Key note 5.3: FINANCING IN FSM

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Related course material:
Chapter 13 in the FSM book;
Presentation C5U3;
Assignment C5U3

www.fsm-e-learning.net
1. What is sustainable financing?
2. Sanitation elements / the chain
3. The ‘Diamond’ model
4. Business side: sanitation needs addressed; product market combinations
5. Financial instruments
6. 2 examples
7. Suggested reading
1. What is sustainable financing?

**1 Sustainable financing – the F**

- Substantial / increasing finance local partners, preferably private;
- In (any) consortium local private partners important role;
- Business plan with at the end positive net results or clear removal of bottlenecks that prevent positive results from emerging;
- Continuation project at end based on local financing (e.g. local payment services)
2. Sanitation elements
And the value and service chains

The 5 essential elements in a sanitation chain

Sanitation comprises a combination of (some of) the following elements:
1. Toilet / latrine, grey water
2. Collection system
3. Conveyance / transport system
4. Treatment system
5. Disposal / reuse system
Service delivery and value chains along the sanitation elements

1. Toilets
2. Collection / transport
3. Treatment
4. Disposal
5. (Re-)use

Service delivery chain
Value chain

2 questions about the arrows

Question 1: What could these arrows mean?

Question 2: Why is the arrow in the value chain (partially) broken?
Question 1: What could these arrows mean?
Answer: Indeed these show the way the money is flowing in the sanitation service and value chains.

Question 2: Why is the arrow in the value chain broken?
Answer: There is some evidence to support that endusers (like farmers) pay for faecal matter. This is not (yet?) translated into household getting funds for producing faecal matter, barring a few projects where people are ‘paid to defecate’ (show Musiri).
Sanitation element #1: toilets

Or rather: no toilets...! (OD – open defaecation)

NGO designed Urine Diversion toilet slab
Sanitation element #1: toilets

Very low water using toilet

Sanitation element #2: collection & transport

Manual emptying  Mechanical emptying
Sanitation element 2: collection & transport

Locally assembled collection vehicle

Sanitation element #2: collection & transport
Sanitation element #3: treatment and disposal

All combined: toilets, collection, treatment, reuse & disposal
Sanitation element #5: reuse

Dried and pelletised faecal sludge for fertilisation

Reuse of pelletised faecal sludge in tobacco farm

The urban sanitation system: how to build sustainable systems?

1. **Marketing and demand creation**: awareness and behavioural change through communication campaigns and social marketing.
2. **Product & services development**: implementation and construction of waste and sanitation systems.
3. **Consumption & use**: product use and generated waste after consumption.
4. **Logistics**: waste collection and transport.
5. **Treatment & disposal**: with specific focus on wastewater, faecal sludge and plastics.
6. **Product reuse**: reuse of organic waste and faecal sludge, and recycling of non-organic waste.
3. The urban sanitation system

Who are the main stakeholders in urban sanitation?

We can use the DIAMOND to determine that

Diamond model

Inclusion of and cooperation between all stakeholders
The Diamond: How to make the different stakeholders work together?

- Scale
- Medium size business
- Quality
- Freedom
- Products/pricing
- Acknowledgement
- Municipality

Household

Business Environment

Enabling Environment

Government

Marketing
Regulations, enforcement
Options / choice
Supply

Business

Enabling environment
Policy, enforcement
Vulnerable

Financiers

People pay themselves
Special arrangement for the real vulnerable
Local financing options:
Out of pocket
Loans
Savings
Supplier credit
...etc

Film on diamond

The polluter pays

Or do they..?

Rich

Vulnerable
What are people willing to spend money on?

‘People pay...?’

![Bar chart showing spending priorities.](chart.png)

the ‘diamond’ – people pay

‘People pay...?’

![Venn diagram illustrating spending by different economic groups.](venn.png)
The business side of sanitation
Sanitation needs addressed; Product market combinations

<table>
<thead>
<tr>
<th>Sanitation needs</th>
<th>Sanitation element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privacy, convenience, safety &amp; comfort</td>
<td>Toilet</td>
<td>Household toilet construction; Public toilets</td>
</tr>
<tr>
<td>Prevention of bad smell and overflow</td>
<td>Toilet, collection and transport</td>
<td>Small scale sewage systems (simplified sewerage); manual / mechanical pit emptying; transport</td>
</tr>
<tr>
<td>Excreta removal</td>
<td>Treatment and disposal</td>
<td>manual / mechanical pit emptying; transport</td>
</tr>
<tr>
<td>Agricultural inputs</td>
<td>Reuse</td>
<td>Fertilizers, compost (enrichment), fish feed, waste water reuse</td>
</tr>
<tr>
<td>(Renewable) energy</td>
<td>Reuse</td>
<td>Biogas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Briquettes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feeding kilns</td>
</tr>
<tr>
<td>(Public and environmental) health</td>
<td>Entire sanitation system</td>
<td>All clusters</td>
</tr>
<tr>
<td></td>
<td>High coverage</td>
<td></td>
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</tbody>
</table>
Assignment: identify possible Product Market Combinations in the sanitation service and value chains (± 10 min.)

**PMC 1 - Household toilet construction**

- Micro Small and Medium Enterprises (MSMEs) – artisans / masons, construction/ plumbing etc.
- Material suppliers
- Aggregators (based on aggregated demand for sanitation) bulk purchase & storage sanitation materials
- MSMEs can be organized under a franchise
PMC 2 - Household toilet financing

• Micro Finance Institutions (MFIs) / housing finance (HF)
• Refinancing MFIs / HF
• Demand generation via local partners – CBOs/ NGOs
• Technical liaison - consulting companies / NGOs

PMC 3 – Public toilets

• Hardware of public toilets CAPEX – both super & substructure – public financing / Corporate Social Responsibility / commercial (loans) / self financing
• OPEX - Pay per use,
• Offering other services (bathing, rental (shoe polishing, phone recharge), advertisement space)
• New IT based models
• A main bottleneck is that licenses to operate are often short term (1 Year)
PMC 4 – Mechanical collection and transport

- Clear revenue model (household pays for emptying services)
- Range of examples from many different countries
- Main bottleneck – lack of disposal site(s) for faecal sludge
- Main bottleneck – licenses to operate difficult to obtain or short term

PMC 5 – Manual collection and transport

- Clear revenue model
- Common practice though limited visibility as it often happens at night
- Main bottleneck – health aspects
- Main bottleneck – transport & disposal
- Positive side – liquidity – good cash flows – film: “these guys are extremely liquid” – see at the end
PMC 6 – Treatment and reuse

- Biogas
- Compost and compost enrichment
- Treated Waste Water reuse in irrigation
- Fertiliser – struvite (urine)
- Land application

Financial instruments

Microfinancing and other forms
Microfinancing

Wide spectrum of microfinance: financial literacy, micro credit, micro savings, micro insurance and micro pensions.

Most relevant:
1. Financial literacy
2. Micro credit
3. Micro savings and micro credit
4. Bank - Self Help Group (SHG) linkage
5. Bank lending following Joint Liability Group (JLG) Model
6. Table Banking
7. Individual microfinance
8. Merry Go Rounds

OTHER TYPES OF FINANCE

1. Impact investing
2. Local Govt. Subsidies
3. 1st / 2nd loss
4. Cooperative financing
5. Bank financing
6. Self-financing
7. Output Based Aid / Result Based Financing
8. Use of Guarantee Fund
9. Leverage on fixed deposit
10. Corporate social responsibility (CSR)
11. Supplier’s credit
12. Equity investment
13. Co-investments
14. Non-convertible debentures
OTHER TYPES OF FINANCE

15. Revolving Fund
16. Small Investment Facility
17. Convertible grant
18. Social Equity Fund
19. Technical assistance component covered under spread / interest differential
20. Blended finance
21. Sanitation line of credit (under dev.)
22. Carbon financing (under dev.)
23. Bond financing (under dev.)

Tailormade financing

Tailor made
• Differs for each business opportunity
• Depending on legal framework

Or
• Look into existing financial products – example of existing bank products next slide
### Example: bank existing instruments Ghana

<table>
<thead>
<tr>
<th></th>
<th>Trade &amp; working capital loan</th>
<th>Loan against property</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target group</strong></td>
<td>Medium businesses</td>
<td>Small businesses</td>
</tr>
<tr>
<td><strong>Loan types</strong></td>
<td>Overdraft/Trade Loans/ Term Loans Auto loans</td>
<td>Working capital needs/ Bus. expansion needs ODs, Term loans</td>
</tr>
<tr>
<td><strong>Business existence</strong></td>
<td>At least 3 years</td>
<td>At least 3 years</td>
</tr>
<tr>
<td><strong>Turnover requirement</strong></td>
<td>GHC 0.34–14.7 million</td>
<td>GHC 78,400 – 4.61 million</td>
</tr>
<tr>
<td><strong>Business registration required?</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Minimum loan amount</strong></td>
<td></td>
<td>GHC 20,000 (= € 10,000)</td>
</tr>
<tr>
<td><strong>Interest</strong></td>
<td>Base + 3 to 7 %</td>
<td>Base +</td>
</tr>
<tr>
<td><strong>Term</strong></td>
<td>4 – 48 months</td>
<td>12 – 60 months</td>
</tr>
<tr>
<td><strong>Grace period</strong></td>
<td>Max 3 months</td>
<td>?</td>
</tr>
<tr>
<td><strong>Collateral</strong></td>
<td>Cash/T-bills/FD etc.</td>
<td>Landed Property etc.</td>
</tr>
</tbody>
</table>

### Most relevant financial instruments

- Bank loan and micro finance loan
- Revolving Fund mechanism (if existing)
- Guarantuees (personal, contracts – local/WASH, future cash flows etc)
- First loss guarantuee / Second loss guarantuee
- Line of credit
- Shared guarantees (MF), suppliers credits and special schemes (WVF)
- Mixtures
Two examples of sustainable financing

Malawi and India

6. An example from Malawi - ROM
6. An example from India – Morarka Foundation

Some references on Financing
Suggested reading

- WSP – various macro calculation showing (very) positive returns on investment. Vietnam, India, many more, e.g. Kenya looses US$ 324 million p.a. due to poor sanitation (wsp.org, select region and subsequently country of your choice)

- www.waste.nl; financing sanitation series, different financial instruments used

- www.susana.org; Working Group #2

- IRC Tops – various cases; WASHCost, life cycle costs of mainly water: Triple S

- www.ecosan.at: Sanitation as a business; Financing for sanitation