



Food processing

Hot air dryer (Solomon Islands)

Problem addressed

Local food losses are mainly due to poor infrastructure, power outages, extreme weather conditions, and high transport costs. Traditional processing and preservation are of limited value in extending the shelf life of food such as roots and tubers, fruits and nuts, thereby restraining the creation of a value chain and market system to support sustainable livelihoods for farmers. These traditional systems also present the risk of contaminating food with smoke.



Solution

The hot air dryer extends the shelf life of products. For instance, cassava can be preserved for 3 months instead of 3 days. This technology supports farmers in fulfilling their consumption needs throughout the year, producing a surplus, and selling the extra to the market. This food processing technology has also helped extend value chains to urban centres and between islands.

Innovations and features

Incremental innovation, built on the drum cooking oven system, provides multi-functional capacities. A hot air dryer can be used to cook bread and buns, make chips, and dry fruits.

The dryer has a food retention rate of 80 percent and a lifespan of 4 years. It takes between 8-12 hours to dry a batch of 10 kg. The equipment weighs 40 kg and costs SBD \$2 500 (USD 312). Constructing the dryer from bricks keeps the costs down, but inhibits its mobility.



Evidence and viability

- The shelf life of some farm products increase 30-fold.
- 20 hot air dryers have been deployed, saving up to 50 percent of the harvest yield in the form of dried stock. The pressure of going daily to the garden has been reduced by 70 percent.
- Families reported how easy it was to maintain healthier diets from their stock of locally processed food items. They gained food security, and harvest spoilage was reduced by 80 percent.
- This innovative system has now begun a process of certification to comply with food standards.
- Farmers can access financing for the equipment, and the costs are repaid through products that progressively reimburse the loan.

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