



Harnessing dietary nutrients of underutilized fish-based products

Nutritional deficiencies are widespread in poor rural and urban communities of Uganda, particularly among women of reproductive age and children under 5 years. These groups are particularly affected due to limited access to animal protein and micronutrient-rich foods, especially fish.

Researchers of the NutriFish project will work with the fish sector and its associated value chains to address the nutritional needs of vulnerable groups who critically need high quality, nutritious diets. NutriFish aims at increasing availability, accessibility and consumption of underutilized fish, and the processing of by-products through public-private partnerships, for sustainable food and nutrition security, and to better the livelihoods of vulnerable groups.

The challenge

Fish has become less available to Ugandans due to declining stocks of large fish, coupled with high exports and post-harvest losses. Consequently, Uganda's per capita fish consumption of 12.5 kg/person/year is lower than recommendations from the Food and Agriculture Organization of 25 kg/person/year, with consumption rate expected to decline further due to Uganda's high annual population growth rate.

Currently, most Nile perch are processed for export markets, leaving behind just the by-products (skins, bones and heads) for local consumers. Poor handling and rudimentary processing of the by-products impedes harnessing of all the nutrients. The improvement of handling methods and the development of nutritious, low-cost, appealing and safe fish-based products are needed to increase availability and accessibility to vulnerable groups in Uganda.

The research

Through improved post-harvest and processing technologies, researchers will find ways to reduce losses and increase product quality and acceptability, and improve the distribution of fish and fish-based products among populations living far from water bodies. Researchers will (i) quantify post-harvest losses and promote cost-effective handling and processing technologies for underutilized small fishes and fish by-products; (ii) assess socio-economic and institutional factors constraining access to and use of underutilized fishes and fish-based products; (iii) develop fish-based complementary foods for vulnerable groups using underutilized small fishes and by-products; (iv) develop marketing models for efficient distribution of fish-based products; and (v) enhance capacity of partner institutions to sustain availability and consumption of underutilized small fishes and fish-based products.



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The project team will integrate a gender responsive strategy to ensure that product development, marketing and entrepreneurship strategies include women. This will enhance their economic capacities, acceptance and adoption of fish and fish by-products within their diets. An estimated 560,000 consumers from lower income segments will access affordable and nutritious fish-based products by the end of 3 years.

Expected outcomes

- Contribute to reducing the incidence of micronutrient deficiencies, particularly among women of reproductive age and children under 5 years;
- Create diversified income opportunities for around 200 people (50% women) through enterprise development in fishing, fish processing and marketing;
- Share project results and outputs with local and national policy makers to facilitate the scaling-up of results.

Implementing partners:

- Makerere University: Jackson Efitre (jefitre@cns.mak.ac.ug)
- National Fisheries Resources Research Institute: Dr. Anthony Taabu Munyaho (director@fri.go.ug)
- NUTREAL (U) Limited: Dr. Dorothy Nakimbugwe (nutreal1@gmail.com)
- McGill University

Countries: Uganda

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