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Fortifying Flour: How essential micronutrients are making their way into millions of meals in Eastern Africa



WFP Innovation Accelerator Aug 11 · 5 min read

Sanku CEO Felix Brooks-church, who was recently awarded a Rolex Award for Enterprise, talks about setting up a small-scale food fortification program and challenges in scaling an innovation in Africa.

Interview by Vida Gabe | Field Focus Series

WFP: Sanku is one of the food fortification projects that the WFP Innovation Accelerator is supporting through its Scale-Up programme. It has also received a number of awards including the distinction of being named one of Time Magazine's Top 100 Inventions of 2019 for its micronutrient dosifier. How did all of this happen? Tell us a little bit about Sanku's beginnings and how the idea for Sanku came about.

FBC: In 2008, Sanku's co-founder David Dodson was driving through rural Rwanda, where his non-profit organization, Project Healthy Children, was implementing a large-scale fortification programme. As he passed through small villages and saw their flour mills, he was hit by the realization that the programme would never reach the rural, very poor people who have no access to centrally processed foods. David realized that if someone managed to devise a means and technology to fortify food in the thousands of small mills scattered across the developing world, we could reach the most vulnerable

WFP: And how did you get involved in the project?

In 2010, Project Healthy Children hired me to research the prospect of small-scale fortification in Nepal, lead the engineering of the technology, and develop a strategy to reach 100 million people globally. Before that, I had been working in Cambodia, directing an education and health center for at-risk street children. The children were often sick or had learning disabilities, and unfortunately several passed away due to preventable illnesses. I felt that I was essentially applying a band-aid or a temporary solution, rather than addressing the issues at the root of the problem. After joining Project Healthy Children, I knew that my life focus would be nutrition as a preventative measure, because I believe that preventing health problems before they occur will have more impact on young lives than any other health intervention.



Felix Brooks-church during a training session at one of Sanku's partner mills in Tanzania. Photo: WFP/Leah Kidd



Sanku was created as an initiative of Project Healthy Children, which focused on supporting large-scale fortification programs in sub-Saharan Africa. By 2012 and after two years of hard work, our dosifier (a machine that mixes the right amount of nutrients into flour) for small scale fortification was ready for installation. After six hours of bumping along a poorly maintained dirt road, up and down mountains, the dosifier reached the secluded hilltop village of Sankhu in Nepal, where I witnessed the first installation of a dosifier at a local mill. Relief and bewilderment followed once the dosifier was switched on and ran smoothly, prompting the village to celebrate. David and I named Sanku (the non-profit we formed to introduce our dosifier to the world) after the tiny Nepali village where the adventure began. In 2015, we officially launched in Tanzania with a single dosifier machine. As of today, there are 500 Sanku dosifiers installed across four African countries, improving the nutrition of around two million people.



WFP: Over the course of implementing the project, what challenges did you face? And how did you overcome them?

To be scalable and work in thousands of African mills, our dosifier technology had to be **one-size-fits-all**. To reduce human error, it had to be **fully automated**. To ensure it worked for millers, we had to adopt a **user-centric approach** during the entire design process. This took years of research and development, surveying hundreds of mills, and failing forward numerous times until we finally got a machine that worked for our stakeholders.

Once we had a working machine, and installed dozens of them, we realized that we were eventually going to have a massive monitoring problem. It would take a lot of staff, time, money, and fuel to drive around Eastern Africa, visiting thousands of mills at scale, trying to figure out if the machines were working and if millers were even using them. So, we reached out to Vodafone, and we installed SIM cards in all our machines. Now we get **real-time data** streamed via cellular networks direct to our devices anywhere in the world. We know exactly where, when and how our machines and millers are doing, and can support them operationally with a streamlined staffing model, at minimum cost.





Through Sanku, small-scale millers in Africa are able to sell branded, fortified flour at the same price as standard flour. Photo: WFP/Leah Kidd

Developing the business model was also a trial-and-error process. Initially (and perhaps naively), we thought that we could build a machine and sell it to millers. This did not work since millers could not afford to buy them. We then thought we could sell the nutrients to the millers. This also failed, as again the millers couldn't afford this, nor pass the additional cost to their customers. We had to get innovative and find a means to **sustainably neutralize the cost of fortification** for millers. Finally, we found a business model that incentivizes the millers, covers their costs, and allows us to scale sustainably to reach a 100-million-person market.

WFP: What's the one advice you would give to entrepreneurs or start-ups with a promising innovation that can be applied for humanitarian or development purposes?

FBC: Don't give up. You may think that your start-up and idea are amazing, but it will likely take time for others to recognize their potential. Sanku is a 12-year overnight success. There were many times that I had to ask myself if this thing was worth continuing. But if you truly believe in the idea, and the mission is audacious enough, you



The team at Sanku's newest partner mill are all smiles after successful integration into Sanku's programme.
Photo: WFP/Mussa Yunus

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Field Focus is a blog series from the WFP Innovation Accelerator that aims to bring you stories from the humanitarian innovators in the field, across the globe. We ask them to share their stories and lessons in implementing and scaling innovations for food security.

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