Organic Fertiliser Valorisation Implementer (OFVI) in Kenya: Attributing value to bio-slurry as organic fertiliser.

The Organic Fertliser Valorisation Implementer (OFVI) has the objective to attribute and enhance the price, value, and status of bio-slurry and BEC. To achieve this objective, OFVI will deepen the understanding of the application of bio-slurry and BEC and of its effects on crops and soil health and will share this knowledge amongst the stakeholders involved.

Woman mixing cattle manure and water; application of liquid bio-slurry to young avocado tree; banana fertilized with bio-slurry; packaged BEC pellets and liquid bio-slurry (ABPL and BSUL, 2023).

OFVI, ultimately aims at promoting the use and commercialization of organic fertilizer among existing and future biodigester owners, to improve business cases for investing in biodigesters, and thereby sustain demand for and use of biodigesters in five countries in Africa including Kenya.

Effect	Chemical fertilizer	Fresh manure	Liquid bio-slurry	Composted bio-slurry (BEC)
Short-term	+++	+	++	++
Long-term	---	++	+	+++

OBJ *Table1: Short and long-term application effects of main fertilizers: chemical fertilizer, fresh manure, liquid and composted bio-slurry.*

The terminology explained:

Bio-slurry is the material resulting from the decomposition of organic material in a digestion process that takes place in a biodigester.
A **biodigester** is a technology able to decompose organic matter (e.g., cattle, pig and chicken manure mostly) and to provide methane that can be used for clean cooking or heating on one side; and bio-slurry which is a precious organic fertilizer on the other. Bio-slurry contains readily available nutrients for crops/plants, and this is why is a valuable fertilizer. Bio-slurry can also be used to enrich compost (BEC) with additional nutrients and to produce a dry and therefore, easy to sell, transport and apply product.

Soil health challenges:

When soil organic matter levels drop, the soil's 'sponge' capacity to absorb and retain water decreases. Consequently, topsoil becomes prone to runoff and erosion, which leads to nutrient losses and – worse – the soil becomes even more vulnerable to floods and droughts. Climate change accelerates soil degradation. Add to this rising food and fertiliser prices, and you have a strong case for bio-slurry: a unique source of nutrients and organic matter produced by biodigesters.

Market opportunities:

Bio-slurry production and application provides a good business case (BC) for either farmers that use bio-slurry as a fertilizer on their own crops than for farmers selling BEC to traders or to other farmers. In fact, it was found that the use of bio-slurry: i) increase crop production and quality; ii) improve soil structure and therefore water and nutrient retention with a long-term effect; iii) improves soil life making the agronomic system more resilient to catastrophic effects due to climate change.

Country-specific facts:

- **26,000 biodigester have been installed between 2010 and 2021 with approximately 22,000 producing bio-slurry on a daily basis.**

- **Most farmers directly apply bio-slurry in liquid form to their crops while drying and composting are also practiced. They report an increase of the quality of crops and a reduction in the use of chemical fertilizer.**
- **At least 12 private companies are trading bio-slurry and/or BEC in (local) markets.**
- **An estimated 400 biodigester owners are trading bio-slurry surpluses by themselves.**

OFVI Value proposition:

OFVI can support you, if you are:

Biodigester owner and/or farmer buying bio-slurry or BEC:

- OFVI provides a website with all up-to-date information and a platform for knowledge exchange between the different stakeholders n (producers, traders, biodigester enterprises, governmental institutions, NGOs).
- OFVI provides a platform to facilitate trading of surpluses of bio-slurry or BEC, between producers and buyers.

Biodigester enterprise:

- OFVI provides a network of business coaches and microcredit institutions, accessible from the OFVI plartform.
- OFVI can provide training of trainers on BEC production and application and crop system selection, to better target potential clients.

Trader:

- OFVI can provide support for business planning and development, if planning to trade bio-slurry and BEC.
- OFVI provides a website with access to knowledge on product standardization for better product development and commercialization.
- OFVI provides a network of business coaches for marketing strategy development, accessible from the OFVI platform.
- OFVI can provide training of trainers on BEC production and application and crop system selection to better target potential clients.

Governmental institutions

- OFVI can develop material to support the development of favorable policies and standards for the production, application and commercialization of bio-slurry and BEC
- OFVI can provide training of trainers among extension officers on the production and application of bio-slurry and BEC.

OFVI support

- All the stakeholders will have access to:
- **knowledge** based on literature, applied research and success stories via digital platform (inoculum facility).
- **network** of bio-slurry producers, traders, investors and more.
- **training** on safe BEC production and application; crop and farming system selection based on their response to bio-slurry fertilization.

Bio-slurry enriched compost, under covered shelter in Uganda, OFVI 2023

Rich soil after BEC application, Uganda, OFVI 2023

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