

## **A conversation with David Dodson, March 8, 2017**

### **Participants**

- David Dodson – Co-Founder, Project Healthy Children/Sanku
- Josh Rosenberg – Senior Research Analyst, GiveWell

**Note:** These notes were compiled by GiveWell and give an overview of the major points made by Mr. David Dodson.

### **Summary**

GiveWell spoke with Mr. Dodson of Project Healthy Children/Sanku (PHC/Sanku) to get an update on PHC/Sanku's activities. Conversation topics included PHC/Sanku's plans to scale up its small-scale fortification work ("Sanku"), updates on its flour bag pilot project, a potential project to use more efficient motors to reduce the electricity costs of small-scale millers, and room for more funding.

### **Current priorities**

PHC/Sanku's priorities for its work in the near future include:

- Ensuring that the national fortification programs that it has put in place are fully implemented. As part of this effort, PHC/Sanku is partnering with the Global Alliance for Improved Nutrition (GAIN) to co-fund the creation of a computer tool that will enable countries to enter and upload data to ensure that millers are complying with fortification requirements. This is planned to be implemented by May 1, 2017.
- Remaking its board to include people with knowledge relevant to PHC/Sanku's specific needs (such as monitoring and scaling) in order to accomplish its goal of scaling up its programs to reach 100 million people with fortified flour. The board has now largely been remade. Mr. Dodson plans to transition his role to chairman of the board and hire a full-time CEO to take over his current work. PHC/Sanku has posted an application for the CEO position and hopes to fill it in the next six months.
- Scaling up and accelerating the growth of its small-scale fortification work ("Sanku").

### **Scaling up Sanku**

Sanku provides small millers with a machine called a dosifier that enables the millers to fortify their flour with a micronutrient premix (which includes iron and folic acid) that they buy from Sanku. Sanku is currently reaching just under 1 million people with fortified flour, primarily in Tanzania, where it has been working for the past three years. Fortification was previously mandatory in Tanzania, but the law has been repealed because Sanku was the only source through which millers could acquire the necessary equipment.

The first 1.5-2 years of Sanku's work in Tanzania were spent primarily testing equipment in the field, and the past year has been spent primarily on working on the business model. During the period of field testing the equipment, Sanku created dosifiers that automatically control the amount of premix that is added to the flour. This allows Sanku to be confident that if a dosifier is in use, the flour is being fortified to the correct level.

### **Current monitoring**

#### *Ensuring that the premix is used*

Small mills include a hopper for the raw maize and a smaller hopper for the micronutrient premix. As the maize flows through the hopper, the dosifier detects the amount by which the weight in the maize hopper has gone down, and releases a proportional amount of premix. The only time a person interacts with this system is to put the premix into the hopper and to turn on the dosifier. It is possible for this system to result in not enough flour being fortified (if premix is not added to the hopper or the hopper is not turned on), but it could not result in an overdose of premix.

Sanku does not currently have a way to determine whether premix has been added to the hopper; however, since it is against the law for millers to sell flour that is labeled as fortified when it is not, Sanku's current monitoring system assumes that any premix that the miller has purchased or been given has been put in the hopper. Although Sanku does not currently test the flour, it is relatively easy to detect whether flour has been fortified or not using a simple dropper and petri dish to look for iron markers. Mr. Dodson believes that this is unlikely to be a problem, since millers have incentives to add the premix and no clear incentive not to add it:

- Under the existing program, millers have to pay Sanku for the premix, which they would not choose to do unless they intended to use it.
- Sanku is piloting a new program in which it sells bags labeled "fortified" to millers and gives them the requisite amount of premix for free. It is illegal to sell unfortified flour in bags labeled "fortified," and a mill can be shut down for doing so. Mr. Dodson is unsure to what extent this law is enforced, and is not aware of any mills in Tanzania that have been shut down for this reason.
- Under the new flour bag program, there is no incentive not to use the premix, because it is given to millers for free with the bags and little effort is required to put the premix in the hopper.

*Update: The pilot of the new bag program is now complete. Sanku considers it a success and is now scaling up the program. It has found a local bag supplier and placed new orders. Mr. Dodson believes that working with local bag manufacturers will avoid lags in bag production and enable customers to maintain existing relationships with local manufacturers.*

If Sanku determines that there is a problem with millers not adding premix to the hopper, it will consider adding an electronic eye to the equipment that would measure the volume of premix in the hopper. However, since this seems unlikely and would take additional money and management capacity to implement, Sanku is not planning to do so unless a need is identified. Adding an electronic eye would cost roughly \$100-200 per mill.

#### *Tracking data from each mill*

For each mill it works with, Sanku tracks data such as the time and duration of the mill's activity and how much premix it has left. Sanku currently collects these data via phone calls and tracks it using slips of paper and Excel spreadsheets; this system works, but is not scalable.

#### *Creating an enterprise resource planning system*

To reach its goal of scaling up to reach 100 million people, Sanku is working with Oracle to put in place an enterprise resource planning (ERP) system that will automatically upload data from each mill over the cellular network every night. Sanku has added cellular upload modules to the dosifiers in all of the mills it works with to track this data. The new ERP system has several advantages:

- Under the new system, Sanku will have access to data on each mill's activity from the previous day, an overview of its activity in the past month, and which mills are low on premix and need to restock.
- Sanku will have fairly accurate information on how many boxes of premix each miller has left and the pace at which they are using it, because it will record the number of boxes of premix that it sells to each miller and receive data from the dosifier every time it is in use. This will allow Sanku to predict when each mill will need more premix and deliver it before they run out.
- The ERP system will upload specific error codes when something goes wrong with a dosifier, so Sanku will be alerted to the problem and will be able to diagnose it.
- It will track general patterns, such as the amount of flour that each mill typically produces in a day, and note when a mill is deviating from its usual pattern.
- Mr. Dodson expects that this system will enable Sanku to scale up from fewer than 100 to several thousand mills.

### **Updates on PHC/Sanku's flour bag pilot project**

PHC/Sanku has completed a pilot of a program in which it sells flour bags to millers for \$0.10 each (the same price the millers would otherwise pay) and uses the profit from the bag sales to give the millers an appropriate amount of premix at no additional cost. These bags are all labeled "fortified," which may help the millers with marketing and incentivizes them to fortify the flour, because it is illegal to sell

unfortified flour in bags with this label. This program was devised as part of an effort to create a model in which it is in the millers' best interests to fortify the flour that they produce, which is more scalable than one in which PHC/Sanku tries to convince millers to fortify their flour despite the increased cost that the millers incur by buying premix.

Results from the pilot project showed 100% compliance, an 800% increase in the amount of flour being fortified, and an increase in the number of people reached per dosifier. All participating millers have reordered, and many others have asked to buy bags through this program in the future. Mr. Dodson believes that this program has effectively increased these millers' fortification level to 100% of the flour they produce, because the millers buy all of their bags from PHC/Sanku and cannot mill flour without putting it in a bag, so they now receive enough premix to fortify all flour that they produce. The increase in fortification suggests that the millers were previously fortifying at a fraction of their capacity, and overall were fortifying less than PHC/Sanku had thought they were.

PHC/Sanku's estimates of how much flour each mill fortifies are based on the amount of premix that it gives to each mill. It calculates the number of people reached with fortified flour based on generally accepted consumption rates.

### **Challenges to scaling up**

There are two business challenges that prevent PHC/Sanku from scaling this program up quickly:

1. The need for bags is large, and there are issues with warehousing and trucking that will need to be resolved in order for PHC/Sanku to achieve its goal of reaching 100 million people with fortified flour.
2. There may be a competitive response from existing local bag manufacturers, which could drive down the price of bags locally and make Sanku's program more expensive for millers than the alternative.

Mr. Dodson believes that PHC/Sanku can solve both of these problems by transitioning to buying bags locally (instead of from China) and acting as a distributor. It seems likely that the local bag manufacturers would be open to this; the large bag manufacturers in Dar es Salaam do not seem to treat small millers as important customers, since they tend to buy a small number of bags (about 100-1,000 at a time). PHC/Sanku would ask the manufacturers to sell bags to it for \$0.09 (instead of \$0.10) each and would drive them to the small mills and distribute them. This would prevent PHC/Sanku from needing to import several months' supply of bags from China, as well as eliminating the potential competitive response from local manufacturers.

*Update: Mr. Dodson now considers this issue solved. Local manufacturers have agreed to sell bags to PHC/Sanku, and PHC/Sanku has gotten pricing and placed orders.*

## **Raising awareness of fortification**

In the countries in which PHC/Sanku works, customer awareness of micronutrient fortification is typically low. PHC/Sanku hopes that the bags it is selling, which have a big pink border on them and are labeled "fortified," will raise awareness. In conversations that PHC/Sanku staff have had with customers, it seems that the customers who have even a minimal understanding of fortification are more likely to opt for fortified flour when given a choice.

## **Efficient motors**

PHC/Sanku piloted a project in which it bought high-quality, efficient motors, installed them in a few small mills, and leased them back to the miller. Electricity is one of the main costs for small millers (in addition to maize, flour, and labor), and many millers take electricity from the grid inefficiently, use inefficient motors, and have an inefficient connection between the motor and the mill. In the pilot, the savings in electricity costs from the more efficient motors was more than enough for millers to be willing to lease the motor, which offset PHC/Sanku's costs and the cost of the premix. However, as PHC/Sanku put these motors in more mills, it became less clear whether they are sufficient to solve the problem of inefficient electricity use. It may be best to provide a motor, mill, and dosifier together, though this would increase PHC/Sanku's cost per mill from about \$2,000 to about \$4,000.

PHC/Sanku plans to implement either this system of more efficient motors or the flour bag distribution plan mentioned above, but may not implement both unless it determines that this would extend its value offering. It is currently testing the motor model in parallel with the bag model, but is having trouble testing it in a way that returns good data. PHC/Sanku has been working less aggressively on the motors because the bag model has been working well; if the bag model did not work, it would speed up testing of the motor model. In either case, PHC/Sanku expects to have a motor option available by 2018.

If Sanku decided to use the motor program, it would likely also add an electronic eye to the system.

## **Room for more funding**

Mr. Dodson expects that by June 2017, PHC/Sanku will have made enough progress on its organizational goals (remaking its board, hiring a CEO, and implementing its new ERP system) that it will only be constrained by funding, for the first time in 16 years. However, it is not clear how much additional funding PHC/Sanku would be able to use productively.

## **Budget for the upcoming fiscal year**

PHC/Sanku has historically had an annual budget of roughly \$500,000. It is currently finalizing its budget for the fiscal year August 2017-August 2018, and

hopes to raise an additional \$1 million to bring its total budget to about \$1.5 million. It plans to split this budget between national-scale fortification work and Sanku:

- The first \$500,000 will go toward policy work on national-scale fortification programs. PHC/Sanku expects this to be funded by existing donors. Mr. Dodson believes that this is more cost-effective than Sanku but is likely to be constrained by the number of new governments that are interested in mandating fortification. PHC/Sanku's current goal is to demonstrate that it is able to have an impact in this area by working with 2-4 new countries this year. PHC/Sanku staff are currently in internal discussions about which countries would be best to start with. If there is high demand from governments, PHC/Sanku will consider scaling up this work.
- The next \$1 million will go toward Sanku. This is the area of PHC/Sanku's work with the greatest need for marginal funding; Mr. Dodson expects that Sanku will be able to spend all of the funding it receives. Mr. Dodson is optimistic that PHC/Sanku will be able to raise the additional \$1 million for Sanku, but has not yet begun soliciting donations from new funders. He is currently putting together a list of donors to contact.

In future years, PHC/Sanku hopes to scale up Sanku to an annual budget of about \$2.5 million.

### **Sanku**

The main costs associated with Sanku are dosifiers and staff time. Dosifiers cost about \$2,000 each, operate for an average of 5 years, and reach an average of about 2,000 people (though this last figure is rough and has a large standard deviation). This implies a cost of roughly \$0.25 per person per year.

It is unclear how much room for more funding Sanku will have in the upcoming fiscal year. Sanku has not had trouble finding funding for dosifiers in the past; it has 50 dosifiers in the field and recently ordered another 50, which will be funded by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Germany's international development agency. PHC/Sanku aims to reach over 2,000 people per dosifier in the future by choosing to work with higher-volume mills in areas with a higher density of mills.

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