

Business Models for Resource Recovery & Reuse

A focus area within the CGIAR Research Program on Water, Land and Ecosystems



Photo: cc: Bill Zimmerman

THE CHALLENGE

Humans generate millions of tons of waste every day. This waste is rich in water, nutrients and energy.

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, lack of water and limited access to energy.

Although composting and wastewater reuse are well known processes, most initiatives aiming at resource recovery & reuse (RRR) heavily depend on subsidies and remain small, often not surviving beyond their pilot phase.

A new approach is needed to implement viable solutions at scale which support livelihoods, enhance food security, support green economies and contribute to cost recovery in the sanitation chain.

DID YOU KNOW

- Municipalities in developing countries spend 30-50% of their budget on solid waste management, although 30-60 % of the waste remains uncollected.
- About 128 million septic tanks and latrines in India contribute to 80% of the pollution of its surface waters due to the lack of septage treatment facilities.
- IWMI has currently identified over 150 RRR success stories and defined more than 20 promising business models for business schools and investors.

SOLUTIONS WITHIN REACH

Hopeful signs of viable approaches to resource recovery and reuse are emerging around the globe, especially in low-income countries. Many of these new commercial pathways are being charted in the informal sector, based on innovative approaches, private capital and business models for cost recovery, social benefits or profit.



Photo: M. Lydecker

These enterprises target wastewater reuse; co-composting of different organic wastes, including fecal sludge; and waste-based energy systems. They are building on public-private partnerships, thereby shifting the focus from treatment for disposal to treatment for reuse.

THE OBJECTIVE

To enable promising RRR business models to be replicated at the largest possible scale by learning from existing or emerging success stories; to understand their technical, economic, regulatory, cultural and institutional conditions, and, in particular their business plan.

THE APPROACH

A multi-disciplinary team of entrepreneurs, economists, environmental and social scientists, public health experts and agronomists working together with partners such as the World Health Organization (WHO), investors, social entrepreneurs, business schools and non-governmental organizations (NGOs), on domestic waste, including fecal sludge, wastewater, urine and market waste, as well as agro-industrial and food industry waste.

Promising RRR cases are being analyzed and tested for their application potential, scalability and robustness, across Asia, Africa and Latin America, through a series of local feasibility studies that are being conducted within a variety of different settings whilst safeguarding human and environmental health.



Fertilizer pellets from fecal sludge.

Photo: IWMI

OUR PARTNERS

Investors, (social) entrepreneurs, municipalities, public health entities, business schools, NGOs and specialized research institutions, such as the Department of Water and Sanitation in Developing Countries (SANDEC) at the Swiss Federal Institute of Aquatic Science and Technology (EAWAG).

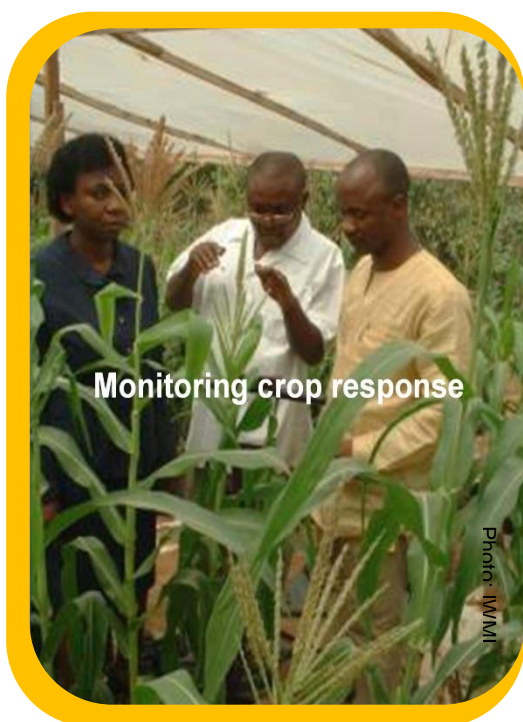
CURRENT DONORS

The International Fund for Agricultural Development (IFAD), the Swiss Agency for Development and Cooperation (SDC), the Bill & Melinda Gates Foundation and the European Union (EU).

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Monitoring crop response

Photo: IWMI