Learnings from Bijnor- Uttar Pradesh

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Overview

- City profile
- Creating Infrastructure for Treatment (Treatment of FSS)
- CSE’s intervention
- Creating conducive environment
- Streamlining Desludgers (Collection & Transport of FSS)
- Operational challenges costs
- Learnings
Bijnor city lies 12 KM west of River Ganga. It is the district headquarter.
The Bijnor lies on 236 m above sea level. The climate is warm and temperate in Bijnor.
ODF: 2018
ODF+: 2020
ODF++: 2021
The city has 24 MLD STP (UASB based). Receiving average of 20-22 MLD
On the STP premises a 20 KLD co-treatment unit currently receiving average of 6-8 KLD

Total population is 178000 (based 2011 census), estimated current= 235000
Area 11.61 sq.km
25000 households
Household size is 5
Average rainfall 999.4 mm
Administrative wards 32
Co-treatment-Project Highlights

- Capex: Rs 41.42 lakh
- Opex: Rs 1.5 lakhs/annum
- Funding agency: NationalMission for Clean Ganga
- Executing agency: Uttar Pradesh Projects Corporation Limited
- Technical support: Centre for Science and Environment
- Duration of construction: 3 months + 1 month trial period
- Geo-coordinates: 29°22′25.2″N 78°06′15.3″E
- Technology: Solid-liquid separation at sludge drying beds followed by liquid treatment at UASB reactor via STP inlet (Scientifically)
- Area of co-treatment unit: 225 m²
- Capacity: 20 KLD
20 KLD Co-treatment Unit at 24 MLD STP
Notes: 2017
- No sewer and no wastewater treatment as STP was under construction
- Poor sanitation infrastructure

Notes: 2020
- All the wastewater generated in the city reaches to Sewage treatment plant through tapping into main sewers. (taken 80% as it is being intercepted and tapped)
- All the households have IHHL.
- In-sanitary toilets removed by the ULB.
- Few areas had toilets connected directly to open drains (hence 3% ww in offsite
Creating Conducive Environment

• City Sanitation Taskforce creation
  • A city-level coordination platform
  • A multi-stakeholder and multi-sectoral body

• Engagement with Desludgers
  • Agreements-On costs of Desludging; Compliance of Regulations
  • Incentivize and recognition (Desludgers)

• Capacity building and IEC
  • ULB staff and Sanitation workers
  • Citizen`s engagement

• Creation of Regulatory framework: FSSM Bye-laws
  • Drafting and circulating in the city council
  • Gazette Notification
City Sanitation Taskforce (C.S.T.F)

MoU between CSE and Nagar Palika Parishad Bijnor

City Sanitation Taskforce (C.S.T.F) Meetings

Capacity Building
Streamlining Desludgers (Collection & Transport of FSS)

Rapid Registration Camp

Private Desludgers Registered

Agreements with private desludgers arranged by CSE
Streamlining Desludgers (Collection & Transport of FSS)

- Regular decanting at the treatment facility is crucial for the plant's normal functioning.
- Desludgers act as a backbone to any FSSM project.
- Their regularization is essential.
- Engagements with them should be on a regular basis;
  - helps in understanding the scenario;
  - loop holes in management;
  - Creates an environment of ownership among private players.
- Dynamic desludging fees.
- Welfare of private players.
- Broadening their engagement with ULB.
Initiatives on different components of Sanitation Value Chain

Mason’s Trainings

Desludgers Trainings

Site Bijnor

Inaugurated
On 25 December 2021
Bye-laws were passed by council in Feb 2021 but yet not gazetted?

Bijnor Nagar Palika Parishad sent its team to Prayagraj for Gazetteing the Bye-laws on 15th of June 2022

FSSM Bye-laws approved in City Council-2021

Gazette Receipt

Incentives schemes discussion with desludgers

Soft Components
Scientific Co-treatment

• Scientific co-treatment is a conscious procedure of adding FSS to STP modules by understanding the boundaries of treatment in STP.
• Scientific co-treatment differs from the current practices of the directly adding the FSS to the inlets of STPs without any pre-treatment.
• Characterization of Faecal Sludge and Septage to understand the organic load to be added in STP.
• Understanding of non biodegradable and biodegradable particulate matter and solid content in FSS.
• Scenario of collection and conveyance in the city and then designing.
• Feasibility assessment study of the STP.
1. Handover of the co-treatment Unit was done to Bijnor ULB after due inspection on ULB’s end
2. For operational purpose basic work includes the following
   I. Cleaning of the steel screens regularly
   II. Maintaining the record register
   III. Transfer of FSS from homogenization tank to Sludge Drying Bed vis sewage sump
   IV. Cleaning the premises
   V. Dried sludge for Reuse.
• Nagar Palika Parishad Bijnor has employed a worker to do above task who is responsible for above task except transfer of Dried Sludge

• The dried sludge is transferred to composting site once in a month by help sanitation workers of the municipality

• The cost incurred by ULB in Operation of the co-treatment includes
  • Salary of the worker (single) employed (~10k/month)
  • Cost of transferring dried FSS from the plant to compost site. (500 per trolley load)
  • Average Dried FSS removed is 5-7 trolleys in a month
Learnings

• Strategizing Septage treatment: Plan consciously with focus on maximum safe management of FSS as early as possible.

• Regularizing and engaging private players in all stages: Private desludgers play the key role in sustaining the FSM project.

• Early engagement with them brings understanding and trust between city officials and private desludgers.

• Willingness of different stakeholders to take part in sustainable sanitation. Heavy infrastructure and heavy funding projects are center of interests. Small infrastructure projects lose central attention.

• Model containment systems: Septage management at source requires correctly designed septic tanks. Building bylaws must be followed stringently for compliance in this direction.
Officials from Swachh Bharat Mission-Gramin, Rajasthan

Senior consultants from UNICEF-India

Waste Specialists from Jaipur
Current Status (core city)

Bijnor (Vn-2022), Uttar Pradesh, India
Version: Draft
SFD Level: SFD Lite
Data prepared: 8 Aug 2022
Prepared by: CSE (Desk Based)

Notes: 2022
• All the desludgers licensed and registered; Sensitized; regularly engaged; introduced to government schemes; Incentives schemes
• All the households emptied on demand the FS reaches to treatment
• Co-treatment infrastructure commissioned
• Waste-water reaching through tapping and interceptions. (taken 80% wastewater or SN in drains and sewers is reaching to treatment plant as it is being intercepted and tapped)
• Bye-laws gazette- completed
THANK YOU