Introduction
Location: Lubhu, Mahalaxmi Municipality, Lalitpur
Implementing Partners: ENPHO, and CDD Society (India)
Supported by: BODSA, Help for Children Beilngies-Kathmandu, Mahalaxmi Municipality

Special Features
• Prefabricated treatment Modules except Planted Sludge Drying Beds and Planted Gravel Filter.
• Constructed within 45 days
• Footprint: 300 sq. m
• Design Capacity: 6 cum/ week.
• Gravity flow system

Components of Faecal Sludge Treatment Plant (FSTP):
• Feeding Tank (FT)
• Solid Treatment Components:
  • Biodigester (BDG)
  • Stabilization Tank (ST)
• Planted Sludge Drying Beds (PSDB)
• Liquid Treatment Components:
  • Settler with Integrated Anaerobic Baffle Reactor (ABR) and Anaerobic Filter (AF)
  • Planted Gravel Filter (FGF)
• Collection Tank (CT)

Methodology
• Field observations
• Interview with operator
• Risk identification to exposure groups at the treatment plant following SSP framework.
• Calculation of monetary value of benefits obtained from treatment plant

Overview of Poster
This poster presents Sustainability study of FSTP through Financial Assessment and Sanitation Safety Planning Approach.

Results
1. From the field observation, it has been found that within 21 months of operation:
   • 462 m³ of FS has been treated from which 336 m³ of treated water, 48 m³ of compost manure and 631 m³ of biogas was reclaimed and used.
   • Treatment modules are properly maintained and are operational.

2. The interview with operator (who is also the farmer using the end products of the treatment plant), imparted that:
   • Treatment plant has benefitted them with surplus water for irrigation (even during the dry season), compost manure and the sufficient biogas for cooking.
   • They do not have to buy the additives (especially minerals) to increase the quality of soil.
   • Vegetable production is high compared to past years as they are growing vegetables year round.

3. From the SSP assessment,
   • No leakages and seepage found - prefabricated and underground components
   • Well-trained operator
   • Proper use of appropriate personal protective equipment
   • Inspection and record keeping of incoming FS before feeding into the treatment plant
   • Availability of concern body (SSP team) to provide the required technical support and guidance for any susceptible events
   • The quality of vegetables grown using the treated water was found with no helminthes indicating safe consumption of the products.

4. The calculation of monetary value of benefits obtained showed that about NPR 426,296 could be gained per annum, if treatment plant is fully operational.

Conclusion
• Faecal Sludge Management can be merged with resource generation.
• Health risk from exposure to hazardous event can be minimized.
• Zero waste system, as multiple by-products (biogas, treated water and compost manure) having financial values are produced and are in use.
• FSTP, as such, which closes the sanitation loop, is financially sustainable (benefits: NPR 688,543 and expenses: NPR 262,247) and safe. Hence can be replicated.