



The design employs rooftop solar panels that can generate enough electricity to power the units in all weather conditions | Photo source [Cold Hubs](#)

Innovation > Food & Drink > [Solar-powered refrigerators to cut food spoilage in developing countries](#)

SOLAR-POWERED REFRIGERATORS TO CUT FOOD SPOILAGE IN DEVELOPING COUNTRIES

 FOOD & DRINK

Refrigeration is being brought to fisherman and farmers in rural areas of Nigeria, through an entrepreneur's invention of solar-powered cold storage rooms

Spotted: Almost 20 per cent of food harvested in developing countries in Africa, Asia, and Latin America spoils due to a lack of cold storage. However, with 840 million people lacking access to electricity, it's not as simple as plugging in a fridge.

Nigerian invention NColdHubs is the first refrigeration system designed specifically for off-grid areas. The design employs rooftop solar panels that can generate enough electricity to power the units in all weather conditions while providing reliable 24/7 autonomous refrigeration.

ColdHubs currently serves 3,517 farmers and fishermen, with a rental cost of about €0.85 a day on a pay-as-you-go subscription model. The company has so far installed 24 Hubs in Africa and employed 48 women to service the refrigerators.

ColdHub fridges can extend the life of fruits and vegetables from two to 21 days. This has saved over 20,000 tons of food from spoilage and increased vendor and farmer profits by 25 per cent on average, says Nnaemeka C. Ikegwonu, the innovator behind the company. In the Kano region of Nigeria, where almost every second child is vitamin A deficient, a 35 per cent reduction in postharvest loss of tomatoes would result in additional availability of Vitamin A for up to **1.1 million Nigerian children per day**.

Ikegwonu won the 2020 Waislitz Global Citizen Disruptor Award and a €42,000 cash prize, **which he says** he will use “to build two ColdHubs in two fruit and vegetable markets, saving 3,285 tons of

food from spoilage yearly, increase the income of 200 users, and create four new jobs for women.”

ColdHubs is currently only available in Africa but hopes to extend its support to other developing countries in the world.

Written By: Katrina Lane

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Takeaway:

According to the [Food and Agriculture Organization](#), roughly one in nine people go hungry every single day. It is estimated that a 10 per cent reduction in global food loss would result in an **11 per cent decrease in hunger**, and a **4 per cent decrease in child malnutrition worldwide**. ColdHubs could also help local farmers increase their income: with up to 80 per cent of the food in the developing world **provided by small farms**, innovations like these could significantly support the development of global markets.