



Insect feed for poultry, fish and pig production in Kenya and Uganda

Poultry, fish and pig production is constrained by a shortage of animal feed protein in terms of quantity, quality and cost, which undermines the efforts to meet the growing demand of animal protein in Eastern and Southern Africa. Insects represent an alternative protein source to sustainably tackle these development challenges. Phase 1 of the Cultivate Africa's Future Fund saw that the INSFEED project established a strong scientific basis, demonstrated technical feasibility, economic profitability and established standards that allow and guide the use of insects in animal feed. This second phase builds upon these achievements and will test different supply and upscaling pathways, and gender-sensitive business models suitable for job creation and income generation for men, women and young farmers.

The challenge

Protein additives in animal feed increase feed costs substantially, undermining development efforts to boost animal production and meet the food needs of a growing population, while ensuring environmental sustainability.

Feed cost is already prohibitive, representing 60-70% of production costs and increased demand for ingredients has doubled their prices in the last decade. According to the Food and Agriculture Organization (FAO), the world will have to produce 200 million tonnes more meat by 2050 to feed the predicted 9.1 billion world population. This increase will require huge resources. To meet this increased demand requires developing cost-effective, and socially and environmentally sustainable alternative animal feed protein sources.

The research

In this project, the research team will analyze and compare outcomes from different upscaling pathways of the insect-producing business models and assess the performance of insect colonies and livestock produced with insect-based feed in various agro-ecological zones. In addition, policymakers, private sector actors, NGOs and farmers will be engaged at different levels. The research will use qualitative and quantitative research methods involving 11,070 households and 60 small and medium enterprises (SMEs) that will be trained in insect mass rearing and processing for feed. The project will strengthen the capacity of 100 young men and women entrepreneurs in business skills development.

Expected outcomes

- Best cost effective, sustainable and gender sensitive supply chain models identified;
- 11,070 households trained in insect mass rearing and processing for feed;



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- Best scaling-up methods identified and recommended, leading to wider uptake of quality and sustainable insect production and processing for animal feed;
- 60 SMEs trained on insect farming and backstopping provided;
- At least 10 scientific papers published;
- Curriculum on insect use in animal feed developed for use in universities and incubation centres;
- Three MSc students and one PhD student trained;
- Increased protein availability for feed, reduced protein cost, and improved animal productivity and income generation.

Implementing partners:

- International Centre of Insect Physiology and Ecology: Dr. Chrysantus Tanga (ctanga@icipe.org)
- United States International University-Africa, Kenya Agriculture and Livestock Research Organization, Kenya Marine and Fisheries Research Institute, Value Addition and Cottage Industry Development in Africa, Treasure Industries Ltd., Kenya bureau of standards, Makerere University.

Countries: Kenya and Uganda

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Learn more at www.idrc.ca/cultiaf

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