Dissemination of technological and social innovations for better management of fecal sludge in Africa: approaches, lessons learned and challenges.

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Background

- 2.6 billion people practice open defecation or do not have access to improved sanitation.
- 2.7 billion people worldwide are served by onsite sanitation technologies.
- This number is expected to grow to 5 billion by 2030.
- There is any efficient management system in place for the collection, transportation and treatment of FS.
- FSM is seen as a “temporary” or stop-gap solution and primarily for illegal or informal settlements (WSP).
84% of Sub-Saharan Africans rely on NSS solutions!!!

Data from SuSanA SFD Promotion Initiative Documents
Shit Flow Diagram (SFD), Africa

- SFD are a new way of visualizing excreta management in cities.
- It shows how excreta is or is not contained as it moves from defecation to disposal or end-use, and the fate of all excreta generated.
- SFD are a useful tool to inform urban sanitation programming.
- SFD are a communication tool
## Comparison of SFDs across Africa

<table>
<thead>
<tr>
<th>City</th>
<th>Country</th>
<th>Proportion of population using sanitation type</th>
<th>Treated (Safe)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>OD</td>
<td>On-site</td>
</tr>
<tr>
<td>Dakar</td>
<td>Senegal</td>
<td>2%</td>
<td>73%</td>
</tr>
<tr>
<td>Moshi</td>
<td>Tanzania</td>
<td>2%</td>
<td>81%</td>
</tr>
<tr>
<td>Nakuru</td>
<td>Kenya</td>
<td>1%</td>
<td>78%</td>
</tr>
<tr>
<td>Kampala</td>
<td>Uganda</td>
<td>1%</td>
<td>90%</td>
</tr>
<tr>
<td>Dar es Salaam</td>
<td>Tanzania</td>
<td>1%</td>
<td>90%</td>
</tr>
<tr>
<td>Maputo</td>
<td>Mozambique</td>
<td>1%</td>
<td>89%</td>
</tr>
<tr>
<td>Kumasi</td>
<td>Ghana</td>
<td>3%</td>
<td>93%</td>
</tr>
<tr>
<td>Durban</td>
<td>South Africa</td>
<td>1%</td>
<td>42%</td>
</tr>
</tbody>
</table>

45 to 70% of liquid waste are unsafely managed !!!
Dakar’s shit flow diagram (SFD)
Challenges

- Manual emptying (40% to 60% of practice)

- Quality of emptying equipment: Trucks too old and inefficient

High emptying cost
Challenges

- Limited awareness of policy makers on FSM
- Unclear legal and regulatory framework for FSM
- Knowledge gap on profitable treatment technologies
Way forward … development of social and technological innovations!

- at country level (pilot): Program of structuring of FS market for the benefit of poor HH in Dakar (PSMBV - ONAS)

- at regional level: Reinforcing Capacity of African Sanitation Operators on Non-Sewer and FSM systems through peer-to-peer learning partnerships (RASOP-Africa)
Dakar achievements …

- License for operation
- Call center
- Access to investment for truck renewal
- Testing of innovative technology (BMGF Omni-ingestor)
- Increasing private sector participation and investment
- Paradigm shift: link sanitation and business
  - Privatization of the existing FSTP
  - Janicki Omni-processor

International tender for adapted toilet!
Mechanized desludging increased substantially !!!

Reduction of the cost of mechanical emptying !!!

Dakar achievements …
Dakar’s lessons learned …

- A successful project on FSM requires a holistic approach.
- The private sector must be the engine of FSM !!!
- The introduction of high-value system is essential to a significant cost reduction!
- Innovations (certification, call center, guarantee funds, etc.) have been decisive in the improvement of service delivery.
- A clear institutional organization with a public sector in its real role of regulator is essential for success.
Dakar’s lessons learned …

What role should each actor play?

<table>
<thead>
<tr>
<th>Public Sector</th>
<th>Private sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Regulation and enforcement</td>
<td>• Service delivery</td>
</tr>
<tr>
<td>• Research</td>
<td>• Innovations</td>
</tr>
<tr>
<td>• Mobilization of investment</td>
<td>• Studies and monitoring</td>
</tr>
<tr>
<td>• Strengthening of the PPP</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Populations</th>
<th>Donors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Beneficiaries</td>
<td>• Investment</td>
</tr>
<tr>
<td>• Watchfulness for a continuous improvement of the service</td>
<td>• Incentives for Innovations</td>
</tr>
<tr>
<td></td>
<td>• Control</td>
</tr>
</tbody>
</table>
… Dakar’s results dissemination: RASOP-Africa Program, a sanitation operators partnership

ANGESEM
BAMAKO
Mali

ONAD, YKRO
Municipality
RCI

YAOUNDE
Municipality
Cameroun

KCCA
Uganda

LUSAKA
WATER
Zambia
... RASOP-Africa Program main objectives

- To adapt and spread technical guidance to promote NSS and FSM
- To build the capacity of sanitation operators in 5 countries through SOP
- To support sanitation operators to develop strategic sanitation plans and regulatory framework
- To get on hand a city-model for the development of FSM in Africa
... RASOP-Africa Program main achievements

- Matching and formalizing partnerships between mentees and mentors
- Organization of launching workshops at country level
- Benchmarking visits
- Initial evaluation
- Adaptation of the FSM toolbox
- Audits visits
- Dissemination
... RASOP’s scaling up model in 7 steps

1. Recruitment and training of experts by group of cities
2. Initial assessment based on the use of the FSM toolbox
3. Elaboration of a PIP for each city
4. Strategic Planning Workshop
5. Selection of projects (investment projects)
6. Round table of donors
7. Implementation
... RASOP’s lessons learned

- Strong tool for advocacy and dissemination of innovations
- Access to existing and applied solutions through a partnership (South-South)
- Need to be shorten for a rapid identification of solutions
- Must based on skilled Consultants (training endless important!!!)
- Don’t copy and paste solutions from mentors but … ADAPT!!!
- Involve Donors at the early stage of the process
- Must be driven by a strong structure, experienced in conducting partnerships (such as AfWA)
Thank for your kind attention!