

**MULTI-FUNDER INITIATIVE**

## Canadian International Food Security Research Fund (CIFS RF)

### Producing more yogurt in Africa with freeze-dried bacteria

Scientists have developed freeze-dried bacteria that will improve food security in rural Africa by increasing the local production, distribution, and consumption of health-promoting probiotic foods. A farmer-led initiative will begin mass producing yogurt and other probiotic foods for distribution to underserved areas of Sub-Saharan Africa with high HIV/AIDS infection rates.

### Higher incomes and healthier diets

Canadian researchers developed a probiotic yogurt strain found to improve weight gain, reduce skin rashes, reduce diarrhea, enhance immunity in HIV patients, and reduce adsorption of heavy metals in women and children. Since 2004, scientists have made the bacteria available to women's groups and small scale-traders throughout East Africa. But this approach relied on small batches of bacteria grown in a laboratory, limiting businesses growth and widespread availability and use of the probiotic.

A breakthrough occurred when a Canada-Africa-Dutch team created freeze-dried starter cultures. Farmers found they could locally produce 100 litres of yogurt within 24 hours using a 1 gram sachet of bacteria costing just 50 cents. The bacteria can also enrich other local foods such as sorghum, soy, cassava, and cabbage.

The rapid turnaround from production to consumption can help overcome the problems of poor distribution channels (e.g. pooling of milk, poor roads, limited refrigerated trucking), and a lack of home refrigeration, which has limited yogurt consumption primarily to urban areas.

### Bringing yogurt to one million rural Africans

Since 2014, Yoba-for-Life partnered with Heifer International's East Africa Dairy Development Project to rapidly expand yogurt distribution to 10,000 consumers. With additional support from IDRC, locally produced probiotic yogurt will be made available to one million people in Uganda, Kenya, and Tanzania.

Social enterprises in The Netherlands will produce and sell 250,000 sachets to 150 retail sites close to the target populations in each country. Retailers will then sell the sachets to hundreds of local kitchens, including those run by dairy farmers, farming

co-operatives, schools and hospitals. Local dairy farmers will own and control the production, pricing, and distribution of the fermented foods.

Researchers will explore and test different scaling up approaches that have the greatest impact in terms of sachet sales, number of consumers reached, and the financial sustainability of kitchens.

### Expected results

- Establish 1,000 local kitchens producing yogurt and other fermented foods
- Expand the distribution of probiotic-fermented food to 150 retailers reaching one million consumers
- Enable thousands of farmers and their cooperatives to upgrade their milk businesses into more premium, tasty products
- Enable producers and distributors to decrease milk spoilage (currently more than 27% is lost)

### LEAD RESEARCHERS

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**Countries:** Kenya, Tanzania, Uganda

**Funding:** CA\$1.5 million

**Duration:** March 2016 to February 2018

The **Canadian International Food Security Research Fund (CIFS RF)** is a program of Canada's International Development Research Centre (IDRC) undertaken with the financial support of the Government of Canada provided through Global Affairs Canada (GAC).



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