

Closing the Loop with Arborloo and Fossa Alterna in Tanzania

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The Benefits of Eco-Sanitation Latrines

Catholic Relief Services (CRS) Tanzania is implementing the Global Water Initiative program (GWI) in Same and Ruvu wards of Same district in the north of Tanzania. Both of these two wards are



Arborloo in Kitamori sub-village of Same Ward

generally characterized by very low sanitation coverage. When latrines are used, the most common type is a deep-pit earthen slab latrine, or traditional latrine. These latrines are poorly ventilated, difficult to clean, and expensive to build and maintain. They are also unreliable (known to collapse) and have a limited lifespan of only one to two years. In recognition of the limitations of traditional latrines, CRS decided to promote ecological sanitation (ecosan) latrines through GWI because they are more cost efficient and durable, and require less maintenance. They also have an added benefit of generating compost from human waste which can be used as fertilizer for agriculture or reforestation purposes. This brief describes experiences and lessons learned from the promotion and community adoption of two ecosan latrine types – Arborloo and Fossa Alterna.

An Arborloo is a shallow single pit latrine that is used to create fertilizer from human waste. After the pit is filled, usually after about 6 months, the slab and structure are moved to a different location on a new pit. Trees can later be planted on the old pit.

A Fossa Alterna is a latrine with two adjacent pits that also provides a means for fertilizer production. However, instead of moving the structure and slab to a new location after a pit is filled, they are rotated back and forth between the two side-by-side pits. While one is being used, the other one is covered as the waste decomposes to become fertilizer. An Arborloo costs about 15-20 US dollars, while a Fossa Alterna is a bit more expensive given its size and costs about 35-40 dollars.

Promoting Eco-Sanitation in the Community

During the Participatory Hygiene and Sanitation training (PHAST) sessions, which are a core component of GWI programs, communities expressed strong preference for Ventilated Improved Pit (VIP) latrines over the ecosan options, despite explanation on the shortfalls of the VIP latrine model.

To begin, CRS educated its local partners, Catholic Diocese of Same (CDS) and target communities about the different latrine options through training, reading materials and sharing success stories of GWI communities in Ethiopia and Uganda. During the Participatory Hygiene and Sanitation training (PHAST) sessions, which are a core component of GWI

programs, communities expressed strong preference for Ventilated Improved Pit (VIP) latrines over the ecosan options, despite explanation on the shortfalls of the VIP latrine model. The community perception was that VIP latrines were an upgraded version of

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the traditional latrines and the ecosan latrines were not regarded as favorable.

In order to demonstrate the benefits of ecosan latrines, the program selected two families and two public sites (near water distribution points) to construct demonstration models for both the Arborloo and Fossa Alterna latrines. The public site latrines were constructed near water distribution Points and made available for public use. All these

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latrines included signboards with instructions on use, hygiene messages, and construction techniques.

Six months after construction of these demonstration latrines, requests were received from the communities for support to build more ecosan latrines. In 2010, the program supported hundreds of households to build these ecosan latrines. Additionally, many households built their own ecosan latrines without GWI support when they realized the

dual benefits of waste management and fertilizer.

Lessons Learned, Recommendations and Next Steps

- Initially, it was challenging to promote ecosan options because it was unfamiliar to the communities as well as the local partners. Although CRS explained the benefits, the communities needed validation through experience in order to be convinced. The demonstration sites proved to be a very effective means to promote

ecosan latrines both at the household and community level.

- The total benefits of ecosan latrines were not realized within the three year timeframe of GWI Phase I because the fertilizer needs sufficient time to form, and the lengthy



Excavated arborloo pit

process of tree growth and agriculture. Significant time is needed to really close the loop from waste to fertilizer and for the benefits of ecosan latrines as an agricultural aid to be evident. The trees that are planted on filled Arborloo pits need about 4 to 5 years to mature before they start to produce fruit. Waste collected from the Fossa Alterna requires about a year to turn into safe fertilizer for crops.

- Ecosan latrine promotion could be more effective in the same target location if it is integrated with other GWI program activities such as watershed management and policy advocacy. For example, compost from the ecosan latrines could be used in land enclosure areas where soil and water conservation efforts are ongoing. Stronger linkages between ecosanitation and other activities should be prioritized in Phase II.