# A conversation with Project Healthy Children/Sanku, October 24, 2017

# Participants

- David Dodson Co-Founder, Chairman of the Board, Project Healthy Children/Sanku
- Felix Brooks-church Co-Founder, President, and CEO, Sanku
- Josh Rosenberg Senior Research Analyst, GiveWell

**Note**: These notes were compiled by GiveWell and give an overview of the major points made by Project Healthy Children/Sanku.

## Summary

GiveWell spoke with Mr. Dodson and Mr. Brooks-church of Project Healthy Children/Sanku (PHC/Sanku) to learn about its progress in 2017 and future plans. PHC/Sanku is a GiveWell standout charity. Conversation topics included PHC/Sanku's plans to scale up its small-scale fortification work ("Sanku"), Sanku's business model, Sanku's monitoring systems, and Sanku's budget and room for more funding.

# Scaling up Sanku

Sanku equips small-scale millers with a machine called a dosifier that enables millers to fortify their flour with the correct dosage of micronutrient premix (which includes iron, folic acid, B12, and zinc). The dosifier technology was invented by PHC/Sanku and verified for accuracy by the Global Alliance for Improved Nutrition. Sanku's proprietary technology is fully automated and has been a large component of its success in fortifying at a local level. Many small-scale fortification programs have difficulty with scalability due to the human error that can occur when manually applying premix to flour. The dosifier is also being used by the United Nations, the World Food Programme, and the World Health Organization.

Sanku currently operates in Tanzania, Rwanda, Kenya, Malawi, and Mozambique, although over 80% of the mills it works with and the majority of the consumers it reaches are located in Tanzania.

PHC/Sanku believes that small-scale fortification programs may have higher potential for penetration than large-scale programs, so it is focusing more of its work on Sanku for the foreseeable future. For example, in Tanzania, 95% of maize—the most consumed grain in Tanzania—is produced by small-scale mills. Over the past 18 months, PHC/Sanku has been focusing on scaling up its small-scale fortification program, making internal improvements that will allow Sanku to reach 20 million people by 2021. Sanku is currently contracting with over 100 mills, compared to 60 mills last year.

# Sanku's business model

#### Prior model

In addition to equipping mills with dosifiers, Sanku previously sold premix directly to mills. However, the majority of millers did not recognize the value in purchasing premix and often could not incur the cost or increase their prices to compensate. Millers would also avoid contacting Sanku about malfunctioning dosifiers for fear of having to reimburse Sanku for purchased premix.

Sanku does not believe this model would be scalable enough to accomplish its goal of reaching 100 million people.

#### **Bags-based model**

In Tanzania, Sanku has piloted a business model in which it purchases flour bags in bulk (costing approximately \$0.16 each), sells them to millers for \$0.21 each (the same price they would otherwise pay), and uses the profits to provide millers the appropriate amount of premix at no additional cost. The bags-based model has proven to make it easier for small-scale millers to implement fortification than it is for large-scale mills, as large-scale mills must often absorb the cost of premix without increasing prices.

Under the new model, Sanku still uses donor funding to procure the dosifiers, as they are too costly for millers to afford. Sanku retains ownership of the machines, leasing them to mills conditional on their compliance with a contract that requires the purchase of bags. Sanku visits mills every one to two weeks, examining the dosifier and delivering bags and premix.

Sanku has piloted the bags-based model in the Tanzanian regions of Morogoro, Dodoma, Manyara, Shingida, Iringa, and Dar es Salaam, although 45 out of the 100 mills that Sanku works with are located in Morogoro Municipal District. There also appears to be little reason why the model would operate differently in other parts of Tanzania. In November, 30 new millers approached Sanku and signed onto the bag program.

#### Bag design

Sanku designed its bags with a bright pink strip to differentiate it from other products. Consumers trust the pink bags because they understand that the flour inside was produced in mills that have been upgraded with Sanku's technology and monitored to ensure compliance.

The design has also allowed Sanku to see how uptake of its fortified product has increased. When it began piloting the bags-



based model, pink bags could be seen sporadically. Now, the bags are ubiquitous.

#### Increased reach

Under the bags-based model, millers receive high quality flour bags, consistent service, and nutrient premix, all at the price they would have been paying otherwise for just the empty flour bags. Since Sanku began piloting the new model, millers have displayed enthusiasm towards incorporating the dosifier technology and premix into their mills. All 45 mills in Morogoro are now operating under Sanku's bags-based model, reaching a combined total of over 300,000 people. Overall, Sanku has increased its reach from under 300,000 to over 500,000 people.

Helen Keller International conducted an evaluation of the bags-based model in Morogoro, which has a population of approximately 316,000. The study found that during the year over which the new model was introduced, surveyed households consuming fortified flour daily increased from 64% to 96%. In 2015, before Sanku started scaling its operations, 0% of households were consuming fortified flour.

#### Scalability

PHC/Sanku believes that the bags-based model, by overcoming many former barriers, has the potential to be highly scalable. Many stakeholders appear to benefit from the new model:

- The company that sells bags to Sanku now has a consistent customer that purchases in bulk.
- The Tanzania Food and Drugs Authority is satisfied that compliance with fortification has increased.
- Millers are able to fortify their flour at no added cost and receive excellent bags and service.
- Consumers are able to purchase fortified flour for the same price they were paying for non-fortified flour (consumers have not demonstrated a preference for non-fortified flour and instead tend to choose Sanku's fortified product if prices are equal).
- Sanku is able to more accurately monitor compliance and production amounts, and ultimately the number of beneficiaries it serves.

#### Threats from competition

Sanku does not expect to encounter competition from other organizations who wish to buy and sell bags to millers for a variety of reasons:

- 1. **Financial risk** Sanku purchases large quantities of bags and plans to place even larger orders in the future, taking a financial risk that a prospective competitor may not be comfortable with.
- 2. **Bundle of goods and services** Sanku provides millers not only with high quality bags but also with dosifiers and premix at no additional cost. It also provides free services to millers, including marketing and help with government certification. Since Sanku is the first organization to

begin offering this bundle of goods and services to millers, it has the advantage of being a trusted name and brand.

- 3. **Non-profit status** Sanku is a non-profit organization and is not required to pay taxes or make a profit. It can therefore use the full amount of revenue generated from bag sales to subsidize the cost of other goods and services provided.
- 4. **Simplifying the job of the bag manufacturer** Sanku does not expect competition from the bag manufacturer because with Sanku as its customer, the bag manufacturer only needs to deliver bags to one location—simplifying its job and reducing delivery costs. Previously, the bag manufacturer worked with millers on an individual basis. The economic model of selling bags also remains the same for the bag manufacturer. It would previously sell bags to distributors at \$0.16, with Cash Next Delivery (CND) terms, who would sell them to individual millers at \$0.21. Now, the bag manufacturer sells a much larger quantity of bags to Sanku at \$0.16, with Payment In Advance (PIA) terms.

#### Legal impact

In 2013, the Tanzanian government passed a national fortification policy requiring large-scale mills to fortify their product. The law did not cover small-scale or medium-scale mills because at that time, there was no clear mechanism by which these millers could afford to fortify their product.

Now that Sanku has demonstrated its ability to persuade millers into complying with fortification, Morogoro's government has passed a fortification bylaw requiring that any flour produced or sold must be fortified.

## Sanku's monitoring systems

#### **Improvements made**

#### Upgrade of dosifier measurement technology

In order for Sanku to monitor its performance and ensure accuracy, dosifiers are equipped with an electronic measurement system that records the amount of grain produced and the amount of premix dispensed on a daily basis. Previously, staff could only retrieve this data by visiting mills and physically examining dosifiers every week. This process significantly impacted operational costs in terms of transportation and time spent.

Sanku has since invested in a cellular upgrade to dosifiers, which enables the machines to transmit collected data through a cellular link daily. In addition to data on flour production and premix dosage, the dosifiers also transmit information on any internal issues that are affecting the machines' functionality.

The dosifier upgrade has improved operational efficiency by reducing the time it takes for staff to respond to machine malfunctions and increasing the number of machines each staff can manage. One staff is now able to manage 100 mills, which

reach a combined total of approximately 500,000 consumers (each mill produces flour for roughly 5,000 people). As Sanku scales up and reaches more consumers, staffing costs will not increase significantly.

#### Partnership with Oracle to develop an enterprise resource planning (ERP) system

In 2016, Sanku worked with Oracle to create an ERP system that aggregates and displays all of Sanku's financial information in addition to the data collected by dosifiers. The ERP system has enabled Sanku to automate its deliveries because staff have the appropriate data to determine approximately when mills will exhaust their stock of flour, premix, and bags.

#### **Key metrics**

Sanku measures its success through two key metrics: total people reached and cost per person. The ERP system has made these metrics much simpler to determine.

#### Total people reached

To achieve a value for total people reached in Tanzania, Sanku relies on prior studies that examined consumption patterns in Tanzania. These studies were intended to determine micronutrient deficiencies in the population and provide evidence to support the government's national fortification policy. Sanku applies the average per capita consumption of maize flour determined by these studies to the data that dosifiers collect on maize flour production in order to approximate a total number of people reached.

#### Cost per person

Sanku is able to approximate annual cost per person by applying its total costs to total people reached. Annual cost per person was \$1.47 in 2016 and \$0.92 in 2017 and is projected to be \$0.51 in 2018, \$0.18 in 2019, \$0.07 in 2020, and \$0.02 in 2021 (less than the estimated cost per person of large-scale fortification). Sanku projects that by 2022, its revenue stream will sustain its operations.

## **Compliance with fortification**

Sanku does not believe there is any incentive for millers not to fortify flour with premix. Millers purchasing Sanku bags receive premix essentially for free, bundled into the price of the flour bags; there is no market value for premix that would make selling it profitable. It is also illegal for millers to place non-fortified flour in a bag marked "fortified." Nonetheless, Sanku has two methods for monitoring compliance with fortification:

- 1. **Dosifier stored electronic data** Dosifiers track the amount of flour produced and premix dispensed.
- 2. **Weekly visits** Sanku's bags have a fixed volume capacity. Sanku also collects data on the flour production levels of mills and knows how much premix should have been added to the flour. Therefore, it can verify that a

mill has the correct number of bags and premix remaining during its weekly deliveries.

Sanku's rates of compliance are higher than those of large-scale fortification programs. Since large-scale millers must purchase premix in order to fortify flour, they have a stronger incentive to be dishonest or buy less expensive premix (which often may not have the correct dosage of micronutrients).

# Sanku's budget and room for more funding

## Costs and funding for 2018

Sanku's total costs for 2018 are estimated to be \$1.2 million, including approximately \$450,000 in payroll, \$130,000 in administration, \$44,000 in rent, \$371,000 in dosifiers, and \$71,000 in vehicles.

In 2018, Sanku expects to raise approximately \$368,000 in regular contributions. These are small donations, likely from donors guided by the recommendations of either GiveWell or Giving What We Can, and represent the majority of Sanku's small donor revenue. Sanku aims to raise approximately \$714,000 in larger grants from various aid organizations and foundations.

Including Sanku's bank balance and its revenue stream from the sale of bags, its total projected budget for 2018 is about \$1.8 million.

## Plans to become independent of philanthropy

## Reduction of costs

As Sanku scales up and purchases larger orders from the dosifier manufacturer in China, marginal costs will decrease. For every increase of 500 in number of dosifiers purchased, Sanku expects a 5-10% decrease in unit price. By 2021, when Sanku plans to be purchasing 3,000 dosifiers, the projected unit price is under \$1,500.

Sanku also expects that the unit costs of premix and bags will decrease as it orders larger quantities of premix and purchases bags in more cost-efficient quantities from multiple manufacturers. It believes that the reduction in premix costs could be more impactful than the reduction in dosifier costs.

Staffing costs will not increase significantly as Sanku scales because technological improvements to the dosifier have enabled a single staff member to manage a large quantity of mills, as formerly mentioned.

## Using bag sales revenue to sustain Sanku

Sanku would like to operate without relying on philanthropy by 2021-2024. Operating a program model independent of donor funding would enable Sanku to focus on its core work instead of fundraising.

By 2021, Sanku plans to reduce costs sufficiently to fund operational expenses with revenue from bag sales. To achieve this goal, it will need \$5.3 million in total donor

funding to subsidize fixed costs as it scales up over the next three years. Sanku expects to meet this goal, but it is dependent on PHC/Sanku remaining a GiveWell standout charity.

By 2024, Sanku plans to generate enough revenue from bag sales to fund both operational expenses and capital expenditure (which includes the cost of vehicles and dosifiers).

#### Room for more funding

The dosifier manufacturer, premix manufacturer, and millers are all enthusiastic towards the prospect of Sanku expanding its capacity. For the first time in 18 years, PHC/Sanku is constrained only by funding. Additional funding will accelerate growth and enable Sanku to purchase more dosifiers, which represent one of its highest costs at approximately \$1,650 each (\$2,300 including delivery and cellular upgrade costs).

Sanku believes it could productively use a maximum of \$2.8 million over the next year, installing approximately 750 dosifiers and reaching five million people. \$5 million over the next two years would enable Sanku to install an additional 1,000 dosifiers and reach over 12 million people.

All GiveWell conversations are available at <u>http://www.givewell.org/conversations</u>