



Black Soldier Fly Larvae as alternative and affordable protein for Chicken and Fish

Preamble

The Eastern Africa region requires more animal protein sources to feed its growing population and combat malnutrition. Other than cattle, fish and poultry provide good sources of animal protein and yet their production is constrained by high costs of feed. The biggest barrier affecting growth of the aquaculture industry in East Africa is access to high-quality affordable feed.

At the same time chicken feed prices continue to rise due to unavailability of alternative protein feed other than fishmeal. According to published reports, the global market for insect derived feed is expected to reach USD 1 Billion by 2022 and a portion of this demand will be in East Africa.

Additionally, countries in eastern Africa are experiencing

serious waste management problems where almost 50% is biowaste and out of this, 50% does not make it to the dumpsites. There is therefore a need to recycle nutrients in the waste to minimize stress on infrastructure.

Over the last four (4) years, the Recycler Ltd. has tested and operated a small-scale Black Soldier Fly (BSF) rearing and waste processing facility in Tanzania where BSF larvae is bred and used to convert biowaste into animal fodder. This project will build on these efforts and explore economic avenues in Ethiopia, Kenya and Tanzania to utilise BSF as a source of protein thereby lowering feed costs, improve efficiencies and yield for smallholder farmers and feed producers across East Africa.

Technology

This project will trial a model to scale BSF larvae as feed for chicken and fish mainly comprising of two methods:

- 1) **Breeding BSF to produce larvae that consume organic waste.**
- 2) **Processing organic waste and converting the BSF larvae into animal feed. The model uses BSF to treat biowaste thereby producing high protein rich feed.**

The BSF mash produced in the project will be used to run participatory on-farm trials with small scale poultry and aquaculture farmers by identifying BSF feed ingredients necessary to completely replace soy and fishmeal.

Local and Regional benefits



Finding new uses to recycle nutrients in waste will significantly reduce the burden on waste management infrastructure for countries in the region.

High quality
and
affordable
protein feed

Additionally, there will be improved access to high quality and affordable protein feed alternative for poultry farming and aquaculture thus contributing to improved biodiversity in the lakes and oceans of the Eastern Africa region.

Project Partners

- The Recycler Ltd, Tanzania
- Tanzania Fisheries Research Institute (TAFIRI), Tanzania
- BioBuu Kenya Ltd, Kenya
- Kenya Marine and Fisheries Research Institute (KMFRI), Kenya
- Ethiopian Institute of Agricultural Research (EIAR), Ethiopia

Project leader

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