FSM an integral part of Total Sanitation approach

A case study of Gulariya Municipality, Nepal

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Urbanization in Nepal

Year | No of Municipalities | Urban Population
--- | --- | ---
1971 | 16 | 4%
1991 | 33 | 9%
2001 | 58 | 15%
2014 | 191 | 38%
2015 | 217 | 42%
2017 | 293 | 62%

62% Urban Population
Sanitation in Nepal

National Toilet coverage: ~ 99% (DWSS, 2019)

Successful ODF campaign:
- Government leadership
- Community mobilization
- Sector Partnership

Increased number of NSS:
Sewered sanitation : 6%
Non sewered sanitation : 94%

Proper FS Management for Sustainable Sanitation

Source: MICS 2014, Nepal
Status of WWM and FSM in Urban Nepal

Domestic WW & Faecal Sludge

30% Sewered Network

93% Untreated

7% Treated

70% Non-sewered (Pit latrine, Septic Tank)

5,200 Ton/day

72% - not emptied

28% 1450 Ton/day – unsafe disposal

Source: ENPHO, 2017
Total Sanitation Guideline

• **Goal:** By 2030, achieve the sustainable total sanitation status for all.

• **Key objectives:**
  • Sustainability of ODF
  • Behavior Change on Sanitation & Hygiene
  • Proper O&M, upgrade HH & institutional sanitation & hygiene
  • Safe drinking water at HH & institutional level
  • Proper Solid Waste Management & **FSM including reuse**
  • Protection of water resources
Gulariya Municipality

- Total area: 91.19 sq. km; Total wards: 14 (236 TLOs);
- Total HHs: 10,922; Population: 60,379 (Female 29,300);
- Urban: ~ 20%; Peri-urban: ~ 80%
Sanitation evolvement in Gulariya Municipality

- 2009 – 2012 SWASHTHA project funded by EC & UN-Habitat, partner Practical Action (PA) & ENPHO
- 2012 – 2014 ODF campaign Municipality & local NGOs funded by UN-Habitat
- 2014 – 2017 “Safa ra Swashtha” project funded by UK Aid, partner PA & ENPHO
Our approach

Project “Safa and Swastha Gulariya”

- ODF using CLTS/SLTS approach
- Total Sanitation in selected communities
- Community Action Plan
- Project Management Committee
- Public Sanitation
- Pilot FSM
Total Sanitation Components
Public Sanitation

Inclusive public sanitation business

- Separate cubicle for third gender
- Private individual operates both public toilet + shop

Read more on:
  - https://tinyurl.com/y742u4kw
FSM chain – user interface and collection

- Individual toilets – 10,922;
- Institutional – 319;
- Public toilet – 5;
- ~ 90% pits and ~ 10% septic tanks/bio-gas/Ecosan;
FSM chain – Emptying & Transportation

CONTAINMENT ➔ EMPTYING ➔ TRANSPORT ➔ TREATMENT

Manual desludging and transportation

Human-powered transportation Technology

Mechanical desludging and transportation
FSM chain – Treatment and reuse

- Design capacity 3 m³ per day

Read more on: https://tinyurl.com/y84ulgn5
SFD of Gulariya Municipality

Source: Gulariya Municipality (2018)

Containment
- FS contained: 65%
- FS not contained: 30%
- Open defecation: 5%

Emptying
- FS contained - not emptied: 15%
- FS contained - emptied: 50%
- FS not contained: 30%

Transport
- FS delivered to treatment: 10%

Treatment
- 10% FS treated
- 15% FS not emptied

Key: WW: Wastewater, FS: Faecal sludge, SN: Supernatant

The SFD Promotion Initiative recommends preparation of a report on the city context, the analysis carried out and data sources used to produce this graphic. Full details on how to create an SFD Report are available at: sfd.sussha.org
Planning and Operational Support

O&M plan

2017

Operation & Maintenance Manual

Faecal Sludge Treatment Plant
Gulariya Municipality

- Municipality together with WASH-FIN (USAID supported project) team: develop & institutionalize viable FSM business plan
- Example of leadership and ownership by the municipality
Replication in Madhuban Municipality

- Inspired by Gulariya FSM initiatives;
- Municipality taking leadership role & ENPHO providing technical support;
- Municipality plans to regulate and to engage private sector and cooperatives in FSM services;
Lesson learned and recommendations

- Total Sanitation needs same energy and collaboration as initiated in ODF campaign in Nepal;
- **Local leadership** (Municipality) is key to success;
- **Capacity development** of local stakeholders on Total Sanitation and FSM approach;
- Need clear directive and **regulation for FSM services** including construction, operation and de-sludging of pits and septic tank.
- Encourage **Private Sector Engagement** for sustainable FSM services
Way Forward

- Enabling policy environment:
  - FSM Institutional & Regulatory Framework;
  - Sewerage Management Policy;
  - Total Sanitation Guideline;

- We need to now collaborate and scale-up FSM services;

- Together we can!

Thank you
EXTRA SLIDES
ACKNOWLEDGEMENT

Gulariya Municipality

Financial Support

Implementing Partner
Business plan

- Customers
  - Municipal Service Provider: $6,450
  - Informal Service Provider: $3,680
- Visitors: $50
- TPO: $1,180
- Municipality: $1,180

Cash Flows:
- $5,960 from Customers to Municipal Service Provider
- $2,240 from Informal Service Provider to Customers
- $700 from Visitors to Customers
End with Points to Remember

- The audience is not your prisoner!
- Focus on the main message
- Plan and practice
- End with a summary and a challenge
## Impact study

### Change in WASH related health behaviors

<table>
<thead>
<tr>
<th>S N</th>
<th>Indicators</th>
<th>Base line (%)</th>
<th>End line (%)</th>
<th>During the study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total sanitation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>community (%)</td>
</tr>
<tr>
<td>1</td>
<td>Percentage of HHs with access to toilets</td>
<td>88.0</td>
<td>97.5</td>
<td>98.9</td>
</tr>
<tr>
<td>2</td>
<td>Percentage of HHs with a practice of water purification</td>
<td>27.0</td>
<td>71.0</td>
<td>64.2</td>
</tr>
<tr>
<td>3</td>
<td>Availability of soap and water for hand washing</td>
<td>55.2</td>
<td>95.0</td>
<td>91.6</td>
</tr>
<tr>
<td>4</td>
<td>Improved kitchen/Gas stove in HHs</td>
<td>16.5</td>
<td>44.5</td>
<td>41.1</td>
</tr>
<tr>
<td>5</td>
<td>Hand washing practices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Before eating</td>
<td>97.0</td>
<td>99.5</td>
<td>87.4</td>
</tr>
<tr>
<td></td>
<td>b. Before Cooking</td>
<td>79.4</td>
<td>n/a</td>
<td>59.0</td>
</tr>
<tr>
<td></td>
<td>c. Before feeding child</td>
<td>32.2</td>
<td>n/a</td>
<td>39.0</td>
</tr>
<tr>
<td></td>
<td>d. After defecation</td>
<td>98.0</td>
<td>99.5</td>
<td>99.0</td>
</tr>
<tr>
<td></td>
<td>e. After cleaning child’s faeces</td>
<td>26.1</td>
<td>n/a</td>
<td>50.5</td>
</tr>
<tr>
<td></td>
<td>f. After touching garbage/rubbish</td>
<td>85.4</td>
<td>99.5</td>
<td>92.6</td>
</tr>
</tbody>
</table>