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Recovering Nutrients from Waste: Moving from Theory to Business

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Abstract

Humans generate millions of tons of waste every day. This waste is rich in water and nutrients. Yet, waste is not being managed in a way that permits us to derive value from its resources. Meanwhile, millions of smallholders in low-income countries struggle with depleted soils and lack of water. Closing the loop through the recovery of water and nutrients from waste appears as a win-win situation for farmers, waste management and the environment. But despite a vast knowledge e.g. on treatment options, most examples, even of waste composting, have so far remained small in scale or life time. A common threat across failed attempts is the lack of any business plan, or market knowledge, and reliance on external support and subsidies. Another key imitation is the lack of operational and strategic partnerships. A better understanding of sustainable market-driven mechanisms and business models to support the development, viability and up-scaling of the productive use of waste is urgently needed. It is therefore timely to undertake research that analyses emerging waste reuse business models for further testing and dissemination in the public, private and educational sectors, but also to quantify economic and social benefits for the society at large to support private and public sector investment with facts on possible returns. In partnership with the International Fund for Agricultural Development, the Swiss Agency for Development and Cooperation, and the Bill and Melinda Gates Foundation – the new programme of the CGIAR on Water, Land & Ecosystems (<http://wle.cgiar.org>) is addressing the challenge. Its Resource Recovery & Reuse (RRR) Strategic Research Portfolio is identifying innovative enterprises that reuse domestic and agro-industrial waste resources, including fecal sludge, in low income countries and gather pertinent data on how their businesses operate. Based on this analysis a variety of scalable business models is being described and their feasibility tested in selected cities across Asia, Africa and Latin America.

Keywords: Business models, market-driven mechanisms, resource recovery and reuse, waste