

# AGRITECH ADVANCE PROJECT SPOTLIGHT

## Synnefa

Scaling Smart Solar Dryers for Staple Crop Value Chains in Kenya

### About the project

Synnefa is scaling its smart solar dryer technology to address major post-harvest losses in Kenya's staple food value chains, particularly maize, cassava and sweet potatoes. Traditional open sun drying exposes crops to dust, mould, uneven moisture and unpredictable weather which can result in 20–40% losses in cereals and 35–50% in roots and tubers.

Synnefa's controlled-environment smart solar dryer combines greenhouse-style solar thermal retention with automated ventilation and forced-air circulation, regulated by Synnefa's FarmShield™ IoT monitoring system, to dramatically reduce drying times from five–seven days to two–three days for bulk crops, while ensuring uniform moisture levels and compliance with premium market standards such as the 13.5% target for dry maize.

This project builds on a successful initial proving of their solar dryer under the AgriTech call in the coffee value chain and focuses on validating the dryer's performance with high-volume staple crops. The system will generate real-time technical and economic performance data to demonstrate reductions in spoilage, improvements in product quality, and the price premiums that cooperatives can capture from millers and major off-takers.

By evidencing the dryer's commercial viability, the project will unlock Rent to Own financing for cooperatives and enable affordable acquisition through existing institutional partners. Synnefa's approach supports women and youth farmers who carry the majority of processing labour, improves food safety by reducing aflatoxin risks, and strengthens cooperative-led agricultural processing in climate-vulnerable regions. This validation work is designed to pave the way for broader adoption of smart drying infrastructure across Kenya's staple food systems.

"Farmers in Kenya have a drying problem. Across our staple value chains like maize, cassava, sweet potatoes, open sun drying still costs producers up to a third of what they grow. Support from Efficiency for Access lets us prove that Smart Solar Dryers close that gap at cooperative scale, hitting the moisture levels millers and off-takers actually pay for, in two to three days rather than a week, without diesel and without compromise on quality. The goal for us is a drying layer that finally lets African staples compete on the terms the market already pays more for." **Taita Ngetich, Founder and CEO, Synnefa**

Photo Credits: Synnefa



### Agritech Advance Grantee

Synnefa

### Organisation Founded

January 2014

### Technology


Smart Solar Dryer

### Project Location


Kenya

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