COLDHUBS
NIGERIA
PRESENCE: Nigeria.

ColdHubs is a social enterprise that designs, installs, commissions and operates 100% solar-powered walk-in cold rooms to preserve fresh fruits, vegetables and other perishable food. The company aims to eliminate the negative impacts of food spoilage along the food supply chain, which currently affect the income of 470 million smallholder farmers globally.

ColdHubs is looking for:
- Investments (USD 3.9 million in equity, debt and grants) to support the expansion plan;
- Partnerships with multinational corporations, local governments and UN agencies to access new markets.

CHALLENGE

The academic literature estimates that one-third of all food produced worldwide, approximately 1.3 billion tons, is lost or wasted. By 2050, according to the United Nations, 2 billion additional people will need to be fed around the world. However, according to the Rockefeller Foundation Food Waste and Spoilage Initiative, 470 million farmers, retailers and food supply chain actors in developing countries – and 93 million in Nigeria alone – lose 50% of their fresh fruits and vegetables harvest and 25% of their annual income because of food spoilage. This reduces the net availability of food for local consumption and calls for the need to undergo a systemic shift from the current practices within the food supply chain to meet future food demands.

SOLUTION

ColdHubs designs, installs, commissions and operates 100% solar-powered walk-in cold rooms branded as "ColdHubs", in outdoor food markets, horticultural production centres and farm clusters. The Hubs are used by smallholder farmers, retailers and wholesalers to store and preserve fresh fruits, vegetables and other perishable foods 24/7, extending their shelf life from 2 days to 21 days. The Hubs ensure food safety by reducing exposure to harsh direct sunlight, chemical, bacterial, parasitic and mycotoxin contamination.

ColdHubs eliminates the impact of food spoilage and the lack of small-scale post-harvest infrastructure for smallholder farmers, eliminating food losses and increasing their income. The company bears the capital cost of installing, commissioning, operating and maintaining the solar powered cold rooms, providing farmers, retailers and wholesalers, a cost-effective method of cooling food off the grid. It operates with a Cooling as a Service (CaaS) pay-as-you-store business model. Farmers and retailers pay 100 Nigerian Naira (equivalent of USD 0.28) to store one plastic crate of 20kg of fresh fruits and vegetables per day. Users do not buy the space in the Hub, but they rent it, making ColdHubs affordable also to low-income farmers. ColdHubs also tackles the limited awareness and knowledge by food supply chain actors by organizing and imparting skills and training workshops in local language about the post-harvest management of perishable food.

“The company has a highly transformative business model and offers a targeted solution to a significant issue, creating transformative direct and indirect impacts on lives of the beneficiaries.” – Alexandra Soezer, UNDP, Climate Change Technical Advisor

IMPACT

ColdHubs is currently operating 54 installed cold rooms in 32 farms, horticultural centres and markets within the Southern and Northern Regions of Nigeria. 100 more ColdHubs are planned for deployment. In 2020, the impact of ColdHubs was as follow:

- 5,250 farmers, retailers and wholesalers reached
- 40,042 tons of food saved from spoilage
- 50% increase in the household monthly income of small holder farmers.
1,040,688 kg of CO₂ saved through the solar supply of the cold room - which otherwise would produce about 52.8 kg CO₂ per day

**WOMEN EMPOWERMENT**

20% of women in C-suite positions

By recruiting and training women to work as Hub Operators and Market Managers in markets and farm clusters, ColdHubs created 48 new jobs for women. Furthermore, 80% of ColdHubs’ customers are women, as women represent most of the workforce within smallholder farmers. In Nigeria, they represent 75% of the labour in production and 100% of the labour in the marketing of fruits, vegetables and other perishable food. The reduction in postharvest losses doubles their income and increases their food and nutritional security.

**SCALABILITY**

The FAO Global Food Losses and Food Waste analysis indicates 123 million metric tons of food lost in sub-Saharan Africa, during production, post-harvest, processing and distribution. Therefore, ColdHubs has a wide market opportunity across its target markets of Nigeria, Kenya and Zimbabwe. ColdHubs estimates that the market values USD 4 billion in Nigeria alone, and USD 2.3 billion and USD 1.6 billion in Kenya and Zimbabwe, as these countries lose between 50% and 60% of their annual vegetable and fruit production due to the absence of cold storage.

ColdHubs markets its products by engaging users in different farms, aggregation centres and markets through its partnership with the All Farmers Association of Nigeria (AFAN), whose local branches inform and educate farmers and vendors on ColdHubs technology and services, launching the product in a new market. ColdHubs is planning to further scale by setting up a ColdHubs Franchise Model, which will reduce the difficulty of owning, managing and operating an high number of hubs. To access foreign markets, ColdHubs also plans to establish partnerships with in-country fresh fruits and vegetables supply companies, productive use of energy (PUE) companies and refrigeration businesses.

**FINANCIALS**

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<tr>
<th>Annual Revenue (USD)</th>
<th>EBITDA (USD)</th>
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<tr>
<td>26,170 (2020)</td>
<td>6,847</td>
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<tr>
<td>77,000 (2019)</td>
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<td>55,000 (2018)</td>
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**INVESTMENTS**

Since inception in 2015, ColdHubs raised USD 1.9 million in grants, equity and debt funding from IFPRI/GoJ, King Baudouin Foundation, Feed the Future, UKAID, Microsoft, Swiss re Foundation, All On Energy Impact Investor, the World Food Programme, Factor E Ventures, the Global Alliance for Improved Nutrition and the German International Cooperation.

**PARTNERSHIPS**

ColdHubs works with the German International Cooperation for the design of Solar Powered Cold Rooms for fruits and vegetable growers and vendors; and with UKAID and USAID for the installation, commissioning and operations of ColdHubs. Furthermore, it cooperates with the Government of Japan and the International Food Policy Research Institute to rebuild rural livelihoods and food supply chains, in the conflict-affected Northeast Nigeria through Solar-Powered Cold Chain Systems.

**AWARDS**

[GGGI Global Maker Challenge](http://gggi.org)  
[Start Up Energy Transition Award](http://startupenergytransitionaward.com)  
[Mit Solve Entrepreneurs for Resilience Award](http://mitsolve.org)

**DIGITAL TECHNOLOGIES**

The ColdHubs Advanced Remote Monitoring System (CARMS) is a digital technology with high-tech sensors used to monitor the technical performance of each ColdHubs. With CARMS the company is able to remotely monitor and control the daily energy production, consumption, storage and performance. The technology is also able to capture photos and videos, and keep record of loading and off-loading of food inside the Hubs while linking it to financial reporting.

**FOUNDER**

Nnaemeka C. Ikegwuonu is the CEO and founder of ColdHubs. He is a farmer, innovator and social entrepreneur, and also the Executive Director of The Smallholders Foundation. He obtained numerous awards including Nigeria’s Young Person of the Year in 2011. He holds a BA in History and International Studies from the Imo State University.

**MORE INFORMATION**

Website: [www.coldhubs.com](http://www.coldhubs.com) | Facebook: @ColdHubsLTD | Twitter: @Coldhubslimited | LinkedIn: @ColdHubs Limited