

# EcoCycle Larvae System: Black Soldier Fly Larvae (BSFL) proteins for low cost animal feeds



BSFL proteins for sustainable local fish and chicken feed production

BSFL composting is a biological method that uses Black Soldier Fly larvae to break down organic waste like food scraps and manure. The process produces nutrient-rich larvae for animal feed and a compost by-product called frass.

This technology is **pre-validated**. Scaling readiness: idea maturity 8/9; level of use 9/9

Gender assessment 84

Climate impact 87

### Problem

- Fish and poultry farming in sub-Saharan Africa face inconsistent and unreliable year-round feed supplies.
- The feed prices significantly increase production costs, making it difficult for fish farmers to sustain operations.
- 30-40% of food and organic is wasted, resulting in to negative environmental impacts, such as pollution and resource depletion.

### Solution

- Using BSFL to decompose organic waste provides a sustainable way to waste and reduce environmental harm.
- BSFL technology produces nutrient-rich larvae that can be used as a low-cost feed for fish and poultry.
- Encouraging the adoption of BSFL technology supports a circular economy model that fosters long-term economic stability and environmental protection.

## Key points to design your project

Black Soldier Fly Larvae (BSFL) Composting Technology enables sustainable waste management in sub-Saharan Africa by converting organic waste into affordable, nutrient-rich livestock feed. Implementing this technology involves setting up waste collection systems, BSFL rearing facilities, and marketing feed. with initial costs ranging from 1,000 to 2,400 USD. Key project partners may include waste management organizations and government agencies, and training is essential for effective management of BSFL systems.

<p><b>1,000—2,400 USD</b> Small BSFL composting system</p>	<p><b>375—1,040 %</b> Return on investment</p>
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**IITA**  
Rousseau Djouaka

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Commodities

Fish

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Sustainable Development Goals

1 NO POVERTY

2 ZERO HUNGER

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

17 PARTNERSHIPS FOR THE GOALS

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Categories

Pre-production, Practices, Input processing, Animal feed management

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Best used with

- [Fast Growing and Hybrid African Catfish >](#)
- [Cage Systems for Fish Culturing >](#)
- [Tank Systems for Fish Culturing >](#)
- [Flow-Through and Recirculatory Water Systems for Fish Tanks >](#)

Tested/adopted in

Tested & adopted  
 Adopted  
 Tested

Where it can be used

This technology can be used in the colored agro-ecological zones.