

Faecal Sludge Treatment plant - prefabricated DEWATS for emergency relief in Kathmandu Valley

Status: Completed

Project Partner: BORDA, CDD Society

Project Area: Lubhu, Lalitpur

Project Duration: June 2015 to December 2015 (extended till March 2016)

Aim:

- To manage the sludge generated from the emergency toilets constructed during the emergency response to earthquake in Lubhu and nearby areas and camps.
- To launch the faecal sludge treatment plant and test its functionality and adaptability for the upcoming projects

Project Description:

Faecal Sludge Treatment plant-prefabricated DEWATS for emergency relief in Kathmandu Valley, Nepal is the project initiated by ENPHO in coordination with BORDA and CDD Society. This was a pilot project to launch the prefabricated modules and test for its suitability in context of Nepal. The emergency latrines constructed during the emergency phase depends on onsite sanitation infrastructure such as septic tanks and pit latrines for sewage disposal, which has further faced the problems of



overflowing pits causing health risks to its inmates. The sludge produced from these pits were initially targeted to dump in the treatment plant and the sludge after treatment recovered as a manure are purposed to be used in the agricultural land. The treatment process is entirely anaerobic approach so the biogas is also obtained as a byproduct and the wastewater generated can be applied directly in the croplands.

Project Outputs:

- Treated water for agriculture land.
- Biogas is recovered as a major byproduct.
- Manure is collected at the end of the year after undergoing a process of anaerobic processes.
- The overflowing pits constructed in the camps and communities were properly managed.

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Project Achievements:

- Successful installation of prefabricated modules.
- Model construction work in the faecal sludge management.

Beneficiaries:

- People using the latrines constructed during emergency at Mahalaxmi municipality.

Faecal Sludge Treatment Plant at Lubhu

The Faecal Sludge Treatment Plant at Lubhu, Lalitpur is a pilot implementation by Mahalaxmi Municipality with support from ENPHO, BORDA, Saligram Bal Griha and CDD Society. The treatment plant is the first of its kind in Nepal with regard to the concept of reusability of all possible end products and integrated approach towards faecal sludge treatment. The treatment process provides resource recovery options; treated wastewater for reuse in irrigation, bio-solids as soil conditioner for farming, biogas for cooking and lighting, which benefits the treatment plant caretaker. Ultimately, the produce from the treatment plant's caretaker is primarily utilized for consumption by the kids residing in Saligram Bal Griha and excessive produce is sold in the local market. However, the immediate beneficiaries of the plant were the people using the latrines constructed during the emergency earthquake response phase at Mahalaxmi Municipality.

The faecal sludge treatment plant is a gravity based system and is capable of processing 6 m³ of sewage per week. The plant utilized a combination of prefabricated modules and civil constructed units to achieve cost efficiency during construction.

Furthermore, the operations and maintenance requirements are relatively low and are achieved via treating sewage in the absence of electromechanical equipment. The plant is highly efficient and can be

