



World Food Programme  
**FACTSHEET**

## **FOOD FORTIFICATION**

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### **FACTS & FIGURES**

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more than 70 percent of the population purchases flour or grinds grain through **small and medium scale mills**. This presents a true gap in terms of access to micro-nutrients

The milled and fortified flour by small organized groups drawn from the Turkana host community and the refugees, is used to prepare porridge for the **school meal programme, reaching over 60,000 children** attending school in Kakuma refugee camps

## **Fighting 'Hidden Hunger' Through Rural Food Fortification**

According to the World Health Organization (WHO), deficiencies in iron, vitamin A and zinc rank among the top ten leading causes of death through disease in developing countries. Increasing access to and consumption of foods rich in micro-nutrients, particularly fortified foods, has been identified as one of the top strategies for reducing the 'hidden hunger' of micronutrient malnutrition, particularly for vulnerable households where dietary diversity is poor. Micronutrient intake in Kenya is poor, with only 22 percent of children consuming a minimum acceptable diet, and as low as 2.7 percent in the northeast arid regions (2014 Kenya Demographic and Health Survey).

Food fortification is included in the Government of Kenya's National Food Security and Nutrition Policy as an important strategy for addressing national food and nutrition security. In 2005, stakeholders from industry, government and non-governmental organizations (NGOs) and UN agencies were mobilized to form the Kenya National Food Fortification Alliance (KNFFA).

### **Benefits of Fortification at the Small Scale Mill**

Low access to fortified products, in rural areas and particularly in the arid lands, remains a huge constraint to meeting the populations' micronutrient needs. Although Kenya enacted fortification of all milled flours, and most of the large scale millers



have complied, more than 70 percent of the population purchases flour or grinds grain through small and medium scale mills. This presents a true gap in terms of access to micro-nutrients, especially in food insecure areas, where diversifying the diet remains a challenge.

Fortification at the small scale mill has the potential to deliver nutrients to large segments of the population without requiring radical changes in food consumption patterns.



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## WFP's Approach to Small Scale Fortification

As a step towards addressing the food fortification gap, WFP started a pilot in 2014 to establish staple food fortification at the small-scale miller level in and around Kakuma refugee camp. The pilot tested the viability of buying locally-grown maize and sorghum through small holder-friendly procurement processes in order to stimulate agricultural production. The grain is then milled into flour and fortified by small organized groups drawn from the Turkana host community and the refugees. The flour is used to prepare porridge for the school meal programme, reaching 60,000 children attending school in Kakuma refugee camps.

An important objective of the pilot is to contribute to formative research in Kenya in order to support the development of a robust fortification model for small-scale millers.

The pilot invested heavily in building the capacity of small-scale millers, through behaviour change communication and technical training on fortification, and strengthening of the quality assurance mechanisms.

As beneficiaries within the target population are the small-scale farmers, small-scale millers, and consumers of milled, fortified foods, the process of fortification was participatory and key stakeholder groups were engaged in production, behaviour change communication and technical training on fortification, and regulatory processes.

WFP works in close consultation with the Ministry of Public Health and Kenya Bureau of Standards to comply with national quality assurance checks of fortified foods and build capacity to ease future engagement and regulation at the small-scale miller level.

Technoserve Kenya provided support to obtain the small scale fortification technology, develop training material and deliver the training to communities – some of whom cannot read or write.

## Next Steps

- Obtain the permits that will allow the fortified products to bear the Kenyan standardization mark and fortification logo.
- Share lessons that can inform the government's plan on implementing fortification at small scale mills.
- Scale up the approach to surrounding arid lands to reach food and nutrition insecure populations lacking access to fresh foods and/or fortified foods.
- Invest in increasing awareness about the benefits of micronutrient intake in order to build stronger demand for fortified foods.
- Link to government capacity to regulate fortified foods by small-scale millers to assure quality fortified foods for vulnerable populations.
- Engage private-sector to increase access to fortified foods and strengthening the supply chain of micronutrients to the arid lands.
- Document effectiveness and impact of the small scale fortification activities.



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## Tech Speak

The fortification technology comprises of a gravimetric dosifier which allows for continuous dispensing of premix proportionate to the weight of grain added in the mill feed hopper. The dosifier is calibrated to add 500gm of premix to one metric ton of flour (5.5 ppm of added iron) and is attached to the mill and powered by a solar panel. Fortification trials started in September 2014 and all processes were monitored carefully. Fortification at scale started in two mills in May 2016.



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