

### LeaPPS Case: 2010-07

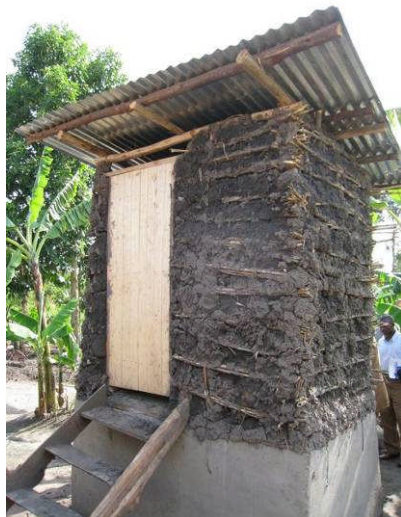
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## Promotion and Cost optimisation of Urine-Diversion Ecological Sanitation in Mahyoro Sub-County (Uganda)

### INTRODUCTION

*Ecological sanitation (EcoSan)* is based on the principle of the recycling of human waste to reduce the risk of diseases transmission, preventing groundwater pollution and using the decomposed human waste to improve soil structure and fertility.

JESE is promoting and implementing EcoSan in Mahyoro Sub-County in Kamwenge district (Uganda) in an effort to promote integrated water resources management and offer communities a cost-effective and sustainable sanitation option.



### Background to EcoSan promotion in Mahyoro

EcoSan promotion started as a result of numerous constraints of the high water table and collapsing soils, making conventional pit latrine construction unsustainable. Most people in the sub-county practised 'open defecation', indicated by the low sanitation coverage (30%). The prevalence of diarrhoeal diseases was high at the start of EcoSan promotion. The EcoSan concept was introduced as a good potential alternative that would address the existing environmental, public health and pollution constraints.

### Steps and strategies

- Target Communities were exposed to successful EcoSan projects in areas with similar environmental constraints. Members from the farmer groups, Beach Management Units, the Sub-County Community Development Officer and Health

<sup>1</sup> JESE is an indigenous Non Government Organization active in the promotion of Water, Hygiene and Sanitation, Sustainable Organic Agriculture and Marketing as well as Integrated Water Resources Management in the districts of Kabarole, Kamwenge and Kyenjojo in Mid-Western Uganda. JESE collaborates with INGOs such as PROTOS and SNV

Assistant were exposed to EcoSan. Thereafter these staff and community representatives helped in promoting EcoSan amongst the community groups.

- EcoSan demonstrations were held in households selected by target beneficiaries whereby the use of EcoSan for defecation and manure use was illustrated.
- Local resident masons were trained in EcoSan construction to take up construction as members adopt this system. This helped to reduce the costs of labour, as external masons would charge transport costs.
- EcoSan latrines of varying costs are promoted to give households of different socio- economic status a choice in sanitation facility and service level.

Ezra Bamutura, a farmer in Burembo village has testified that before he acquired EcoSan, his pineapples would yield smaller fruits that would fetch him UGX 500. Now he applies humanure from the EcoSan latrine, the pineapple size has increased. He now fetches UGX 700 each. He very much attributes the increase in yield to the humanure. The few plants where he does not apply humanure have continued to yield smaller fruits.

- Local agricultural CBOs, sub-county and district local government and drama groups got involved in the EcoSan promotion.
- The conventional EcoSan design was adjusted to suit 'washers'<sup>2</sup> communities; this overcame one of the main fears that EcoSan is not suitable for those who use water for anal cleansing.

### Achievements in sub-county

- The project built 64 EcoSan latrines and these are all in use (60 household and 4 public units).
- A further 10 households and one institution constructed EcoSan with their own funds using a trained resident mason.
- Five resident masons have been trained in EcoSan construction and are now constructing for members adopting the system in each of the five parishes of the sub county.
- Already seven households are utilising 'humanure' from their EcoSan in gardening.
- Community members who use water for anal cleansing after latrine use are appropriately utilising EcoSan.
- Communities in the sub-county have shown an increasing demand and have asked to be supported with EcoSan construction costs.
- The sanitation coverage of Mahyoro sub-county has risen from 30% to 50%; the sub-county attributes it mainly to the project's intervention in the area for the last three years and its EcoSan promotion.
- Non-urine diverting EcoSan latrines such as 'arborloo' ('tree' latrine) and 'fossa alterna' (double composting latrine) have been piloted in Mahyoro sub-county. These low-cost EcoSan options are aimed at the poor communities, and households

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have been sensitised about the advantages and use of these options.

### Cost reduction innovations



The following adjustments have been made to lower the costs of the urine diverting EcoSan latrine to increase the rate of adoption by communities:

- Use of mud and wattle for the super structure is much cheaper than using cement-based wall material.
- Use of 28-gauge iron sheet instead of the costly steel sheet.
- Use of mud mortar for brickwork for the vaults and using cement for plastering the vaults only, to enable waterproofing.
- Use of thatch or other local roofing material is cheaper than iron sheets.
- Use of logs as the foundation for the floor instead of a concrete slab that involves use of iron bars and cement.

These innovations have reduced the cost of the urine diversion latrine from UGX 800,000 (some US\$400) to a range of UGX 200,000 – 400,000 (some US\$100-200) depending on the combinations of materials used and location.

### Success factors

The communities' bad experience with conventional pit latrines that were collapsing made them waste a lot of resources. This enabled the acceptance of EcoSan, a facility with high durability and relatively low costs.

- The massive sensitisation of communities about the advantages and appropriate use of EcoSan and application of manure;
- The support from sub-county and district local governments;
- The adjustment of the design to suit the low-income earners and 'washers';
- The use of 'critical mass' approach whereby 10-15 households are mobilized and clustered to contribute materials for each other;
- The technical advice from SNV.

### Challenges encountered

There have been challenges before and after implementation of EcoSan.

*Before implementation the challenges were:*

- 'Washers' had a negative perception that EcoSan would not be friendly to them.
- The cultural belief that adding ash to the faeces is a form of witchcraft that would make the defecator sick or even lead to death.

### Post implementation challenges:

- Inappropriate functioning of the public EcoSan latrine on Mahyoro landing site. This is mainly due to wrong sanitation practice of users. Actually, the users' group, mainly fishermen, may change daily and many do not know how to use the EcoSan properly.

Although reduced (up to UGX 200,000-400,000), the cost of EcoSan has not yet reached a level affordable for the very low-income earners among the rural communities. This has caused delays and often failure of financial household contribution.

### Lessons learnt

- The acceptance and adoption of EcoSan largely depends on the degree to which conventional pit latrines have failed;
- EcoSan operation and management is more effective at household level than in public places;
- The demonstration of EcoSan as a sanitation option and source of fertilizer is a catalyst for its adoption.



### Way Forward

Communities are being sensitized about the non-urine diverting EcoSan latrines of aborloo ('tree' latrine) and fossa alterna (double composting latrine). Then those households that still cannot afford the cost of the urine diversion EcoSan – despite the cost reduction- can now go for these cheaper options that have been demonstrated in the programme area. Depending on the availability and use of suitable local construction materials, the aborloo and fossa alterna may cost UGX 20,000-25,000 (for the concrete slab) plus the cost of other materials<sup>3</sup>.

### References/ Materials Used and Info Sources

- Resource persons: , SNV; Tom D'Haeyer, PROTOS
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<sup>3</sup>. see also LeaPPS Info Cases 2008-2 and -3 <http://www.watsanuganda.watsan.net> & <http://www.irc.nl/page/38717> and Bill-of-Quantities Arbploor/Fossa Alterna <http://www.watsanuganda.watsan.net/page/563> and <http://www.irc.nl/page/44050>