

CLIMATE-SMART FOOD PROCESSING TECHNOLOGIES & CLIMATE-RESILIENT FARMING PRACTICES

Processing fruits and vegetables that would have otherwise been wasted, opens new markets for farmers. Using lower quality produce and implementing circular economy approaches to food waste adds value where there was none before, creating new income opportunities and reducing the environmental impact of food loss.

Background

In Kenya, as in other regions of the world, climate change requires farmers to adapt their farming systems to maintain the successful production of agricultural goods. Additionally, farmers face high pre- and post-harvest losses due to **missing good agricultural practices** or challenges finding consumers for second grade fruit, leading to **avoidable food losses**. The Kenyan company, **Miyonga Fresh Greens Ltd.**, works in fruit processing, together with **over 2400 contract farmers**. By investing in a mobile 40ft container that houses a **solar-powered dryer**, Miyonga transforms second grade fruit into a product that can be sold on national and international markets.

Project in a Nutshell

The project between WE4F East Africa Regional Innovation Hub and Miyonga aims to achieve the following:

1. Piloting innovative, **climate-friendly processing equipment** (solar mill, solar cold storage) that helps to further reduce food waste and gives additional value to second grade fruit.
2. Providing trainings for farmers in **Good Agricultural Practices (GAP)** and conservation farming to increase farm productivity and make farmers more resilient to the effects of climate change.
3. Accompanying farmers on the way to reach **organic certification** to enable farmers to enter **new markets** and allow Miyonga to have a traceable source of products for its own processing and sale.

PROJECT TARGETS AT A GLANCE

- Mobile Solar Cold Storage Installed
- Solar Milling Equipment Installed
- 2,400 Smallholder Farmers Trained
- 120 Equipment Operators Trained



The founders of Miyonga: Yvonne and Dorothy Otieno/Alan Mola

Income increases	20% improvement in income for targeted beneficiaries
Capacity Development	2,400 smallholder farmers to benefit from short-term trainings on Good Agricultural Practices
Food security	75% Post-harvest loss reduction will improve farmers' income 1,057 MT of food to be processed following WE4F innovations.

What has been achieved so far?

A baseline study has been conducted to understand the actual situation within the targeted **value chains** for **mango, banana and pineapple**, providing important insights about the amount of food lost. A **solar mill and a solarized 20ft container cold room** have been installed at the aggregation site to complement the fruit dryer. Using the power of the sun, the first processing of fruits into powder has officially begun. The trainings are ongoing in different counties in Kenya, providing farmers with important information on GAP and conservation farming.

Looking Forward

1. **Increased income** through employment as pickers, graders, loaders, and workers during the processing and packaging of produce at the farms and pack house. Increased income leads to **improved access to food, education, health, and other opportunities**.
1. **Reduced post-harvest loss and food waste** caused by food produce not meeting national or international standards. This, in turn, means that lower quality produce can still be sold, **generating income and reducing the environmental impact** of food loss.
1. **Increased business competitiveness** through **certification and local value addition**. This means that an African business, like Miyonga, can strengthen the local economy while being competitive on the **international market**.
1. Indirect **access of farmers** to international markets and cross-border trade through **improved market linkages**.
1. **Greater resource-use efficiency and agricultural productivity** through the use of **climate-friendly processing technologies and local value addition**.

Packing of products/Miyonga



FACTS

- 80% of Kenya's live in rural areas and depend directly on agriculture for their livelihoods
- 30% of Kenya's income comes from agriculture, mainly smallholder
- 14.5 million Kenyans face food insecurity and poor nutrition each year

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Miyonga Fresh Greens Ltd and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

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More about the global initiative Water and Energy for Food (WE4F) Grand Challenge: <https://we4f.org/>

Further information about the project: <https://we4f.org/>

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