

Fruit-bearing solar crop dryer could provide for thousands

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Tasting the results.

A solar crop dryer developed by a UNSW photovoltaic and solar energy engineering student has the potential to provide a living for thousands of people throughout Vanuatu.

Telia Curtis, 29, who developed the solar tunnel dryer as part of her Masters thesis, wanted to create a unit that would allow families to dry and sell the abundant fruits and nuts found through the South Pacific island nation.

“I want to create a design that could be built out of easily accessible materials,” says Talia of her bamboo, wood, corrugated iron and polythene film construction which she adapted from a German design. It was developed in conjunction with Charles Longwah of the Vanuatu

Kava Store.

The dryer works with solar powered fans for forced convection, with products being laid out on mesh trays and air forced over them to extract moisture from the foods.

"Charles Longwah is running electric dryers at the moment and his energy bills are enormous," says Telia. "This is a very simple design that works with a lot of different materials using radiation from the sun."



The solar crop dryer.

The units can easily be used by people living in the more remote islands where poor transport infrastructure currently blocks trade in many fresh local products.

Telia demonstrated her prototype dryers at an open day in Port Vila to an overwhelmingly enthusiastic audience.

Now local builders and community groups are seeking government and aid funding to build and distribute the units.

Jacob Kapere, of the Vanuatu Cultural Centre, said the units could allow people to make a living on their home islands instead of having to move to Port Vila for employment.

"People were so excited," says Telia. "It's particularly great for women because they are the ones that sell foods through the local markets. Mango, paw paws, tamarind and nangai nuts. There's great potential for all of these."

Contacts for Telia's project were developed by Dr. Richard Corkish, head of the School of Photovoltaic and Renewable Energy Engineering, who has been running student projects in Vanuatu since 2008, and the project is co-supervised by Professor Robert Fuller, a renowned solar dryer expert from Deakin University.

"I have been talking to the shop owner who we developed this with on every visit to Vanautu I've made so it's great to come up with the goods at last," said Dr. Corkish.

"To see people so interested at the launch has enlivened my commitment to the place."

Provided by University of New South Wales

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