

WFP Innovation Case Study Fenik in Malawi

The **WFP Malawi Country Office** and **WFP Innovation Accelerator** worked with **Fenik**—a private enterprise that offers portable, low-tech coolers. These coolers use an innovative technology that only requires water to keep food cool. No other source of electricity is necessary.

Fenik participated in **WFP's Sprint Programme** to support rural households in Malawi's hazard-prone Southern Region. The pilot project produced noteworthy results that can inform similar initiatives in other WFP Country Offices. The Malawi pilot serves as an example of how refrigeration innovations can **increase the availability of nutritious food** in countries where WFP operates. Fenik's cool box is particularly user-friendly due easy assembly, low maintenance and intuitive functionalities, making it adaptable to different contexts.

Globally, over one billion people live without refrigeration, resulting in millions of tons of food wasted annually. This pilot showed that evaporative cooling devices have the potential to **accelerate resilience-building** in regions with low access to electricity and those vulnerable to a changing climate.

COUNTRY CONTEXT

Malawi is a small landlocked country in Sub-Saharan Africa with a population of 18.6 million. It is a low-income country, ranking 174 out of 189 on the Human Development Index. People in rural areas are highly affected by climate change. Episodes of drought and flooding are increasing in frequency and unpredictability, giving communities inadequate time to recover. Seasonal trends influence agricultural yields, causing high volatility in food prices, which simultaneously drives high rates of inflation. Households are characterized by high levels of poverty, undiversified sources of income, and low capacity to cope with seasonal fluctuations or shocks. Women-headed households are affected the most.

All of this is conflated by a chronically low electrification rate; 87.3 percent of the population lacks access to electricity and hence refrigeration. This leads to increased food waste and low income opportunities for smallholder farmers.

WFP has been operating in Malawi since 1965 and supports the Government's resilience-building efforts. With chronic malnutrition at 37.1 percent and 5.4 million Malawians facing chronic food insecurity, increasing the availability of nutritious food is a critical challenge. Access to electricity and cold-chain storage solutions for perishable crops is a key constraint for smallholder farmers and their communities in rural Malawi.

MALAWI



5.4 million people are food insecure



53% of the population lives below the poverty line



12.7% of the population has access to electricity

WFP Innovation: Fenik in Malawi

Fenik is a for-profit social business aiming to increase access to refrigeration globally. It brings portable units that use evaporative cooling without any electricity. Fenik was identified in the [WFP Innovation Challenge 2019](#) and participated in WFP's 5-day [Innovation Bootcamp](#) in 2019. The team entered the [WFP Sprint Programme](#) and received US\$ 70,000 in funding and project management support to pilot Fenik units in Malawi.

Sprint project dates: June 2020 – June 2021 (one year)

Sprint project locations: 8 districts in Malawi, including Balaka, Blantyre, Chikwawa, Machinga, Mangochi, Nsanje, Phalombe, and Zomba.



300 households



96 percent user satisfaction rate



5.4 percent monthly savings from extended shelf-life of food

PROGRAMMATIC FRAMEWORK

Fenik supports the **Integrated Resilience Initiative** of WFP, which helps rural families manage climate-related risks. Resilience is part of WFP's Country Strategic Plan in Malawi (2019–2023). It includes activities such as [food assistance for assets](#), [village savings and loan systems](#), [climate services](#), and [smallholder market support](#).

PROJECT IMPLEMENTATION

Participant selection. Fenik worked with smallholder farmers and households in the Food Assistance for Assets intervention. This enabled an integrated approach where participants had access to irrigation schemes and market support. Half of the participants were female.

Ownership. Smallholder farmers wouldn't usually be able to afford Fenik coolers. One cooler costs USD 80, while a smallholder's annual income is USD 204. WFP created a loan arrangement without financial commitments with each participant to promote a more sustainable model for Fenik's distribution. Fenik units will remain the property of WFP for up to two years. Participants who adopt and maintain the units effectively will gain ownership of their units after this time.

Knowledge transfer. Before distributing coolers, WFP held a Training of Trainers for field staff and partners. District-level extension officers and government counterparts were briefed about the new technology. This built local ability to assemble and use units and collect monitoring data.

Monitoring and evaluation. WFP developed baseline, monitoring, and endline surveys to track project progress. A local partner engaged participants via phone surveys.

OUTCOMES AND LESSONS LEARNED

Fenik has proven to be an effective refrigeration solution in Malawi. Almost all (99 percent) participants said Fenik units made their fruits and vegetables last longer. On average, shelf life increased by five days.

Targeted approach is key. Fenik worked well for households that grew vegetables year-round for self-consumption or sale; hence, being part of an irrigation scheme where levels of productivity are optimal has been a defining targeting criterion.

Women were the primary users of coolers, as reported by 66 percent of households.

Farmers need larger coolers. Fenik's current size and capacity are not ideal for farmers who produce surplus: 41 percent of participants wished the volume of the cooler box was bigger. This insight is important for Fenik's commercialization and scale-up.

THE WAY FORWARD

The WFP Malawi Country Office and Fenik are seeking funding for the next phase of this pilot, which is to build a sustainable and regional production and business model to develop and scale cheaper, larger Fenik units across the country and region.

The WFP Innovation Accelerator sources, supports and scales high-potential solutions to hunger. We provide WFP staff, entrepreneurs, start-ups, companies and non-governmental organizations with access to funding, mentorship, hands-on support and WFP operations. Follow us on [Twitter](#), [LinkedIn](#) and [YouTube](#) and subscribe to our [Newsletter](#).