Circular bioeconomy in Abidjan: from food waste to the fork

To support food system transformation in Abidjan, Côte d’Ivoire, the Food and Agriculture Organization of the United Nations, in collaboration with the Autonomous District of Abidjan, is developing an innovative project to produce animal feed and organic fertilizer from food waste by rearing flies.

What is the problem?

- Abidjan has 6 million inhabitants and the population is growing with + 187 000 inhabitants/year
- Creating new jobs is a challenge
- Waste management is a priority as the city produces + 4 000 tonnes of food waste per day
- Dependence on imported agricultural inputs needs to be reduced

What is our proposed solution?

- Collect food waste from the food markets of Abidjan
- Produce mature black soldier fly larvae
- Dry the larvae for poultry and aquaculture feed
- Use the frass as organic fertilizer
- Bring larvae farming to the city by training women in a farm school

What makes our solution innovative?

We use a new, circular bioeconomy approach to:

- Harness naturally occurring biological processes
- Turn organic waste into valuable products for sustainable local food production
- Involve local communities throughout the product life cycle
- Contribute to a cleaner and greener city, reducing waste and pollution
- Relieve the pressure on natural resources for agriculture and feed production
- Empower women and boost business opportunities
Collection of food waste at urban markets

Biodegradation using black soldier fly larvae

Frass

Larvae

Feed for poultry and aquaculture

Organic fertilizer

Urban and peri-urban agriculture

Business opportunities for women and vulnerable people

Direct and indirect reduction of GHG emissions

Food security

Food distribution

Vocational training in black soldier fly breeding at the Abobo farm school, with a view to deploying larvae production throughout Abidjan via small female-led businesses.