IRRC, Solid Waste Management Experiences in Cambodia

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Phnom Penh and Kampot The Original Solid Waste Management (End of Pipe)

- Municipality is no solid waste management system
- Private waste collector company daily operating SWM
- 99% of original municipal waste to dumping site
- 1% of recyclable collecting by informal sectors
Current Situation

Collection and Haulage

- The collection vehicles are very old and unreliable
- The service provider lacks mechanical means for loading bins
- Collection routes and times change frequently
- Uncollected waste is scattered by waste pickers and animals
- Loose waste blocks the drains and makes the city ugly and unsanitary
Cambodia
Main Problems for Solid Waste Management System

1- National strategy for urban SWM not being implemented
2- Lack of public awareness on source separation of SWM
3- Lack of resources at local authority level
4- Poor waste handling methods in local authorities
5- Lack of recognition for community based options
6- Disposal of solid waste haphazardly
7- Poor law and policy enforcement
8- Non-availability of suitable lands for final disposal
9- Lack of incentives for recycling and composting
Local municipality chose the IRRC system

- To improve the political of Municipality level for election.
- Need support for improving the solid waste management system in city.
- Need capacity to improve 3Rs Principle (Reuse, Reduce and Recycle).
Main of IRRC Component

1. Project Agreement with the Municipal Council (PPP)
2. Beneficiary awareness in the project area
3. Construction of the compost facility in city
4. Collection of organic and recyclable solid waste
5. Creating job for low income community and waste pickers
6. Produce good quality compost
7. Sales promotion of compost and recyclable
Innovations

• Partnership between Municipality, Private waste collector company, NGO and Community
• Waste separation at source
• Collection and sorting centers - IRRC
• Community based decentralized SWM system (IRRC) at city
Lessons learnt

1. Partnership approach is possible
2. Waste separation at source is the key for success.
3. SWM is not a technical issue, it is a human issue, (Behavioral change)
4. People would like to pay for better services
5. Small scale and decentralized plants work better.
6. Political commitment is essential for success.
7. Community based is not an alternative, it is an empowerment process.
### Challenge

**Insufficient volume of waste** – Delivery of waste is irregular. Local government/Private waste collection company delivers waste to the IRRC between 10-15 days per month and 1 to 2 tons with mixed waste.

**Insufficient quality of organic waste** – The waste that is delivered by waste collection company is often mixed waste, inorganic and organic, sewerage from sewerage canal in the market, meat and fish waste etc. Even the high quality organic waste that is collected in market is ‘re-mixed’ by company prior to delivery at the IRRC.

**Insufficient government support** – Government has low commitment to promoting waste separation. Part of the problem here is that the municipality lacks trained technical staff with skills and knowledge in waste management. There have also been numerous budget problems, with the Ministry of Environment according very low levels of budget for waste management. This has had a negative impact on the capacity of the local government to support the IRRC and its activities.
Insufficient source separation of waste – Limited understanding by residents of source separation. This results in less organic waste being delivered to the IRRC.
Challenges

• Sustaining the community support
• Sustaining the political support
• Maintaining the economic sustainability (Eco-efficiency)
• Implementation at city level/scale
• High production cost, labor management and competitive compost market
Competitive market

Need Market Solution for sales
Composts
Beneficial IRRC for Community

**Informal Sector**
- Great job, safety working place in IRRC, incidence of injuries and waste related disease is reduced.
- The compost and recyclable materials are cleaner and so fetch higher prices.

**Municipality**
- Have a good practices on solid waste management in their city and improving 3Rs Principle (Reuse, Reduce and Recycle).
- More clean city and healthy communities and more tourism

**Private waste collector company**
- Less organic waste to be collected, which means save transportation costs and less transportation pollution in city.
- Less waste to be disposed in dumping site and save dumping site for longer use.

**IRRC Compost Plant**
- IRRC operator the quality of end product such as compost improve significantly which results in higher income
Experience IRRC Composting Plant
Informal workers activities in IRRC
THANK YOU
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