



Zambia



Pilot in Low Cost Sanitation Areas II (PLOCSAN II)

Water and Sanitation Association of Zambia (WASAZA)



PLOCSAN II aims to reduce underground water contamination and improve toilet quality through the introduction of innovative biogas technologies, as well as training water utilities staff to apply community participatory approaches.

Launched in 2014, Not-for-profit , Hygiene , Sanitation , East Africa: Zambia

Partners: Bremen Overseas Research and Development Association (BORDA)

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Problem Addressed

Low-cost sanitation is a critical issue in the per-urban and rural areas of Zambia where the necessary infrastructure is either poor or non-existent. WASAZA in association with its partner Bremen Overseas Research and Development Association (BORDA) have spearheaded biogas technology within Zambia. This technology provides communities and water organizations with an approach to improve sanitation throughout Zambia without the costs of extensive infrastructure. The technology not only manages waste but allows for energy production that can be used (among other things) to power stoves, thereby conserving the environment through reduced use of firewood and charcoal.

Innovative Approach

A priority for WASAZA is the sustainability of its programs beyond the implementation period. Inherent to the notion of sustainability is the understanding that the individuals, communities and key stakeholders involved in the programs want the interventions in their area, want to understand how they work, want to be involved in maintaining them, and feel strongly enough to share what they know with others. To this end, community participatory approaches (CPA) have been incorporated as a central part of every project within the program. CPA aims to include community and key stakeholders in every key decision to be made throughout the project. In addition, CPA aims to identify the key needs of the area, recruit community members and train them in ways of addressing those needs. This can include among other things health and hygiene education and menstrual health education adapted for cultural sensibilities.

WASAZA has also worked to develop a network of members, including private utility companies, NGOs, government ministries, etc., which they and the other members can leverage to strengthen their capacity in a greater variety of areas as needed. That is, WASAZA acts as a hub to link its membership together for mutual benefit and learning.

Program Solution

WASAZA, in partnership with BORDA, received funding to pilot an initial program PLOCSAN stage I (2012), that applied biogas technologies to improve sanitation in 4 pilot communities. This was extended through PLOCSAN stage II (2014 -) to: learn from Stage I; strengthen organizational and community capacity to scale up the program; and incorporate health

Please visit this program profile at:

<http://washinnovations.r4d.org/program/pilot-in-low-cost-sanitation-areas-ii-plocs-an-ii>

and hygiene education.

PLOSCAN stage I involved: Introduction of Community Participatory Approach (CPA) process to the selected water utilities prior to the implementation of Plocsan projects, to ensure ownership and sustainability of the project; Design, construction and commissioning of 16 biogas digesters, which are connected to the sewer system and supply gas to households; Development of operation and maintenance manuals; as well as activities to support health and hygiene education.

PLOCSAN stage II has extended the work and learning from stage I: Conduct field appraisals; Develop technical informed choice catalogue; Training of CUs, Community leaders and Consultants in CPA process; Oversee implementation of CPA process; and activities to support health and hygiene education.

Bio-latrines are an innovative technology option involving placing a toilet with the drop hole above the inlet of a biogas digester. Inputs to the digester include excreta and any other organic waste (such as kitchen/garden waste or manure) whilst outputs include biogas, dried sludge and effluent water. The biogas produced through the anaerobic digestion of organic waste is captured in the digester, and then used as a replacement for conventional cooking fuels in nearby businesses or households. The process thus saves firewood and reduces the combustion of other fossil fuels, which might otherwise be used for cooking. It also negates the need for people (often women/children) to carry charcoal and firewood from the market to the home.

The digester, as a septic tank alternative, provides primary treatment of the wastewater, therefore reducing end-of-pipe treatment requirements. Valuable by-products (in addition to biogas) are also formed: the effluent can be used for watering gardens thus offsetting potable water requirements, and the dried sludge can be used or sold as soil conditioner. The bio latrine technology has a specific application where there is no piped water supply and no sewer. The technology provides potential for sustainability (via entrepreneurship: use/sales of biogas and soil conditioner, and use of effluent water) and replication (via spin-off bio latrine projects).

As education forms an important component of technology acceptance and ownership, a health and hygiene education (HHE) component was also been incorporated in the project, and health impact assessment (HIA) for monitoring, evaluation and learning.