project, a two-year initiative. In the first year, the CRAFT project provides 10 demonstration plots during the rainy season in various villages (Tagamend, Kiumba, Ilunda, Lulanzi, Ibiki, Itunduma, Sovi, Lunguya, Welela, and Sakalenga) within Mtwango ward. Additionally, five irrigation demonstration plots were established during the dry season. In the second year, the project expanded to different villages (Itipingi, Mtoninganga, Magangasenga, Nyombo, Matigonjola, Ikuna, Lole, Maduma, Ibumila, and Majengo Ilonga).



making

decision

The Farmer Field Schools aim to train smallholder farmers on CSA practices and technologies. The positive results from the initial year show that many farmers have applied these practices on their own farms. Athanas and others like him have experienced improved crop yields, even in challenging dry conditions.

Jackline Mgaya, a 28-year-old young woman and member of the Tupendane group at ISOWELU AMCOS LTD in Mtwango ward, Njombe region, is actively participating in the Farmer Field School training through the CRAFT project. This collaborative effort between ISOWELU AMCOS LTD and SNV is dedicated to enhancing the quantity and quality of potatoes through the adoption of CSA practices and technologies.

"In the past, I used to plant potatoes before the rainy season without considering weather climate information. I also relied on local varieties that lacked drought resistance and disease resistance. After experiencing low yields and losses for two consecutive years, I decided to join ISOWELU AMCOS. Through this organization, I have acquired essential skills in climate-smart agriculture practices and technologies, particularly through the training provided in Farmer Field Schools (FFS). The FFS sessions have taught me how to observe the proper spacing of potatoes (80 x 30) cm and follow good agronomic practices, including timely planting, proper fertilizer application, seed selection based on characteristics, precise chemical application, and regular monitoring and evaluation. Field visits and the use of agroecosystem analysis (AESA) have been instrumental in understanding the progress of the farm, observing plant and environmental conditions, and making informed decisions for the next field management activities. Applying the knowledge gained from FFS to my one-acre farm, I harvested 172 bags, a significant increase from the 30 to 50 bags I used to harvest per acre. The progress is encouraging, and I attribute the marked increase in yields to the application of CSA practices and technologies. I extend my gratitude to the CRAFT project for supporting the activities of the Farmer Field Schools." Jackeline Mgaya, potato farmer, Isowelu.

KENYA

From casual labourer to becoming a profit-making potato farmer in his own right



Figure 51 A farmer in a community demonstration garden

Paul Kariuki's journey exemplifies the transformative power of climate smart farming in an ever-changing climate. At 33 years old, residing in Baraka Village, Molo Sub- County, Nakuru County, Kenya, Paul found himself without formal employment and working as a casual labourer on other people's farms. However, he embarked on a path that changed his fortunes, transitioning to small-scale farming as his primary source of income.

In 2014, while residing with his parents, Paul initiated his farming journey on leased land. Life was arduous, with low crop yields, particularly from maize, which dominated their fields. The year-long wait for meagre returns prompted Paul to explore more sustainable farming practices, particularly those related to climate-smart agriculture.

His entry into potato farming in 2016 marked a turning point. Beginning with a quarter-acre of land, Paul witnessed an upswing in his farm income. By the end of the year, he expanded his potato production to a full acre, yielding up to 5 tonnes per acre. Despite less-than-favourable market prices, potato farming proved more profitable than previous crops.

Paul's introduction to climate-smart agriculture through a partnership between CRAFT and Starlight Co-operative Society further revolutionized his farming approach. He adopted certified seeds, boosting his production to 7 tonnes per acre. However, the maximum price he could sell an 85 kg bag was 14 EUR per bag making a profit of 507 EUR per acre per season. At this point he was doing a maximum of 2.5 acres. With each successive cycle, he incorporated additional practices like soil testing, improved varieties, timely planting guided by climate information, crop-specific fertilizers, mulching, crop rotation, and surface planting. Moreover, he emphasized crop protection through meticulous spraying programs. To enhance his adaptability to weather fluctuations, Paul utilized weather apps to predict rainfall onset, allowing for timely planting. Employing surface planting techniques prevented rain-induced erosion, setting an example for his neighbours. He also rigorously tested crop-specific fertilizers to optimize production. With these climate-smart practices and technologies, Paul saw his profits soar to 1,792 EUR per acre per season, compelling him to expand his production to 5 acres, now harvesting a minimum of 10 tonnes per acre. Favourable market prices further augmented his earnings. Although the cost of production doubled due to increased input costs and use of additional climate smart products and services, the venture remains profitable.

Despite his success, Paul faced challenges, including the variability of climate affecting planting and agrochemical application. He also grappled with irregular rainfall patterns, leading to increased early and late blight incidents. Nonetheless, Paul's perseverance and adaptation to climate risks have enabled him to move out of his parents' home, purchase land, and build a permanent house. He is now a self-employed agripreneur with the goal of expanding his production to 10 acres in the coming years

if land becomes available. His newfound independence and economic stability have transformed his life and secured his family's future.

ANNEX 4: CASELET FROM KENYA

Increased benefits in potato production associated with mechanization

In Kenya, national certified seed production is currently less than 5% of the needs for all acreage to be planted to quality seed, which is considered a key impediment to growth in the potato sector. The International Potato Centre (CIP) estimates that bacterial wilt spread through poor seed can result in 30% losses in yield. In addition, limited availability of affordable certified seed in combination with



Figure 52 Mechanised land preparation in action

climate change - erratic rains and degenerated soil in the key potato growing agro-ecological zones leads to significant fluctuations in access and availability to ware potatoes. To meet the demand for high quality seed potatoes there needs to be a large-scale production by farmers who do all the needed steps in the process to give the quality demanded by government and the recipient buyers of the seed. Mechanization is an important necessity to make this possible.

FreshCrop Ltd. is a potato seed production company adding value along multiple parts of the potato production value chain including the adoption of apical root cuttings to rapidly multiply high-grade potato seeds. Through partnership with Climate Agribusiness for Tomorrow (CRAFT) project, FreshCrop was able to scale up from 20 hectares of certified seed annually in 2021 to almost 500 ha of certified seed annually in 2023. SNV CRAFT provided a matching grant that enabled FC to acquire a tractor and the first set of climate smart implements – chisel plough, planter, and harvester. FC later expanded through capital raise from asset finance loans accessed from the local banks. FC has been able to mechanize potato production from planting to sorting/grading. The rapid expansion of mechanized planting and harvesting has made this possible.



Figure 53 Demonstrating the use of rippers in land preparation

Mechanization has enabled FC to increase their capacity. Greater efficiency has been realised at the point of planting, ridging, and harvesting. This has led to reduced drudgery and timely completion of farm activities cushioning the company against unpredictable weather changes.

- i. **Planting** – With the planter FC is now able to plant 10 ha in a day with 20 labourers vs. manual planting, FC used to do a maximum of 1.2 ha a day with 60 labourers.
- ii. **Ridging** – Roughly 10% increase in production related to proper ridging which allows for moisture retention and increased tuber initiation and room for growth.

- iii. **Harvesting** – Mechanization has made it possible for FC to harvest 8 ha/day vs. when harvesting was done manually - 2 ha/day with 150 labourers (casual labour above this is not available). This is a reduction from 75 labourers per ha/day manual harvesting to 15 labourers per ha/day with the mechanized harvesting. This has resulted in a 5-10% increase in potatoes lifted out of the ground/ unit area with mechanized harvesting, ability to expand production and decreased production costs as well as decreased post-harvest losses. Also noteworthy is a 20% decrease in damaged potatoes (less cuts) as compared to manual harvest.
- iv. **Sorting** – Mechanized sorting has increased efficiency in time spent as well as saving costs by 40%. In addition, farmers spend less seeds when planting seeds graded using a sorter, for instance, for Grade 2, farmers plant 13 bags (@50kg)/acre, normally farmers plant 18bags (@50kg)/acre.



Figure 54 A well prepared garden ready for sowing

Conclusion:

- i. Train operators on preventative maintenance practices of machinery to avoid breakdown and expensive repairs.
- ii. Utilizing equipment suited for the environment, topography and farm size is key to have a successful adoption of new potato machinery.
- iii. Locally available skills for repair and availability of replacement parts are imperative for successful and efficient use of machinery.
- iv. Financing for equipment is not outright. Showing a good economic analysis of the cost benefit ratio is important to avail of financing.
- v. It is crucial to work within the social context of the community and not eliminate casual labour jobs that have been a pillar for employment. This can be achieved through a stepwise approach to introducing mechanization and keeping good relations with the community. FC has been

able to expand production without eliminating the labour force – instead they are able to re-purpose roles as they continue to expand.

ANNEX 5: PRIVATE SECTOR FINANCE LEVERAGED IN 2023

Table 5 financials leveraged from BCs

| PRIVATE FINANCES LEVERAGED | | | | | |
|----------------------------|--|----------|-----------------------|---------------------|-------------------------------------|
| S/n | NAME OF BC | COUNTRY | OWN CASH CONTRIBUTION | LOAN AMOUNTS | FINANCIAL INSTITUTION |
| 1 | MWENGE SUNFLOWER MILLS OIL COMPANY LIMITED | Tanzania | 44,836.20 | - | |
| 2 | EA FRUITS FARM & COMPANY LIMITED - EAFFC | Tanzania | 57,300.38 | - | |
| 3 | TEMNAR COMPANY LIMITED | Tanzania | 24,923.96 | - | |
| 4 | KIMOLO SUPER RICE COMPANY LIMITED | Tanzania | 14,305.01 | - | |
| 5 | IKUWO GENERAL ENTERPRISES LIMITED | Tanzania | 19,251.64 | - | |
| 6 | ISOWELU AMCOS LIMITED | Tanzania | 6,619.47 | 290,274.73 | NMB Bank Tanzania |
| 7 | RIFT VALLEY COOPERATIVE UNION (RIVACU) | Tanzania | 25,490.36 | - | |
| 8 | MPUJI SAVINGS AND CREDIT COOPERATIVE SOCIETY | Tanzania | 28,239.93 | - | |
| | | | 220,966.94 | 290,274.73 | |
| 1 | Topical Ventures | Kenya | 14,779.93 | - | |
| 2 | Quinam Investments Ltd. | Kenya | 5,583.59 | 115,078.11 | Equity Bank |
| 3 | Shalem Investment Ltd | Kenya | 279,220.21 | 172,617.16 | Good Food Innov Fund/ Rockefeller |
| 4 | Sopa Millers | Kenya | 127,395.82 | 143,847.64 | Family Bank |
| 5 | Sereni Fries Ltd. | Kenya | 58,209.76 | 92,062.49 | Plus Plus |
| 6 | Starlight Cooperative Society (SCS) | Kenya | 13,060.57 | - | |
| 7 | Fresh Crops | Kenya | 138,177.90 | 138,093.73 | EKEN |
| 8 | Nandi Potato Farmers Cooperative Society Ltd | Kenya | 13,294.46 | - | |
| 9 | Elgeyo Marakwet Farmers cooperative society | Kenya | 4,848.82 | 57,539.05 | Input Credit from Yara |
| 10 | Smart Logistics Solutions | Kenya | 5,764.68 | - | |
| 11 | Kaplomboi Cooperative Society Ltd | Kenya | 3,279.28 | 5,753.91 | Equity Bank |
| | | | 663,615.02 | 724,992.09 | |
| 1 | Okeba Uganda Ltd(OKEBA) | Uganda | 22,998.20 | 65.83 | Yunus Social Business Foundation Lt |
| 2 | Alito Joint Farmers Multipurpose Cooperative Society Ltc | Uganda | 7,573.19 | 14,841.41 | DFCU Bank |
| 3 | Sebei Famers SACCO | Uganda | 9,329.74 | - | |
| 4 | Kisoro District Potato | Uganda | 7,321.36 | - | |
| 5 | PIKWI | Uganda | 7,830.04 | 4,676.24 | Post bank Bukedea Branch |
| 6 | Byeffe Foods Ltd | Uganda | 13,485.34 | 28,725.31 | Balloon Ventures Ltd |
| 7 | DMI | Uganda | 26,929.98 | - | |
| 8 | E-Prod | Uganda | 49,750.00 | - | |
| | | | 145,217.86 | 48,308.80 | |
| | TOTAL | | 1,029,799.82 | 1,063,575.61 | |



Figure 55 A farmer applying pesticides on his garden

ANNEX 6: PROJECT FINANCIAL OVERVIEW

Financial report for 2023

Table 6 Consolidated financials

| CRAFT CONSOLIDATED FINANCIAL REPORT JAN - DEC. 2023 | | | | | |
|---|------------------|------------------|-------------|---|--|
| Cost Category | Budget 2023 | 2023 Actual | Depletion % | Comments | |
| SNV Staff | 1,929,450 | 1,685,859 | 87% | Ok | |
| Partner staff | 340,000 | 304,986 | 90% | Ok | |
| Consultants | 145,000 | 57,742 | 40% | Ok | |
| Matching grant facility | 988,000 | 798,482 | 81% | Ok | |
| Activities | 1,000,280 | 742,409 | 74% | Ok | |
| Travel | 282,900 | 218,621 | 77% | Ok | |
| Office costs | 418,730 | 335,104 | 80% | Ok | |
| Equipment | 4,000 | 9,648 | 241% | Over-expensed, some costs to re-allocated to office costs | |
| Sub-total | 5,108,360 | 4,152,852 | 81% | | |
| Programme delivery cost | 332,043 | 272,157 | 82% | Ok | |
| Indirect program cost | 462,435 | 379,030 | 82% | Ok | |
| TOTAL Donor Costs | 5,902,838 | 4,804,039 | 81% | Spent within the budget | |

Overall project-to-date depletion by December 2023

| Overall PTD | |
|---------------------|----------------------------------|
| 35,197,212.76 | Actual expenditure |
| 36,296,012.00 | Total budget before extension |
| 1,098,799.24 | Available balance as of Dec 2023 |



Figure 56 Farmer learning linear planting technics

ANNEX 7: EXTENSION BUDGET 2024-2025

Brief notes on the budget reallocation; The CRAFT project leadership team analyzed the additional skill sets required to ensure impact and sustainability of the project. Some of these skills would be accommodated under FTE staff well as other could be procured as when need arises. In addition, some key budget lines institutional strengthening, profitability analysis and sustainable business analysis needed special attention. Below is the budget and some notes. A detailed breakdown is available.

ANNEX 7: EXTENSION WORKPLAN 2024-2025

| Result area | | Activities | Lead partner | Supporting partner | Third party | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec | | |
|-------------|---|---|------------------|--------------------|-------------------|-------------------|-----|-----|-----|-----|------|------|-----|------|-----|-----|-----|---|---|
| 0 | Project management | 0.1 MOFA - SNV meetings | n/a | n/a | | X | | X | | | X | | | X | | | X | | |
| | | 0.2 PMC meetings | n/a | n/a | | | X | | | | | | | | | | | | |
| | | 0.3 Narrative progress report IATI - 2023 | SNV | SNV | | | | | | X | | X | | | | X | | | |
| | | 0.4 Annual narrative report 2023 | SNV | SNV | | | | | | | | X | | | | | | | |
| | | 0.5 Annual audited financial report 2023 | SNV | SNV | | | | | | | | X | | | | | | | |
| | | 0.6 Annual plan/budget 2025 | SNV | SNV | | | | | | | | | | | | | | X | |
| | Project implementation | | | | | | | | | | | | | | | | | | |
| 1 | Coach and support the highest performing BCs (19) with growth potential to improve their performance and their impact for smallholder farmers | 1.1 Establishing MoUs with selected BCs to agree on mutual roles and expectations | SNV | Agriterra | | X | X | | | | | | | | | | | | |
| | | 1.2 Review of business models/plans and identifying internal capacity strengthening needs of the BCs | SNV Agriterra | | | | X | X | | | | | | | | | | | |
| | | 1.3 Provision of business and internal organizational development support to the 19 BCs (with focus on quality service provision, commercial viability/growth, and sound business practices) | SNV Agriterra | | Local consultants | | | | X | X | X | X | X | X | X | X | X | X | |
| | | 1.4 Expanding pool of CSA trainers and providing (refresher) trainings | SNV | | Local consultants | | | | X | X | X | | | | X | X | X | | |
| | | 1.5 Expanding the number of demo plots to reach more SHFs (with diminishing dependence on CRAFT funding) | SNV | | | | | | X | X | X | | | | X | X | X | | |
| | | 1.6 Expanding provision of farmer trainings on CSA using various methods/channels with diminishing dependence on CRAFT funding | SNV | | Local consultants | | | | | X | X | X | | | X | X | X | | |
| | | 1.7 Identifying and testing self-financed CSA extension service provision mechanisms (e.g. on soil testing, farm mechanization) | SNV | | | | | | X | X | X | X | X | X | X | X | X | X | |
| | | 1.8 Identifying and testing affordable and accessible CSA-related input provision mechanisms (e.g. for quality seed, fertilizer, pesticides, irrigation equipment, farm machinery, etc) | SNV | | | | | | X | X | X | X | X | X | X | X | X | X | |
| | | 1.9 Follow-up on affordable access to finance (including climate financing opportunities) | SNV | | | | | | X | X | X | X | X | X | X | X | X | X | |
| | | 1.10 Ongoing engagement with public and private sector actors in bilateral and multi-stakeholder forums and platforms to strengthen sustainable linkages aimed at CSA promotion and support provision | SNV | | | | | | | X | X | | | X | | | X | | X |
| | | 1.11 Facilitation of learning events, exchange visits, and exhibitions for BCs to share and gain knowledge on CSA practices and technologies with other agribusinesses, cooperatives, and service providers | SNV | | | | | | | | | | | X | | | | | |
| | | 1.12 Updating training manuals to enhance quality/relevance by including farming systems approach | SNV | | | Local consultants | | X | X | | | | | | | | | | |
| 2 | Refine the climate analysis for different crops to further improve their use in climate smart decision making | 2.1 Updating CRA factsheets | SNV | WENR | | | | | | X | | | | | | | | | |
| | | 2.2 Development of seasonal forecasts and agro-advisories with relevant government bodies | SNV | | | | | | | | | | | | | | | | |
| | | 2.3 Strengthening weather/climate information service provision by local meteorology departments (through e.g. weather information dissemination platforms) | SNV | | | | | | X | X | X | | | | | | | | |
| | | 2.4 Development of short-term suitability maps based on decadal forecasts and applying a year-round approach (not on MAM and OND growing seasons only) involving 5 crops in the three countries | WENR | SNV | | | X | X | X | X | X | X | X | | X | | | | |
| | | 2.5 Conducting assessments of the impact of climate variability and the effectiveness of climate adaptation strategies on cropping systems for the near future, combined with an assessment of the likely effect of relevant adaptation measures that reduce negative consequences due to climate variability (1-5 yrs) | WENR | SNV | | | X | X | X | X | X | X | X | | | | | | |
| | | 2.6 Finalization and dissemination of Cropping Systems Assessments for adoption of sustainable and impactful farming systems | SNV | | Local consultants | | | | X | X | | | | | | | | | |
| 3 | Monitoring, evaluation, and learning | 3.1 Annual review of 2023 and 2024 survey data | SNV | | | X | X | X | | | | | | | | X | X | | |
| | | 3.2 Evidence gathering and analysis (CSA adoption and resilience, farming systems approach, sustainability, household nutrition/livelihood changes, GESI changes) | SNV | Agriterra WENR | | | | | X | X | X | X | X | | | | | | |
| | | 3.3 Identifying and documenting experiences of 2-3 front-runner BCs that have progressed GESI inclusion in their business practices and/or supply chains (focus on women and youth-managed enterprises) | SNV Agriterra | | Local consultants | | | | X | X | X | X | X | | | | | | |
| | | 3.4 Documentation of evidence | SNV | Agriterra WENR | Local consultants | | | | | | | X | X | | | | | | |
| | | 3.5 Production of knowledge products & comms materials | SNV | | Local consultants | | | | | | X | X | X | | | | | | |
| | | 3.6 Regional learning event (including preparations and post-event report) | SNV | Agriterra WENR | | | | | | | X | X | X | X | X | X | X | | |



Figure 57 From top; beans, green gram, potato, sesame, soybean, sunflower and sorghum