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"Competing pathways for equitable food systems transformation: Trade-offs and synergies"

From waste to wonder? Scaling the off-farm production of organic and biofertilisers in Africa: A scoping study

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Abstract

The Covid-19 pandemic and Russia's war against Ukraine have triggered a global crisis in the availability, timely delivery and price stability of food and agricultural inputs, especially inorganic fertilisers. However, simply expanding the production of inorganic fertilisers may fail the complexity of the problem, such as soil degradation and respective soil and plant health issues.

Initiated by the DG INTPA of the EU-COM, a scoping study was established to better understand the opportunities and challenges in scaling the off-farm production of organic (OF) and biofertilisers (BF) in Africa and related (policy) recommendations. The scope includes - among others - a description of the current state of production, origin of organic matter, quantities produced and prices, current state of demand and use, and an assessment of the potential supply of organic matter.

A mixed-methods approach was used, combining a literature review and about 80 qualitative interviews with key informants spread across the sub-regions of Africa with a total of 12 countries. Interviewees included various stakeholders such as producers, researchers, farmer organisations, advisory services, policy makers and farmers.

We identified diverse activities and business cases where entrepreneurs are recycling residues from agro-processing into compost and other OFs, including smaller quantities of municipal organic waste, crop production residues, animal manure, and sometimes mixing with inorganic fertilisers and/or biochar, as well as liquid fertiliser from human urine. However, the quantities of OFs currently produced are relatively small, the demand for alternatives is high, but prices are also comparatively high. In the case of biofertilisers, successful activities of rhizobia production and application exist; for other biofertiliser types, as well as OF verifiable results of product efficacy are lacking. Much untapped potential exists (e.g., urban/value chain waste), but collection systems, standardisation, quality

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enforcement, governmental frameworks/regulations, technical assistance, integration into education/training and research and evidence/capacity building are necessary. Market incentives and an increase in the ease of doing business may be crucial. A concerted and coordinated effort by private and public sector as well as farmer organisations is needed. We conclude with policy recommendations for the different actors along the fertiliser value chains.

Keywords: Africa, biofertiliser, biostimulants, organic amendments, organic fertiliser, policy, scaling, value chains