Sparky Charchoal Food Dryer







Why to choose this solution?
The Sparky dryer is a low-tech, thermal dehydrator fueled by charcoal, designed to dry a range of perishable agricultural produce, such as fresh fruits and vegetables. It is faster than a solar-drying option, independent of the weather, but higher tech, and needs charcoal as fuel.

Savings per day or production:
The Sparky dryer dehydrates food in 5 hours, extending shelf life from 2 days to more than 6 months. It is 5 times faster than solar dryers.

Cost in money and in own time to construct:
It is available in 3 sizes. The cost of units with output daily upto 2kg and 5kg are USD 218; and USD 320. For heating, you need to buy charcoal according to usage.

Lifetime:
10 years.

Maintenance needed:
Repair / installation of trays after six months, fans after six months, aluminum plate after 2 years, installation material after 5 years.

Resources needed in use:
Charcoal or briquettes for producing heat; and a 12V battery, charged by a solar PV system to power the ventilator.

Problems and limits:
Failure to regularly scale / clean the drying trays. Creating sustained face to face technical support to users on proper use of this solution after sale due to varied locations. Faulty charge dry cell that due to poor maintenance.

Where and how can you get it or make it?
Sparky Social Enterprises Limited can make it.

Skills needed to produce, install. maintenance, use:
There is need to clean the drying trays. Repairs are needed of trays, and fans after 6 months, and of aluminum plate after 2 years.

How to use it:
Easy to operate according to an instruction.

How to maintain it:
https://www.youtube.com/watch?v=hXx3ErYujQ4

Climate effect (if any):
It reduces post-harvest losses. It uses charcoal, which is less climate friendly than the solar dryers. But you can also use harvest residue briquettes.

Where it is used and how many users are there?
It is used in Uganda, Burundi, Rwanda, Kenya, Burkina Faso, Central African Republic and Zimbabwe.

Why is it successful?
It is faster than a solar dryer, and it is not dependent on the weather. The Sparky Social Enterprises Limited, has a team of skilled staff locally, providing technical support on proper use.

If you can make it, a short description, typical problems, materials needed:
The dryer is made by metal technicians. It is made out of mild steel for the frame, stainless steel inner layer and vintage wooden body for insulation with aluminum wire mesh coated with wooden handle for easy handling and faster drying. The complete set of the dryer comes one 12V 10 W solar panel, 1 12V 7AH Battery, 7-meter connecting cable, 1 stove, 8 trays for the big size dryer, and 5 trays for the small size dryer.

How to make it (if possible):

How is it delivered and by whom?
The dryer is made by metal technicians. It has a milled steel frame, stainless steel inner layer, and vintage wooden body for insulation with coated aluminium wire mesh with wooden handle. The complete set comes with a stove, a 12V 10W solar panel, a 12V 7Ah battery, a 7m connecting cable, 8 trays for the big size dryer, and 5 trays for the small size dryer.

Successful financial model

What policies and strategies helped the success?

More info:
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Sources:
https://sparkydryer.com/ and https://sparkysocialenterp.wixsite.com/sparkydryer.

When was the case uploaded?
2021-03-16

Case from Catalogue of Local Sustainable Solutions in East Africa. Read more and see partners at localsolutions.inforse.org