FSM Programme in Southern Bangladesh

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Netherlands Development Organisation

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The Project ...

Project Name: Demonstration of pro-poor market-based solutions for Faecal Sludge Management in urban centers of Southern Bangladesh

Project duration: 2014-17

Project area: Khulna City Corporation, Jhenaidah and Kushtia Paurashavas

Funded by: Bill and Melinda Gates Foundation (& DFID)

Implemented by: SNV Netherlands Development Organisation

Implemented under leadership of City Corporation, Jhenaidah and Kushtia Paurashavas
Four implementing components engaging different stakeholders

1. Awareness and demand for services in different areas of the city
   - Work with People Community, Schools and Businesses

2. Safe and affordable sanitation services for toilet construction and emptying
   - Investors, KWASA

3. City wide service delivery, regulation, planning
   - Different Government Departments

4. Informed choice of treatment and re-use solutions, good operation and maintenance
   - Emptiers and Toilet Builders
Indicator 1: Progress in access to sanitation facilities

QIS Ladder: Indicator 1

4 Environmentally safe toilet (septic tank with soak well)
3 Improved individual toilet without access by flies (with water seal); Septic tank without soak-well
2 Improved individual toilet but accessible by flies (no or broken water seal)
1b Shared Toilet (more than 1 household)
1a Unimproved toilet (as per JMP)
0 No toilet/ Open Defecation / Use Niebuhr's one

<table>
<thead>
<tr>
<th></th>
<th>Poorest</th>
<th>Poor</th>
<th>Medium Wealth</th>
<th>Wealthy</th>
<th>Wealthiest</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>45%</td>
<td>57%</td>
<td>64%</td>
<td>80%</td>
<td>84%</td>
</tr>
<tr>
<td>3</td>
<td>14%</td>
<td>2%</td>
<td>2%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>2</td>
<td>32%</td>
<td>31%</td>
<td>18%</td>
<td>8%</td>
<td>2%</td>
</tr>
<tr>
<td>1b</td>
<td>4%</td>
<td>9%</td>
<td>14%</td>
<td>8%</td>
<td>2%</td>
</tr>
<tr>
<td>1a</td>
<td>5%</td>
<td>2%</td>
<td>14%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>5%</td>
<td>9%</td>
<td>14%</td>
<td>8%</td>
<td>1%</td>
</tr>
</tbody>
</table>

- No toilet
- Unimproved Individual
- Shared
- Improved but flies
- Improved and no flies
- Environmental safe
Access to Sanitation Facilities by Ward

- No toilet
- Unimproved toilet
- Shared
- Improved but flies
- Improved but no flies
- Environmental Safe
**Indicator 2: Progress in hygienic use & maintenance of sanitation facilities**

<table>
<thead>
<tr>
<th>QIS Ladder: Indicator 2</th>
<th>Description</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Used, functional, clean toilet with running water and privacy</td>
<td>Unit 1</td>
</tr>
<tr>
<td>3</td>
<td>Used, functional &amp; clean toilet, but no running water and lack of privacy</td>
<td>Unit 2</td>
</tr>
<tr>
<td></td>
<td>(e.g. no light inside, door lock not functional)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Used &amp; functional, but not clean (e.g. faecal smears are visible on pan/floor), no water inside toilet, doors/walls are not in place</td>
<td>Unit 3</td>
</tr>
<tr>
<td>1</td>
<td>Toilet is in use as a toilet but not functional (no, broken or blocked water seal)</td>
<td>Unit 4</td>
</tr>
<tr>
<td>0</td>
<td>No toilet or Toilet exists but not in use as toilet</td>
<td></td>
</tr>
</tbody>
</table>

![Graph showing the distribution of QIS Ladder: Indicator 2 among different income categories](image)

**Notes:**
- The graph indicates the distribution of QIS Ladder: Indicator 2 across different income categories (Poorest, Poor, Medium, Wealthy, Wealthier).
- The data is represented in a bar chart format, showing the percentage of each category for each level of QIS Ladder.

**Logos:**
- KCC
- SNV
- FSM Programme Partners
- WaterAid
Indicator 3: Progress in access to Hand Washing With Soap after defecation

<table>
<thead>
<tr>
<th>QIS Ladder: Indicator 3</th>
<th>Description</th>
<th>Percentage Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Hand Washing Station with Soap and running water</td>
<td>4% 12% 10% 36% 74% 89%</td>
</tr>
<tr>
<td>3</td>
<td>Hand Washing Station with Soap &amp; without potential contamination of water</td>
<td>4% 12% 10% 36% 74% 89%</td>
</tr>
<tr>
<td></td>
<td>(e.g. tippy tap)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Hand Washing Station with Soap, but potential contamination of water</td>
<td>8% 12% 10% 36% 74% 89%</td>
</tr>
<tr>
<td></td>
<td>(stored in container or bowl)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Hand Washing Station at accessible distance and water available, but no</td>
<td>8% 12% 10% 36% 74% 89%</td>
</tr>
<tr>
<td></td>
<td>soap</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>No Hand Washing Station (HWS) within accessible distance (10 ft)</td>
<td>8% 12% 10% 36% 74% 89%</td>
</tr>
</tbody>
</table>
## Indicator 4: Progress in FSM- emptying and collection

<table>
<thead>
<tr>
<th>QIS Ladder: Indicator 4</th>
<th>Description</th>
<th>Emptying and conveyance against wealth quintiles in Khulna</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Safe emptying and collection: Mechanical emptying, no entering into pit, used protective gear; compost storage more than 6 mths</td>
<td>Poor: 80%, Medium: 79%</td>
</tr>
<tr>
<td>3</td>
<td>Partially safe emptying: Manual emptying with protective gear; Compost disposed before 6 mths of storage</td>
<td>Poor: 76%, Medium: 79%</td>
</tr>
<tr>
<td>2</td>
<td>Unsafe emptying: Someone enters pit and/or did not use protection gear</td>
<td>Poor: 18%, Medium: 17%</td>
</tr>
<tr>
<td>1</td>
<td>On-site storage but no emptying for last 3 years</td>
<td>Poor: 13%, Medium: 9%</td>
</tr>
<tr>
<td>0</td>
<td>No toilet or no on-site storage (unimproved toilet)</td>
<td>Poor: 18%, Medium: 17%</td>
</tr>
</tbody>
</table>

*Legend:*
- Safe FSM emptying or conveyance
- Partially safe FSM emptying or conveyance
- Mostly safe FSM emptying or conveyance
- Unsafe FSM emptying or conveyance
- No practice of FSM emptying or conveyance
### Indicator 5: Progress in FSM - treatment, re-use and disposal

<table>
<thead>
<tr>
<th>QIS Ladder: Indicator 5</th>
<th>Provision of Faecal Sludge Treatment and Disposal or Reuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Khulna: 75% (Safe FS treatment &amp; disposal) 6% (Mostly safe FS treatment &amp; disposal) 10% (Partially safe FS treatment &amp; disposal) 3% (Environmentally unsafe FS treatment &amp; disposal) 0% (No practice of FS treatment or disposal)</td>
</tr>
<tr>
<td>3</td>
<td>Kushtia: 84% (Safe FS treatment &amp; disposal) 2% (Mostly safe FS treatment &amp; disposal) 4% (Partially safe FS treatment &amp; disposal) 6% (Environmentally unsafe FS treatment &amp; disposal) 0% (No practice of FS treatment or disposal)</td>
</tr>
<tr>
<td>2</td>
<td>Jhenaidah: 65% (Safe FS treatment &amp; disposal) 7% (Mostly safe FS treatment &amp; disposal) 27% (Partially safe FS treatment &amp; disposal) 0% (Environmentally unsafe FS treatment &amp; disposal) 0% (No practice of FS treatment or disposal)</td>
</tr>
</tbody>
</table>

#### Pre-treatment with safe final disposal:
Composted using Twin-pit latrine but withdrawn after 6 months

#### Pre-treatment with partially safe disposal:
Composted using Twin-pit latrine but withdrawn before 6 months

#### Pre-treatment with unsafe disposal:
Known where Faecal sludge is disposed of

#### Not emptied:
Unsafe treatment and don't know where Faecal Sludge disposed off

#### No toilet or no on-site storage:
Unimproved toilet
Shit Flow Diagram: Khulna

User Interface → Containment → Emptying → Transport → Treatment → Disposal

Have toilet (98.7%)
- Pit Latrine (27.5%)
- Septic Tank (60.9%)
- No Containment (10.3%)

Have No toilet (1.3%)
- No Soak-well or don't know (56.4%)

32% Shit Flow
- Combined manual and mechanical (0.3%)
- Completely mechanical (0.2%)
- Manual (95%)
- Age >3 yrs and not emptied (9.5%)
- Constructed <=3 yrs and not emptied (7%)

Disposal
- Disposed in designated site (0.2%)
- Don't know where disposed (0.2%)
- Dispose non-designated site (0.1%)

Water Bodies/Environment
- to drains, surface water body or environment (66.7%)
Research and Studies

- Baseline to assess the current FSM situation in the cities (URP, KU)
- Review of existing policies, laws and strategies for use of fecal sludge in aquaculture (DFMR, KU)
- Action research for upgrading technology (containment at household level) (EAWAG)
- MDA: Market driven approach to FSM (treatment plant end-products) (EAWAG)
- Quick Demand scan in vulnerable areas (BOP Inc)
Capacity building and development of tools/manuals

- Development of Guidelines/Standards for occupational health and safety for FS emptying and transportation (Bangladesh Occupational Safety, Health and Environment Foundation)
- Vacutug Operation & Basic Maintenance for MK-II - MK-VII (MAWTS)
- establishing a methodology for Shit Flow Diagrams (SFD) (EAWAG)
**Implementation, coaching, demonstration projects**

- Contract for supporting the selection, design, construction and operation of Short term Treatment Options and documentation of the same in 3 towns) (AIT & KUET)
- Pilot FSM value chain in particular ward (WAB)
- Inclusion of FS within SW/MW STS being planned in Khulna (KCC & ADB)
- Pilot D-bag and Geobag for dewatering Faecal sludge as immediate solution (TenCate)
Program management and monitoring

- Performance Monitoring Indicators
- Baseline (Impact and Outcome Indicators)
- Programme Monitoring and Evaluation Tool
Led World Toilet Day celebration in 3 towns
Hosted Regional Learning Event on FS emptying and transportation (Dec 7-10)
All you’ve done is chisel all day! Do something useful, like helping your brother drag those rocks up the hill.