Regional Workshop on Sustainable Development Benefits of Decentralized Municipal Solid Waste Management in Asia-Pacific Region

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Experiences and Lessons Learnt from IRRC Project in Matale City, Sri Lanka

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- Population(est.): 42,000
- Land area: 8.6 sq.km
- Annual population growth rate: 1.5%
- Population density: 41.55 per hectare
- Urban Poor: 16%
- City Authority: Matale Municipal Council

Matale is a hilly town located in the Central Province with a growing tourist potential.

Overview of SWM in Matale

- Total Waste Generation: 21 – 23 tons per day
- Per Capita Waste Generation per day: 0.51 kg
- Waste Collected: 17-18 tons
**Waste Composition in Matale**

- **Organic waste** – 71%
- **Recyclables** – 14%
- **Others** – 15%

**Main Challenges before the project**

- 17-18 tons of waste collected and transported daily to the dumpsite
- Present dumpsite to reach capacity soon and scarcity of land for waste disposal
- Municipality spends 30 – 45% of annual budget on SWM with no revenues derived
- Lack of attention to waste to resource opportunities and 3R initiatives
- Poor waste collection services
Introducing the IRRC Project in Matale City

Project implementation by Sevanatha (NGO) with financial support from UN ESCAP and technical support from Waste Concern and Matale Municipal Council.

2006

- A pilot IRRC was set up with a capacity to process 2 tons of waste on a daily basis;
- Door to door waste collection extended to 700 households and 230 commercial units.

2011

- Second IRRC was set up with support from National government with a capacity to process 2 tons of waste per day
- Door to door waste collection extended to 300 HHs and the market area

2013

- Third IRRC was set up with a capacity to process 5 tons of waste per day
- Door to door waste collection services was extended to cover 3000 HHs

From 2006 to 2014 the IRRC has gradually scaled up to process 12 tons of waste per day including 9 tons of organic waste and 3 tons of recyclable waste covering the total city area 4000.
The IRRCs and its operations

First IRRC

Mixing waste

Leachate collection tank

Second IRRC

Compost boxes

Sieving compost

Third IRRC

Maturing boxes

Packing compost
Planning and Implementation of Source Separation

Key steps involved:

- Preparation of awareness materials
- Training of trainers
- Identification of target groups

Communication strategy
  - Door to door awareness
  - Neighborhood level Meetings
  - Awareness for other Stakeholder Groups

- Monitoring and feedback
After scaling up, the IRRC it has broaden its income sources to cover the operating costs.

- Sale of Compost
- Sale of Recyclable items
- Collection fees from HHs and market
- Income from Organic Farm
Sevanatha has created an entity called MEC Pvt. Ltd to operate the IRRC with an objective to sustain the IRRC Concept.

### Municipality
- Provided leadership to implement the IRRC project in the city
- Provided land required for the IRRC facility and organic farm
- Provided support of operational staff to carry out community awareness and waste collection

### Sevanatha
- Responsible for implementing the IRRC project with the support from UNESCAP and Waste Concern
- Carry out community mobilization and getting Community support for waste separation
- Promote IRRC approach in Matale and other cities of Sri Lanka

### MEC Pvt. Ltd
- Organize regular waste collection and handling
- Managing the compost yards
- Promotion of Marketing
Project Partners and Key Responsibilities

### Community
- Provided separated waste to the waste collectors
- Encouraged the fellow community members to engage in source separation of waste
- Paid the monthly collection fee

### Waste Concern
- Provided technical design for IRRC
- Provided onsite training for project staff and Municipal officials
- Provided operational manual of IRRC for the project staff

### UN ESCAP
- Provided financial support to implement the IRRC project
- Facilitated training for IRRC staff
- Supported dissemination of project experiences
- Promoted IRRC concept in Sri Lanka
Key Results and Impacts

**SOCIAL**
- Changed the perception and attitude of the community and city stakeholders on Municipal SWM
- Improved knowledge and social status of waste workers
- Provided livelihood opportunities to urban poor creating over 30 job opportunities

**ECONOMIC**
- Improved recovery of resources from MSW stream
- Reduced municipal expenditure on waste management
- Generation of new income sources and creating a market for compost
- Improved income of SWM workers
Key Results and Impacts

**ENVIRONMENT**

- Reduced open dumping of mixed waste
- Litter free living environment
- Reduced pollution of water, land and air
- Improved community interest in keeping their living environment clean and green

**OTHERS**

- Matale has gained recognition as an environment friendly city which supports community based SWM practices
- IRRC became a centre for learning and exchange of MSW for other local authorities in Sri Lanka.
Lessons Learnt

- Strong partnership and commitment of key partners; the donor, technical service provider, local authority, local NGO and community is vital for implementing the IRRC

- The local authority’s commitment to provide leadership plays a crucial role in implementing the IRRC effectively

- Ensuring the community commitment for source separation of waste is possible, but requires continues awareness raising and regular monitoring of practices

- Rewarding the households and community groups who practice source separation of waste is important to encourage new families to join the process
Lessons Learnt

- Regular testing of compost samples to ensure quality helps in marketing of compost

- Implementation of sound marketing strategy for compost as well as recyclable items helps regular flow of income for the project

- Compost producers and production levels are growing in the country, therefore the IRRC need to become competitive in the market

- Capacity building of the local partners who implement the IRRC with training and skill development of its workforce helped the sustainability of the IRRCs
Challenges

- Sustaining the community support
- Sustaining the support of the Local Authority (Political)
- Increasing cost of labour and production cost of compost
- Sustaining a steady income for IRRC
Conclusions

- IRRC is an innovative approach to manage the growing volume of municipal solid waste in small and medium scale towns.

- IRRC model provides economic and social benefits to the city while contributing to improve the city environment.
Thank You!