

From Tank to Treatment - Private Sector Redefining Sanitation Services



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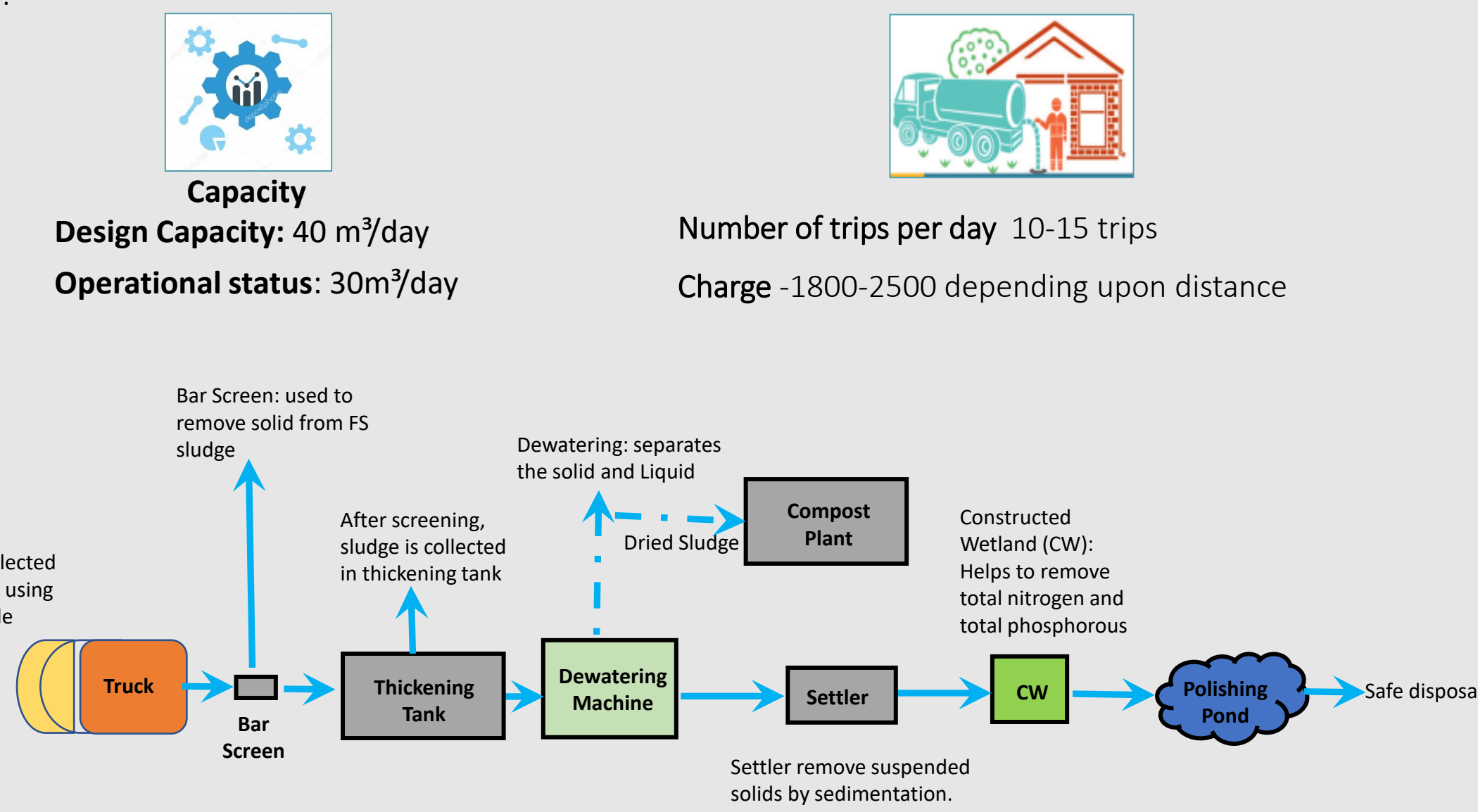
Overview

Butwal Sub-metropolitan City stands as one of the oldest municipalities in Nepal and serves as an economic hub in Lumbini Province, West Nepal. With 194,335 population residing in 50,565 households (NPHC 2021), the city is undergoing rapid growth and urbanization. Despite this, the establishment of proper sewerage infrastructures remains a pending need, as 97.23% of households rely on onsite sanitation systems that necessitate regular emptying of septic tank and safe disposal.

While the sub-metropolitan actively provides sanitation services on solid waste management, it lacks a proper desludging services and designated space for treatment and safe disposal.

Emergence of Butwal Sanitary Pvt. Ltd.

Until 2022, there was a practice of haphazard disposal of faecal sludge (FS) in the nearby forests and rivers. Also, there was no consistent charging mechanism for desludging and transportation. However, they had to pay NPR 5000 (\$36) as a tipping fee to the forest users committee, for disposing the faecal sludge in the community forest. When the community disrupted for disposal, the desludgers faced challenges of disposal due to lack of alternatives. In response, seven desludging service providers came up with an idea to establish a private company, Butwal Sanitary Private Limited. After a series of united effort, they succeeded to secure land and leased it out for safe disposal in another community forest marking the initiation of their desludging and treatment operations as a new venture. By this, they also planned to have treatment plant in the land so that they can dispose of the fecal sludge safely. Then they invested for small scale faecal sludge treatment plant (FSTP) and gradually expanded to cater the increment of FS volume. Initially, the venture commenced with a few drying beds, followed by the addition of a thickening tank and more sludge drying beds. Subsequently, a dewatering machine was incorporated to extract organic fertilizer.



Conceptual Design Plan of Butwal Faecal Sludge Treatment Plant

Capacity
Design Capacity: 40 m³/day
Operational status: 30m³/day

Number of trips per day 10-15 trips
Charge -1800-2500 depending upon distance



Service Area

Butwal Sub-metropolitan City
Tilottama Municipality
Siddharthanagar Municipality
Devdaha Municipality
Sainamaina Municipality



Revenue generation
600,000 per month



Operational Cost
350,000 per month



Profit
250,000 per month

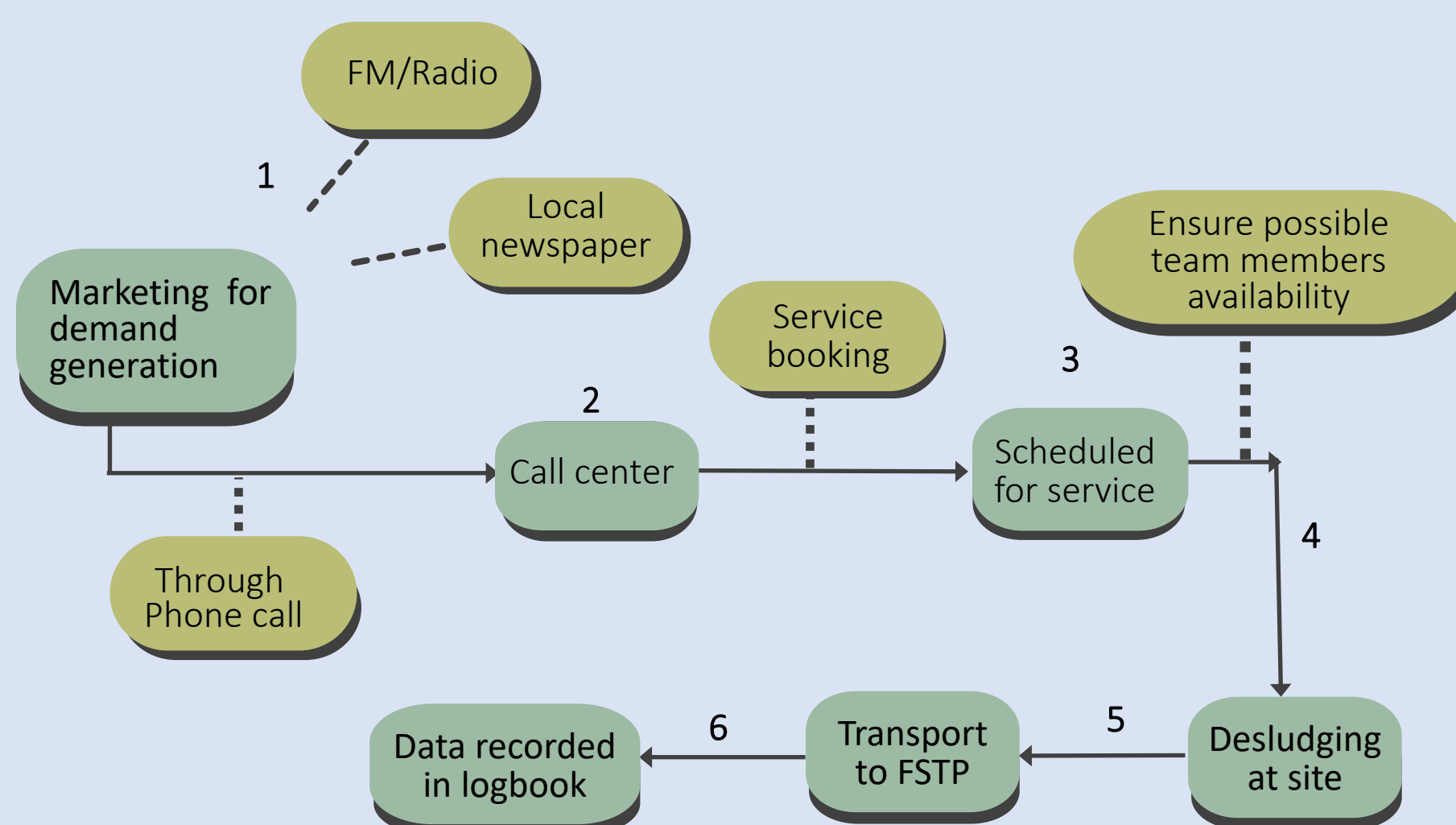


Production of fertilizer – 800 kg per day
Costing – NRs25 per kg to dealers and NRs 40 per kg to retailers

Operational Management

Beyond technological advancements, the company streamlined its operation by establishing a call center which handles demand for desludging services via phone calls. The entire process, from desludging to treatment at the plant, is meticulously handled by the operating team, with comprehensive records maintained. The number of trips per day as per demand is equally distributed to all the desludging tankers that optimizes the use resources.

Customer Service Work Flow



Uniqueness

The uniqueness of this business venture lies in offering sanitation services that the company is working along the entire sanitation service chain. Butwal Sanitary Pvt. Ltd goes a step further by investing in and managing a Faecal Sludge Treatment Plant allowing them to recover fertilizers as resources. This initiative highlights their dedication not only to providing a service but also to responsibly managing the waste produced through their services, promoting more sustainable and environment-friendly sanitation practices. The approach of circular economy adopted by the company not only ensure the environment and public health safety, but it also supports company in financial management.

Need for Technological expertise with investment

The company faces a lack of the sanitation technological expertise, leading to significant investment in exploring various technologies. Staying updated with technological advancements is essential in to improve efficiency, optimize resources, and remain competitive.

Challenges

Regulatory gaps

The lack of local government support poses a major challenge. Without proper regulations for fecal sludge disposal, other service providers dispose off it carelessly, risking public health and the environment. This lowers their operational costs, giving them a competitive edge. In contrast, Butwal Sanitary ensures safe disposal, incurring higher operational expenses.

Recommendations

The local government should enforce regulations for the safe disposal of faecal sludge by sanitation service providers. This would create a supportive environment for businesses like Butwal Sanitary, which prioritize safe faecal sludge disposal.

Butwal Sanitary should seek technical support and secure investment to meet the technical requirements that would enhance their operational efficiency.

This type of model should be replicated in other areas with customized technical advancements



Butwal Sanitary Pvt Ltd sets an example of feasibility of sanitation business throughout the sanitation service chain, right from desludging to resource recovery.

The collaboration of different sanitation service providers in desludging demonstrates the collaborative efforts for safely managed sanitation.

The company's independent investment and profitable operations showcase the viability of the sanitation business for the private sector.

While sanitation services are often perceived as the responsibility of local bodies, collaborating with the private sector and creating collaboration with the private sector can improve sanitation services and reduce the need for local government investment.