

Regional Workshop on Pro-Poor and Sustainable Solid Waste Management in Secondary Cities and Small Towns in the Asia-Pacific

**24-26 September 2014
Quy Nhon, Viet Nam**

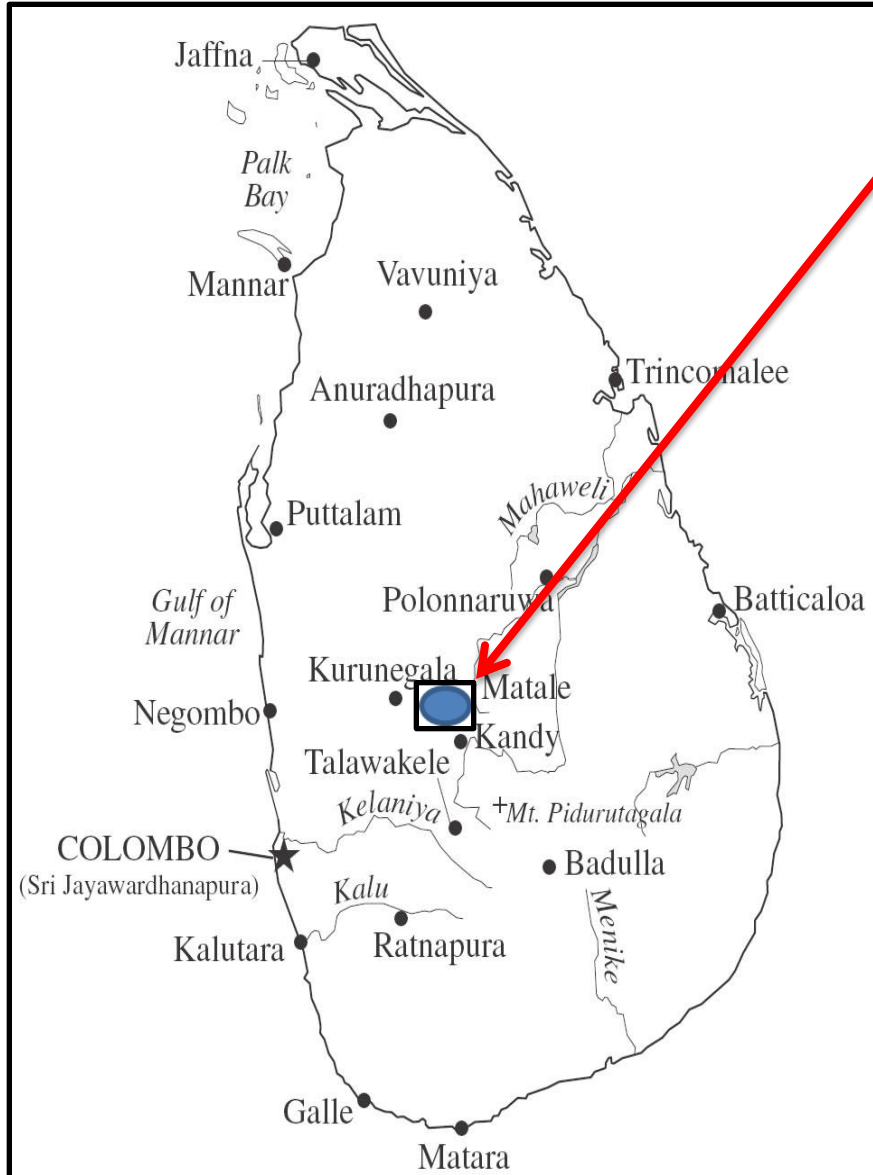
Overview and Implementation Status of the IRRCs Project in Matale Municipal Council Sri Lanka

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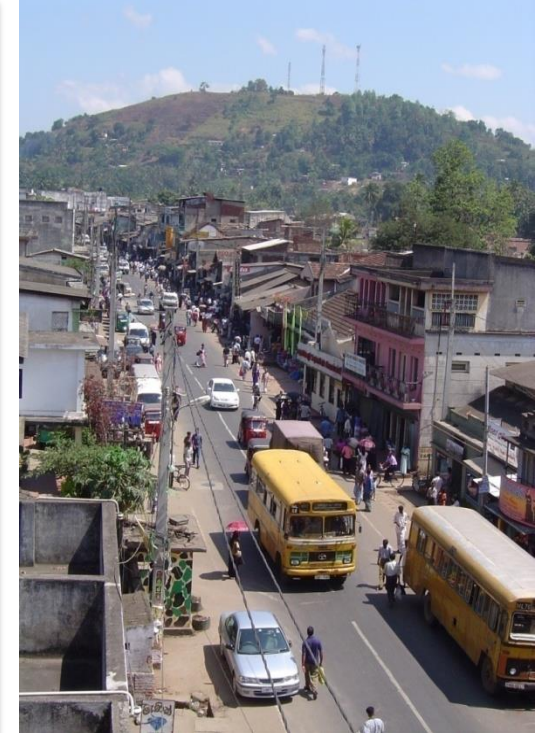
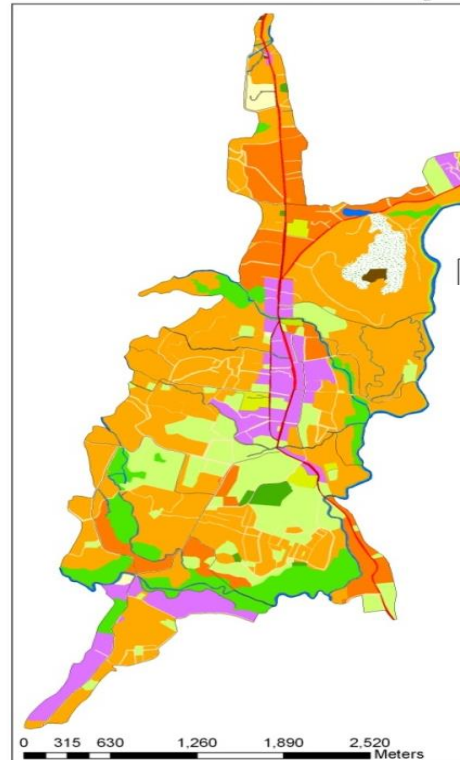
Content of the Presentation

- 1. General Background**
- 2. Overview of Solid Waste Management Situation**
- 3. Strategies and IRRC Implementation**
- 4. Key Results and Benefits**
- 5. Lessons Learnt**
- 6. Challenges**

Matale – Sri Lanka

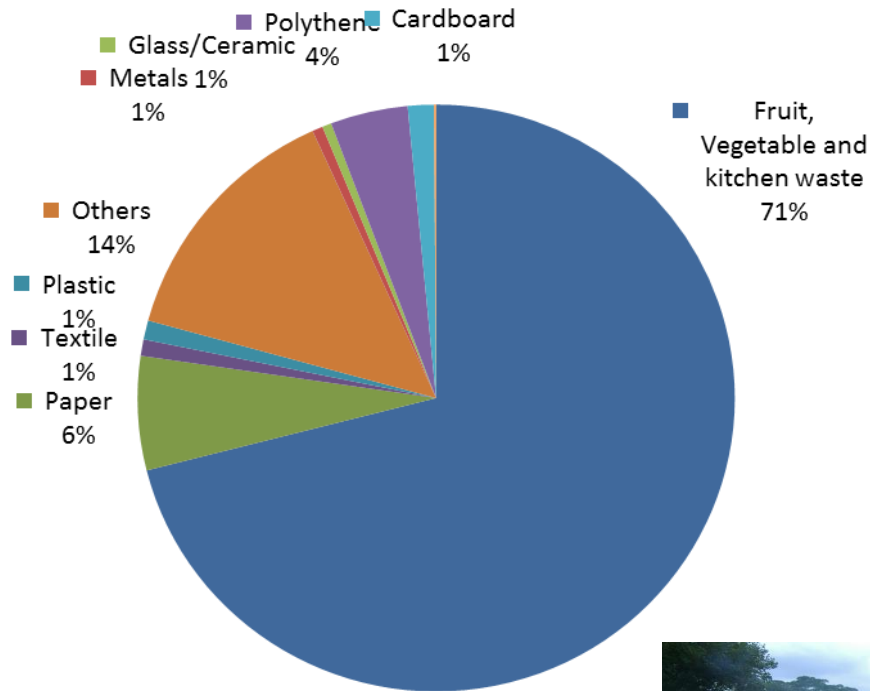


Population	48,500 (2012)
Land area	8.6 sq.km
Annual population growth rate:	1.5%
Population density	41.55 per hectare
City Authority	Municipal Council
City Status	District Capital
Historically Important City	



Overview of the SWM in Matale

- **Total Waste Generation** : 21 – 23 tons Mt. p/d
- **Daily Waste Collection by the MC** : 17 – 18 Mt. p/d
- **Per Capita Waste Generation** : 0.51 kg p/d
- **Disposal Method** : *Open Dumping*



- ❑ Waste Handled by the IRRCs per day
 - *Organic 08 Mt.*
 - *Recyclables 500 kg*

- ❑ Method of Treatment: *Force Aeration Aerobic Composting*

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



2013 and 2014 IRRC Progress in Matale

Waste Treatment under IRRC

Month / Year	Collection (kg)				Production (kg)
	<i>Organic Waste Collection (Kg)</i>	<i>Recyclable Waste Collection (Kg)</i>	<i>Rejected Loads (kg)</i>	<i>Total Waste Handling(Kg)</i>	<i>Compost (kg)</i>
B/F (2013)	763,614	42,727	195,200	1,001,541	16,016
Jan-14	123,234	4,619	16,650	144,503	2,205
Feb-14	102,715	2,573	17,100	122,388	5,798
Mar-14	155,943	4,188	18,000	178,131	5,374
Apr-14	102,300	2,937	10,800	116,037	2,375
May-14	132,539	2,803	17,100	152,442	3,929
Jun-14	130,151	3,273	32,000	165,424	8,644
Jul-14	146,370	3,527	36,000	185,897	7,489
Aug-14	145,322	3,655	35,000	183,977	2,592
Total	1,802,189	70,303	377,850	2,250,341	54,422



SWM Initiatives in Matale and IRRC

- Council Decision to adopt the National SWM Strategies published by the Ministry of Environment/CEA.
- Action Initiated for practicing 3R principles by the Council.
- Implemented pilot SWM projects since 2005 with support from JAICA, UN-Habitat, IDRC Canada, CEA and Towards Zero Waste in South Asia Project (SUNYA).
- All the above initiatives contributed towards attitude changes of the city stakeholders.
- In 2006/7 UN-ESCAP provided support for starting a community based SWM pilot project with 2 tons p/d capacity plant and Operation.
- In 2011 the UN-ESCAP supported for implementing the IRRCs by scaling up the project to manage 09 tons p/d.

IRRC Principles

- Turn Waste into Resource.
- Rely on low cost and labor intensive Operation.
- Promote Decentralized Resource Recovery Process.
- Promotes Public, Private and Community Partnership in SWM.
- Reduces carbon emission and harness carbon trading related income.
- Sustaining the community support for IRRC Process.



IRRC Strategies

- Ensure high degree of community participation.
- Ensure economic and Environmental Sustainability.
- Up scaling of IRRCs at city scale.
- Marketing of compost and recyclable items.
- Reduce operation cost of SWM process
- Ensure Health and Safety of Workers.
- Ensure quality & Standards of Compost.
- Sustaining the political support and commitment
- Efficient publicity of IRRC process and products.



IRRC Implementation in Matale City

Project implementation by SEVANATHA/ MEC (Pvt.) Ltd. and Matale Municipal Council, with technical and financial support from Waste Concern and UN-ESCAP

2006

- A pilot IRRC was set up with a capacity to process 2 Mt. of waste p/d.
- Door to door waste collection extended to 700 households and 230 commercial units.

2011

- Second IRRC was set up with support from National government/CEA with a capacity to process 2 Mt. p/d.
- Door to door waste collection extended to 1000 households and whole market area

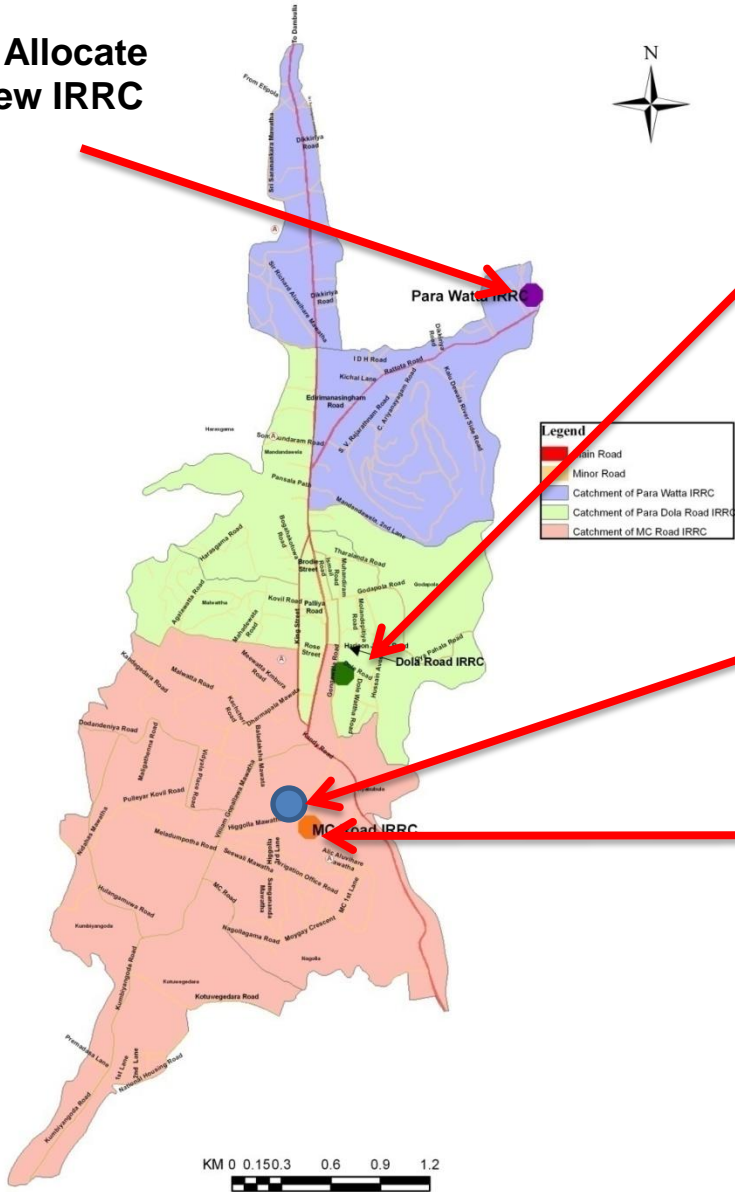
2013

- Third IRRC was set up with a capacity to process 5 Mt. of waste p/d.
- Door to door waste collection services to be extended to an additional 3000 households

- From 2006 to 2014 the IRRC scaled up to 12 Mt. of waste (organic 09 Mt. recyclables 03 Mt.)
- Covering 4000 households and the Commercial area

Locations and catchments of existing and proposed IRRCs

**Land Allocate
for New IRRC
Plant**



First IRRC Plant



**Second IRRC Plant
Constructed by
Pilisaru Project**



Third IRRC Plant



Key Results and Benefits

Social

- Changed the perception and attitudes of the community and city stakeholders on SW as a resource.
- Community showed interest in source separation.
- Improved knowledge on SWM by workers
- Improved social status of waste workers.
- Livelihood opportunities for urban poor.



Cont.. Key Results and Benefits

Economic

- Support small scale farmers to initiate organic farming.
- Improved recovery of resources from MSW stream.
- Reduced Municipal expenditure on waste management by reducing the volume of open dumping.
- Increased supply of quality compost in the local market.
- Improved income of SWM workers by selling Recyclable items.



Cont... Key Results and Benefits

Environment

- Gradual Reduction of open dumping of mix waste.
- Collective steps towards litter free city environment.
- Contribute to reduce pollution of air, land and water.
- Improved community interest in keeping their living environment clean and green.
- Improved environmental awareness among school children and researchers through IRRC training and information sharing.



Lessons Learned

- IRRC being a sustainable approach of MSW is appreciated by the LA and Community Groups.
- IRRC is being implemented as a partnership approach by engage in the LA, NGOs, Community Groups and other city stakeholders.
- The Local Authority's commitment to provide the leadership in implementing the IRRC is vital.
- Ensuring the community commitment for source separation of waste is possible.
- Rewarding the households and community groups.
- Regular testing of compost ensures meeting the National Standards and customer confidence.
- Sharing information on IRRC among the ULAs, Provincial and National level Govt. Institutions and interested parties contributed to promote the IRRC approach.



Major Challenges

- Difficulty in continuation of the current open dumping site due to Environmental, Legal and Public Issues.
- Technical and Management deficiencies affect the continuation of household source separation.
- Changing the attitudes of the Municipal Workers.
- Achieving cost reduction in current SWM practice.
- Lack of skilled persons and the poor Technical capacity.



Composting



Recyclable Items



Organic Farm



Thank You ESCAP!