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# Kenya at a glance

## South – South and Triangular Cooperation (SSTC) Country Project

Supported by the Ministry of Agriculture and Rural Affairs of the People's Republic of China

May 2023



## KENYA

Post-Harvest Loss Management Practices and Technologies through a Food System Approach and exploring opportunities to link smallholder produce to new markets (e.g. schools) for scaling up.

## OBJECTIVE

Promote increased food availability and reduce post-harvest loss through appropriate technology and skills development for small-holder farmers, micro and small enterprises, and government agricultural officers (grains-cereals and pulses, fresh foods -vegetables, fruits and livestock products- milk).

## IMPLEMENTING PARTNERS

County Government Departments of Agriculture and Trade (Isiolo, Samburu, Tana River, Turkana counties), SokoFresh Agri Innovations EA Ltd (SokoFresh); State Department of Agriculture; National Irrigation Authority; Cereal Growers Association; AMPATH Kenya.

## PHASE OF THE INITIATIVE

III (January – December 2022)

## THEMATIC AREAS



Value Chain Development for Smallholder Farmers



Post-harvest Loss Management and Food Systems



Innovative Poverty Alleviation Initiative, including rural e-commerce



Explore opportunities to link smallholder produce to local markets (e.g. schools) with a look at Kenya's expanding national school meals programme.

## SSTC MODALITIES



Policy dialogue and workshops/seminars/webinars



Online/ offline training courses



Expertise deployment/exchange visit



Visibility and advocacy initiatives

## 480 PEOPLE ENGAGED



County Government Departments of Agriculture and Trade representatives (Isiolo, Samburu, Tana River, Turkana counties)  
53 (men 43, women 10)



Smallholder farmers 345  
(men 207, women 138)



Micro & Small Milling Groups (Etic, Morulem, Loyal & Jenga Maisha)  
44 (men 17, women 27)



Farmer Service Centers representatives 25  
(men 15, women 10)



Rice producers (10) and 3 Agriculture Officers



Dialogue with Kenyan government partners at national level (e.g. Ministry of Education and National Council of Nomadic Education in Kenya) to pave the way for scaling up and linking smallholder produce to markets (e.g. schools)

## TECHNICAL PARTNERS INVOLVED IN THE SSTC ACTIVITY



Ministry of Agriculture and Rural Affairs of the People's Republic of China

WFP Centre of Excellence for Rural Transformation in the People's Republic of China (China)

Departments of Agriculture and Trade

State Department of Agriculture

National Irrigation Authority (Mwea)

Cereal Growers Association (CGA)

AMPATH Kenya

## Development challenge and the SSTC solution



As highlighted in the recent UN Common Country Analysis for Kenya, agriculture is central to Kenya's economy. The sector accounts for 65 percent of the export earnings and provides the livelihood (employment, income, and food security needs) for more than 80 percent of the Kenyan population.

Despite the valuable contribution of the agriculture sector to growth and employment, it remains largely underdeveloped and low in productivity. Furthermore, poor post-harvest management renders much agriculture unprofitable, with an estimated 40 percent of harvested crops being lost every year, representing financial losses of up to USD 500 million.

Climate change is putting additional pressure on the food and nutrition security of Kenya's rural population and requires the adoption of climate-smart production techniques. The social protection and safety nets coverage is limited in rural agricultural and pastoralist communities.

Kenya is facing the challenge of low availability of nutritious foods, therefore, increasing the value addition and economic return of the most vulnerable smallholders in the arid and semi-arid counties is a priority. WFP seeks to address the low availability of nutritious foods while introducing value addition to increase economic returns of smallholders in the arid and semi-arid counties through the SSTC project.

Additionally, the project helps to enhance Post-Harvest Loss Management Practices and Technologies through a Food System approach specifically for fresh foods and vegetables.

The SSTC project in Kenya is focusing on promoting increased food availability and reducing post-harvest loss through appropriate technology and skills development for small-holder farmers, micro and small enterprises, and government agricultural officers.

This project was designed in consultation with the local government authorities and is in line with Kenya's national priorities in food security, nutrition, emergency, agriculture, youth, gender, and social protection.

Additionally, the demand for access to markets, inputs and training for smallholders was addressed through the piloting of the Farm to Market Alliance (FtMA) Farmer Service Center (FSC) model. The FSCs are groups of rural entrepreneurs, farmer groups, aggregators or similar, that are key service hubs connecting private and public sector partners with smallholder farmers.

They play a key role in bridging the last-mile gap between value chain players and smallholder farmers effectively and efficiently. The FSCs, which were introduced to the arid and semi-arid lands (ASALs) in phase II of the project under the SSTC funding, are supporting rural arid lands farming communities increase their farming skills through agriculture extension, access inputs and new marketing outlets.

China expertise in rural technical and extension services, and transformation for agriculture development was shared through a webinar by a MARA nominated expert – Dr. Qiao Liang, associate professor on Agricultural Economics & Management at School of Public Affairs, Zhejiang University. The expert also initiated a virtual peer-review of the FSC business model.

## SSTC partnership with the Ministry of Agriculture and Rural Affairs of China (MARA)

In 2022, the third phase of the WFP's Global Field Pilot Initiative on SSTC in Kenya, supported by WFP's Global SSTC Team in the Programme Humanitarian and Development (PRO-T) Division and WFP Centre of Excellence for Rural Transformation in China (China CoE), came to completion.

This represents a step forward in the financial SSTC partnership with MARA that started in 2019, aimed at leveraging the SSTC mechanism to create benefits for the most vulnerable rural populations.

In particular, Phase III of the Pilot Project Initiative was built on the results and lessons learned of phases I and II undertaken jointly with County governments, FAO and FtMA. Earlier achievements include the production of five TV show episodes that informed over 9 million people in Kenya, Tanzania and Uganda on pre- and post-harvest management, food safety and quality, and marketing.

Additionally, a post-harvest loss management communication strategy was produced delineating how WFP will continue to promote, deliver, and document activities on post-harvest loss reduction in Kenya.

Other documents were produced and disseminated: the Human centered design study report on adoption of a hermetic technology, a webinar on the FSC model with presentations by MARA nominated Dr. Qiao Lian of Zhejiang University, government, private sector as well as the FSCs that were established in the ASALs using MARA funding, and Introduction of trade fairs as a platform for linkages between farmers, youth groups, Farmer2 Cooperatives, Government (national and county), and private sectors to enhance adoption of a hermetic storage, enhance access to credit and private sector manufacturers of hermetic devices.

The partnership with MoA was strongly focused on the county level MoA representation so far. As the project expands and moves into phase 4, we have established a strong connection with MoE and NACONEK at the national level to link smallholder produce to markets in view of home-grown school feeding (strategy and roll-out plan being developed as we speak, taking this project into account).





## Lessons Learned

The third phase is now generating experience to scale up SSTC results of previous activities and strengthen linkages to Chinese solutions in line with the national priorities of the host countries.

The following lessons have been identified during the project implementation in 2022:

- 1. Early engagement and joint development of the concept note with all levels of the host government counterparts (country and national governments) are essential to ensure that their priority interventions are addressed to minimize challenges related to the time differences and enable steady implementation of the project.**
- 2. Effectiveness in deliverables when building on existing ongoing projects and interventions is valuable as it allows for streamlining the adoption of best practices for any gaps identified.**
- 3. Leveraging funding to test innovative models (i.e., the FSC model) has been essential in ensuring flexibility during project implementation.**
- 4. As Kenya has made firm commitments to put in place strategies for local procurement (e.g. 30% of procurement from local smallholder farmers in specific counties) and to scale up access to markets (e.g. scale up of the national school feeding programme from 2.5 to 10 million children), China's expertise and technical assistance is key to support Kenya on this process.**
- 5. Aligning learning/knowledge-sharing sessions with peer farmers who have had successes and valuable good practices has been impactful in enhancing smallholder farmers' capacity (e.g. Mwea Rice Irrigation learning event).**
- 6. Leveraging a flexible and tailored combination of in-person and virtual SSTC modalities is key to adapting to COVID-19-related travel restrictions while preserving close interaction among project stakeholders.**
- 7. The pilot's period needs to be proportionated to the pilot's expected results and time to enable proper engagement of the SSTC partners and preparation of SSTC activities. Multi-year projects with more flexible time horizons for implementation have yielded the best prospects for longer-term success, in-country capacity strengthening, and generating benefits for vulnerable populations in the field.**

# Key SSTC results achieved in 2022



## SSTC trainings

Training sessions with group leads of farmer organizations targeting over 50 participants, including FSCs, were held, allowing blended online and in-person training of value chain actors in partnership with the County and national governments counterparts in post-harvest management and value addition/ processing for milling and fortification.

Three knowledge-sharing and demonstration sessions on post-harvest loss, milling, and fortification were held with farmer groups and processors by the County and WFP at the county levels. This also included private sectors partners and 53 government officials. Four milling groups (44 members) received business and financial training as they are producing fortified sifted flours.



## Capacity building of Farmers Organizations

Lead farmers (10) and sub-county agricultural officers (3) attended a field exchange programme organized by the State Department of Agriculture and National Irrigation Authority based at Mwea Irrigation Project in Kirinyaga County.

This included a tour of the rice scheme, water uses management committees, farmer-to-farmer engagement, farms demonstration, fresh produce mass production sites, and milling cooperatives.

The exchange visit aimed at building capacity and technology transfer to enhance production and productivity. The farmers visited farms and milling sites to enhance their knowledge and exchange experiences, ideas, practices, and improved rice production technologies that will benefit the groups to scale up rice production in Tana River.



## Private sector engagement

With complementary funding, WFP partnered with SokoFresh Agri Innovations EA Ltd (SokoFresh) to install two solar-powered cold storage rooms in Garissa and Tana River Counties at both farm and market levels. With its business model, SokoFresh avails an innovative platform for farmers and aggregators of fresh foods that creates an opportunity to sell in volumes and provides a secondary benefit of food loss reduction.

The SSTC funding was used to layer on this engagement for training smallholder farmers (67 farmers) and county agriculture and trade officers (15) on the value, utilization, and management of the cold storage units. From quarter three of 2022, 0.3-0.5 % losses in fresh produce were recorded, a lower trend compared to 20-30% experienced before the installation of the cold storage solutions.

Smallholder farmers and Micro, Small, and Medium Enterprises (MSMEs) aggregate stock and sell their produce at a premium price due to the maintained quality of the produce. The farmers also received fresh food post-harvest loss training.



## Next Steps

Building on the results of the past three phases, the activities to be implemented in 2023 (phase IV) should deliver on the project objective of smallholder farmers benefiting from enhanced capacities in climate-smart production, post-harvest management, food processing and marketing strategies of biofortified foods such as Orange Fleshed Sweet Potatoes (OFSP).

WFP will draw on China's successful experience and technical expertise to build on the experiences of this pilot to facilitate cross-county/peer learning; inform Kenya's national and county-led government assistance programmes (e.g., national, county Early Childhood Development (ECD) and school meals programmes as "markets" for the OFSP, disaster risk management policies and programmes); and develop a concrete roadmap for scaling-up the activities and expanding market access (e.g., schools) in various counties that are growing the OFSP.

The project will target two counties – Migori, in the high potential area in western Kenya, and Tana

River in ASALs. This will create opportunities for knowledge exchange across the two counties with potential for replication in other parts of Kenya. The initiative will be implemented in partnership with FAO and relevant line ministries (agriculture, trade, education, and health), as well as smallholder farmers' organizations, research, and private sector partners. The proposal will indirectly target other value chain actors such as transporters, aggregators, distributors, processors, and packaging entities, and build on lessons learned from the previous SSTC field pilots on the use of digital platforms to inform the broader population on post-harvest technology, the FSC model, and the strong partnerships forged between government, academic, and non-government institutions. As Kenya embarks on the journey of expanding the coverage of its national school feeding programme from 2.5 to 10 million children, there is a key opportunity to reach smallholder communities and their children at scale by linking their produce to schools (as expanding market).







## Showcase results and lessons learned

The evidence generation and successful adoption of best practices from smallholder farmers and FSCs who participated in the various training and knowledge sharing events is being monitored. This will inform the capacity strengthening model and support the identification of the necessary improvements.

## Strengthening local capacity

Continued involvement of the government, both at national and sub-national levels, to contribute to the concept note development to ensure the government buy-in for effective collaboration and efficient alignment on the priorities.

## SSTC technologies

Focus on climate smart/conservation agriculture and the use of digital solutions continues to be a priority. WFP Kenya has submitted a proposal for 2023 that aims to strengthen the resilience and livelihoods of smallholder farmers through the adoption of nutritious value chains.

Building on the success of the existing WFP-MARA SSTC Field pilot project in Kenya, the upcoming

phase IV of the pilot will leverage the fruitful SSTC partnership between Kenya and China and strive further to promote value chain development, sustainable and inclusive food systems, and benefits for vulnerable smallholder farmers in Kenya.

The main objective target smallholder farmers in Kenya benefitting from enhanced capacities in 1) climate-smart production, 2) post-harvest loss management and food processing, and 3) marketing strategies to facilitate linkages between supply and demand actors of nutritious orange flesh sweet potatoes (OFSP) and create new markets for it.

WFP will draw on China's successful experience and technical expertise in those areas to build on the experiences of this pilot and China's experiences to facilitate cross-county/peer learning, create new markets by linking smallholder produce to Kenya's national and county-led government safety nets (e.g., national and county Early Childhood Development (ECD) and school meals programmes as "markets" for the OFSP); and develop a concrete roadmap for scaling-up the activities and expanding market access (e.g., schools) in other counties that are growing the OFSP. This is mainly addressing the challenge smallholder farmers face in accessing institutional markets (e.g., schools and hospitals) due to lack of knowledge and/or compliance with the Kenya public procurement regulations.

# Success Story

## RICE FARMING FORTUNES (WFP Garissa Field Office)



John Macharia went to Bura, in Tana River County, for official duties as a young man aged 22 years. Macharia found a gold mine in farming in Bura which is one of the country's oldest irrigation schemes. In 1982 he started farming commercial maize, seeds maize, and cotton production, the dominant crops at the time.

*"I was determined to engage in farming and expected to get good production to feed my family and at the same time get good returns from the enterprise. I was growing cotton in six acres at the irrigation scheme and I would get about Sh36,000 which was good money at that time".*

However, he and other farmers encountered numerous challenges producing these crops ranging from disease and pest infestation to market price fluctuations (e.g., army worm, aflatoxin in maize, and the African bollworm in cotton).

*"I would invest money in the production of these crops only to find that the market prices were low and the profit margin very small. At some point, 200 MT of maize from Bura was condemned due to aflatoxin, and, since I was one of the suppliers of the Kenya seed maize, I ended up incurring losses for no money was paid out that season".*

Mr. Macharia asserts that trends demotivated the morale of the farmers and most abandoned cotton and maize production.

*"In 2017, I stopped growing maize seed and shifted to rice farming. I felt that growing maize was no longer profitable, so I shifted to growing rice", he said.*

*"I am happy that rice farming has changed my life. This season, I am expecting to harvest an average of 34 bags of 90kgs from 1.5 acres".*

Growing Rice from scratch costs an average of KSh130,000 per acre. He started with six acres of land where he grew the Basmati rice variety and then expanded to Kwamboka new rice variety, which is ready for harvest within 76 days.

*"The first Kwamboka rice harvest of 6 acres earned me a profit of Kenya Sh300,000. Then I increased it to 10 acres that earned me about half a million", he said.*

*"Apart from being a cash crop, it is a food crop. I have stopped buying food as I used to. I have now built a permanent house from the proceeds and shifted from the mud-and-wattle house, where I had lived for over 25 years. I have also managed to comfortably pay school fees for my seven children unlike in the past when I struggled to do so", John Macharia said.*

Mr. Macharia also says that support from the Government and non-government organizations has contributed to the success of rice production in Bura.

*"I received hermetic bags and silos from WFP, and this has enabled me to store my rice easily and storage pests and aflatoxin no longer bother me. In December 2022, WFP facilitated twelve lead farmers and county officials to Mwea Rice Irrigation Scheme in Kirinyaga County for exposure to learning modern techniques of rice production and this has really motivated me to do even better".*

Mr. Macharia states that agriculture extension officers also train on new rice technologies and methods to further increase productivity.

*"In the future, I want to expand the rice acreage because I have discovered that the bigger the garden, the more profits I get. Being a WFP Farmer service center (FSC), I want to start aggregating rice from smallholder farmers and selling to Coastal and Northern Eastern Counties in Kenya".*





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