SANKU FORTIFICATION

Bringing Food Fortification to Rural, Village-Level Mills

Sanku's mission is to improve the health and vitality of those without access to nutrient enriched foods in resource poor settings.

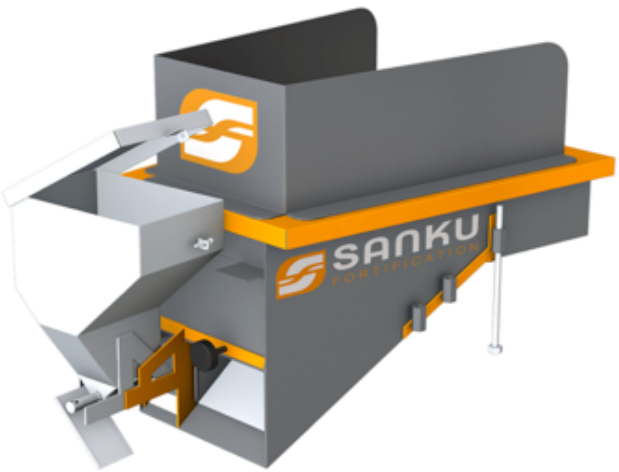
Despite the increasing adoption of large-scale fortification programs as a means of addressing micronutrient malnutrition throughout the developing world, the majority of individuals living in rural and remote areas do not have access to centrally processed foods, and thus are denied the benefits of these efforts. Addressing this gap becomes critical when considering the fact that these populations are the most vulnerable and in the greatest need of strategies to combat micronutrient malnutrition.

With this in mind, Sanku has designed an effective model that will enable small and medium scale, village-level mills to cost-effectively and sustainably fortify their grain.

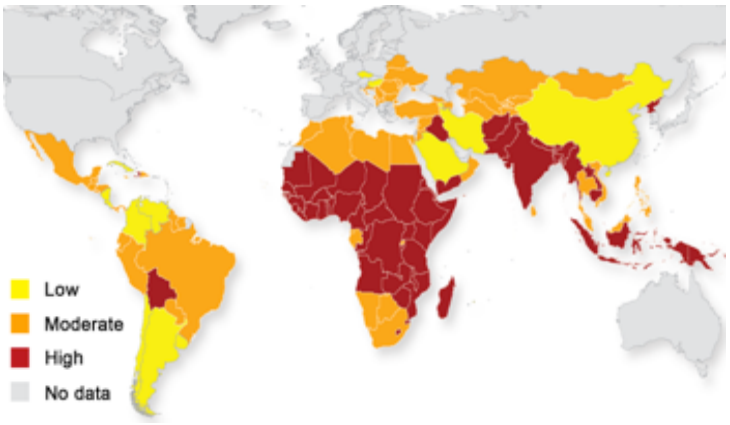
Understanding the Situation

Previous programs attempting the direct "hand-scoop" method of fortification at small-scale mills have achieved limited success. The risk of human error and the challenge of monitoring and sustaining the program once the implementing partner leaves, means that these programs have never been scaled up past the initial pilot stage.

Sanku has overcome this challenge by developing a game changing technology that has proven to be an effective and low-cost solution to combat micronutrient deficiencies in rural populations. The 2013 Grand Prize winner in the Ashoka Changemaker's *Nutrients for All* competition, the fully automatic *Sanku Dosifier* was developed with the aim of meeting specific key criteria: low-cost yet accurate and robust, lightweight and easily transportable, and the ability to be installed on the majority of small-scale flourmills. Currently, no other fortification device available meets all of these criteria.



Global Prevalence of Micronutrient Deficiencies



Cost-Effective Solution

By reducing capital and operating costs and developing a sustainable scale-up model, Sanku aims to provide the global nutrition community with the technology and know-how to reach the millions of people who still do not have adequate access to centrally processed fortified foods.

Each project and program we aim to partner with is unique. Depending on the business model chosen, the *Sanku Dosifier* can range from US$0 - $4,000. Other dosifiers on the market cost US$7,000 - US$10,000.

The advantage of a fortification program at small and medium scale mills compared to other nutrition initiatives like supplementation, RUTF or Sprinkles, is its low cost implementation and high coverage impact. A single dosifier has the potential to fortify flour for 100,000 people daily, and yet the increase in flour cost is negligible when considering

Designing an Automated System

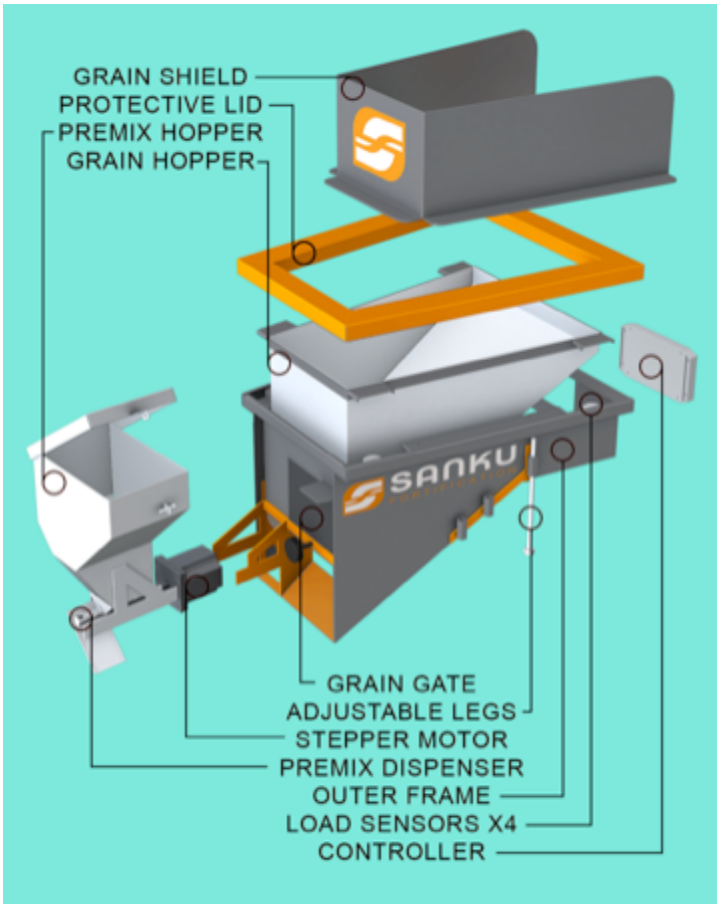
The *Sanku Dosifier* functions similar to an electronic scale and consists of a fortificant dispenser and weight sensitive grain hopper. This hopper sits on four load cells that detect the loss in weight as grain pours into the mill.

A simple yet robust electronic controller takes into consideration the weight of grain flowing into the mill to activate the fortificant dispenser, where a high torque motor drives a feed-screw to release a predetermined quantity of nutrient premix, ensuring accurate dosing every time.

Programmable firmware allows for continuous checking of the weight change, adjusting the premix-dosing rate to always match the milling rate. The dose threshold can be easily adjusted according to the specified addition rate of the premix being used.

The thorough mixing of premix and grain within the mill, as well as the additional step of packing, ensures homogeneity of the end product.

An LED on the electronic controller displays the weight reading as well as useful data that can be collected (hours of operation, total grain milled, and premix consumed). This stored and displayed data enables the accuracy of doses to be monitored either locally or remotely if sent via SMS, substantially lowering ongoing monitoring costs.



With its "universal mill" design, installation is quick and seamless with no need to modify the existing mills technology. Furthermore, minimal training is required due to the dosifier being fully automated, causing little or no disruptions to the established daily routine of the miller.

Feedback from the community and especially the millers has been very positive.

Sanku Premix

Sanku is also the supplier of the high-grade micronutrient premix that is specifically formulated for use with the *Sanku Dosifier*. The nutrients are sourced only from companies that adhere to good manufacturing practices and are certified by the Global Alliance for Improved Nutrition (GAIN). After 5 years of rigorous testing, in 2014, GAIN officially approved and recommended the use of the *Sanku Dosifier* for small and medium scale applications.

National nutrient standards are used in each market Sanku supplies. Based on current consumption patterns, deficiency rates, and approved bioavailable nutrient forms, Sanku's formulated premix ensures enough nutrients are absorbed to fill the identified gap.

About Sanku

Currently 82 countries globally have legislation to mandate cereal grain fortification, leading to increased local government compliance and rural awareness of the benefits of fortified foods. Sanku is able to leverage this momentum by being positioned on the front lines of fortification, working closely with village millers, NGOs and governments to help equip at-risk communities with dosifiers and nutrient premix.

Through the implementation of a scalable, cost effective, and proven business model, Sanku's goal is to provide fortified foods to over 200 million people by the year 2020.

Please don't hesitate to contact us with questions or to place an order at info@sanku.com