Creating Demand for Sanitation and FSM through Exposure
Evidence from Bihar, India

Sanjay Singh, Aprajita Singh
Putul Thakur, Jennifer Marcy
Population Services International
The Problem Context
A shit flow diagram for Patna (*Draft Version)

Patna, India
Date prepared: 10 Jan 2017
Version: Draft

Containment

<table>
<thead>
<tr>
<th>Ofsite sanitation</th>
<th>WWContained: 22%</th>
<th>WW not contained: 5%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Onsite Sanitation</th>
<th>SN not contained: 21%</th>
<th>FS contained: 2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open defecation</td>
<td>FS not contained: 45%</td>
<td></td>
</tr>
</tbody>
</table>

Emptying

<table>
<thead>
<tr>
<th>WW Contained delivered to treatment: 11%</th>
</tr>
</thead>
</table>

Transport

<table>
<thead>
<tr>
<th>SN not contained delivered to treatment: 7%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>FS contained: 3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS not contained emptied: 30%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FS not contained emptied: 30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5% open defecation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15% FS not contained</th>
</tr>
</thead>
<tbody>
<tr>
<td>30% FS not delivered for treatment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14% SN not delivered to treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>15% WW not delivered to treatment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5% SN not treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>6% WW not treated</td>
</tr>
</tbody>
</table>

Treatment

6% WW treated
2% SN treated
3% FS contained - not emptied

Key:
- Green: Safely managed
- Red: Unsafely managed
Barriers

Uptake (construction/Purchase)

Recent Evidence - What do we know MORE about the target audience?
3SI Landscape Study/SQUAT/Desk review

WANTS a toilet at home.

But WANT doesn’t translate to action. Barriers to action.

SOCIAL NORMS
Everyone has been doing OD for generations; have had no problems

ATTITUDES AND BELIEFS
- Irrational preference for expensive toilets
- Comes last on list of priorities/expenses; can wait
- Believes it is government’s responsibility and therefore, not willing to spend

Land/ space for toilet

Postpone decision of a toilet at home. Continues OD.

Usage

• Insights from dipstick study- ‘men not using toilets’
  25 per cent (self-reported) and 35 per cent based on reporting by neighbours

Hypothesis: Exposure to ‘good/positive’ toilet use experience would lead to higher uptake and consistent use of toilets

Economic rationale feel that the pit will fill up early
PSI Response

THE PORTABLE TOILET CABIN (PTC) MODEL

“Prasaadhan,” (funded by BMGF)
Aims: to increase access and use of quality sanitation and FSM services by:

1. facilitating linkages between a local sewage treatment plant, tanker operators and households

2. creating demand for sanitation and fecal sludge services by exposing households to quality, portable toilets cabins (PTCs) and regular emptying services
Testing the hypothesis

**IMPLEMENTATION GEOGRAPHY (PERI-URBAN)**

![Block Map - Patna](image)

### Block Map
- **Block**: Phulwari
  - Village: 6
  - Number of PTCs installed: 14
- **Block**: Naubatpur
  - Village: 1
  - Number of PTCs installed: 2
- **Block**: Paliganj
  - Village: 1
  - Number of PTCs installed: 1

### Method
- **In Depth Interviews** (N=17)
- **MIS Data Calculation** of odds ratio is a measure of association between an exposure and an outcome (Using data from the 6 villages in Phulwari block (N=2830))

- **Monthly rental of Rs.500 (~$10 USD)** by HHs for using PTC
- **Cleaning and emptying of pit** taken care by Saraplast
Testing the hypothesis

<table>
<thead>
<tr>
<th></th>
<th>Toilet Constructed</th>
<th>Toilet not constructed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTCs given for usage</td>
<td>6</td>
<td>129</td>
<td>136</td>
</tr>
<tr>
<td>(Exposed)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not given</td>
<td>23</td>
<td>2671</td>
<td>2694</td>
</tr>
<tr>
<td>(non-exposed)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Odds ratio</th>
<th>95% CI:</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.40</td>
<td>2.1618 to 13.4956</td>
<td>P = 0.0003</td>
</tr>
</tbody>
</table>

N=2830

**INSIGHT1**: Directly exposed users, i.e. households that had the free trial PTC and emptying services, were five times more likely to construct a toilet (p<0.05).
**INSIGHT2**: PTCs are used consistently, by all members (men and women) of the household.

**GENDER-WISE PTC USAGE**

<table>
<thead>
<tr>
<th>% USE OF PTC</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=17</td>
<td>94.6</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: PSI Study
**INSIGHT 3:** Land/Space is a key barrier in peri-urban areas towards construction of toilets

Reasons for installation of PTC at HH on Monthly rental

- **Do not have land for toilet construction:** 52.9%
- **Lack of money for toilet construction:** 35.3%
- **Taken PTC on temporary basis:** 11.7%

Responses

- **% of PTC users**
  - 0
  - 10
  - 20
  - 30
  - 40
  - 50
  - 60

SEC categorization of PTC users

- **50% of the customers are ultra poor**

Source: PSI Study
Reflections

• The **experience** of the PTC trials underway provide promising initial results that exposure to positive use of toilet, can be **potentially an effective approach to overcome demand-side barriers to toilet uptake**

• To tap this demand **innovative business models** are required to incentivize private sector engagement

• **Demonstration** of availability of cleaning services is critical for uptake of both toilets and safe FSM services

• Land/space remains a key barrier to toilet uptake
Thank You