



GLOBAL KNOWLEDGE INITIATIVE

CHALLENGE: BOOSTING MILK PRODUCTION TO BEAT MALNUTRITION

CHALLENGER: DR. FRED KABI

**PROGRAM: Learning and Innovation
Network for Knowledge and Solutions (LINK)**

ROUND 1: EAST AFRICA PILOT



Challenger: Dr. Fred Kabi
Title: Senior Lecturer
Host Institution: Makerere University, Department of Animal Science, Faculty of Agriculture
Location: Kampala, Uganda
Email: fredkabi@agric.mak.ac.ug



Introducing Dr. Fred Kabi:

Fred Kabi is a busy man. He lectures at Makerere University, directs Makerere's Continuing Agriculture Education Center, and undertakes cutting-edge research for the World Bank. Through this work, Fred developed a product that can enhance the livelihoods of thousands of Uganda's rural poor: a molasses-based supplement that could dramatically improve Uganda's cattle production. Farmers call his office and knock on his door regularly to find out when it will be available for purchase. An intellectual property rights (IPR) dispute with the molasses company he partnered with to develop the product prevents his supplement from reaching these farmers. The future of his potentially transformative product is in limbo. Fred is actively pursuing a solution with help from the Uganda National Council for Science and Technology, but has no guarantee that this will solve this dispute. All the while, the farmers keep calling.

My Challenge

In my country, agricultural output can be an issue of life or death, the difference between health and the chance at a better life or vicious cycles of poverty and hunger. In 2005, 75.6% of Ugandans lived on less than \$2 per day and in 2006 Uganda's child malnutrition was nearly 39%. To combat pervasive hunger and to improve livelihoods for the most vulnerable farmers, we need increased animal protein production. Until now, most farmers have attempted to meet this need through dairy animals while ignoring beef. Dairy farmers often think bulls are expensive to raise and would require feed intended for milk-producing cows. They sell bull calves cheaply or destroy them for pet food and allocate scarce feed resources to heifers. The result: Uganda is deprived of beef and farmers lose potential income available where they allow bull calves to grow to slaughter-weight. Producing beef alongside milk can help to solve Uganda's protein needs; this is the challenge my work seeks to address. This challenge is particularly significant given Uganda's population grows at a massive 3.2% per year (the US's growth rate is 0.9%). A solution lies in modifying locally available feed resources for the inexpensive growth of bull calves. The "Milk Booster" I developed, using locally-produced molasses, works toward this goal. Without intellectual property rights (IPR) protection, however, we are unable to commercialize the supplement and instead are forced to find other ways to get "Milk Booster" to farmers. Whether we are working to improve IPR policies or feeding grassroots demand by producing the "Milk Booster" ourselves, we need partners to help.

Why I am seeking partners

Partnerships with the sugar industry are crucial in providing industrial byproducts - molasses and sugarcane tops - to be transformed into sizeable quantities of animal feed to boost animal protein production. Firms are also vital partners because they have the capacity for large-scale production of the "Milk Booster". While working to reconcile the IPR issues that have thus far halted commercialization, I have a plan to encourage industrialists to recognize my product's importance. We'll produce small batches of "Milk Booster" at Makerere University and sell directly to farmers. This effort will take research and small-business development expertise. With your help, we can get this product to the people who need it and begin increasing animal protein availability in Uganda.

My vision for solving this challenge:

With help from IPR and small-business incubator experts we can work through the challenge of getting my “Milk Booster” from a promising prototype to an agricultural solution that will change the lives of Ugandans. Together we can:

- Work with the Ugandan government to clarify IPR laws and institute improved IPR regulations at Makerere University
- Innovate new ways to produce fortified basal sugarcane-top briquettes to boost beef production
- Utilize business negotiation experts to facilitate sugar producers coming back “on board” to commercialize products
- Engage the NGO community to disseminate “Milk Booster” regionally



Photo: Foreign Policy Blogs



Fred identifies an unmet challenge

Fred secures resources to tackle it

Fred seeks specific resources to get him across the finish line

Through partnership, Fred solves a challenge!

Resources Fred has available:

- Laboratory equipment such as Kjeldahl Apparatus, Gas Chromatograph, Block Digester, Spectrophotometers, and other Animals Science technology
- Research and lab space at Makerere University
- Technical staff, graduate students, relationships with other East African universities
- Relationships with Uganda National Council for Science and Technology and other government agencies
- Some access to local attorneys for Intellectual Property Rights advice
- Makerere University research and partnership policies
- Computers, mobile phones, internet
- Membership in various societies
- Access to AGORA online academic database

Resources Fred needs:

- Intellectual Property Rights experts on agricultural innovation
- A revised Intellectual Property Rights policy at Makerere University
- Knowledge resources on public-private partnership agreements that enable academics to parlay innovations into firms
- Expertise in successful university-led business incubators
- Atomic Absorption Spectrophotometer, Stereo Microscopes, Milcoscan Ft 120, Fibre Machinery, Water Distiller and Deionizer, Portable PH Meter, Bottle Top Titrators, and other lab equipment
- Miniature industrial lines to produce “Milk Booster” and sugarcane-top briquettes at incubator level
- Enhanced website, to better market the “Milk Booster”
- Milk and beef value addition experts

Fred’s commitment to solving the challenge:

Fred isn’t starting from scratch. He works with the backing of Makerere University, and has access to a pool of graduate students, a technical staff, and farmers who test Fred’s feed resources on their animals. His partnerships with the Ugandan government and experience with private firms speak to a broad network and a deep understanding of his agricultural context. Fred is truly ready to take the bull of this challenge by the horns.

