

Ratnapura, Sri Lanka



City overview

Population

54,000 (2015)

Total waste generated per day

30–32 tonnes

Waste generated per capita per day

0.55–0.6 kg

Waste-to-resource facility established

2012

Capacity of waste-to-resource facility

5 tonnes

Operator

Micro Enriched Compost

Local partners

Sevanatha Urban Resource Centre, Ratnapura Municipal Council,
Central Environmental Authority

Source: ESCAP and Sevanatha Urban Resource Centre.

Introduction

Ratnapura is a medium-sized town in south-central Sri Lanka, with an economy built around the gemstone trade and, increasingly, tourism. Rice, fruit, tea and rubber plantations surround the town and generate important revenues for the municipality. The town, however, suffers from growing traffic congestion, environmental pollution, flooding, landslides and unregulated urban growth.

Solid waste management and sanitation issues are also a rapidly growing challenge. Around 30–32 tonnes of municipal solid waste are generated in the town per day, of which 75 per cent is organic. The municipal authority is responsible for solid waste collection and disposal. Despite a significant increase in the local budget allocation for solid waste management over recent years, municipal waste collection services cover only 60 per cent of the town, and waste disposal practices largely rely upon open dumping. The town lacks a solid waste management plan. Improvements in solid waste management are also hampered by limited capacity within the municipality and limited community participation. Until 2012, all waste generated in the town was dumped, with the exception of what was collected by waste pickers.

The financial sustainability of municipal waste collection is undermined by the absence of a collection fee. High labour and transportation costs make solid waste collection expensive, averaging \$27 per tonne. As a result and to advance cleanliness and environmental sustainability, the municipality is seeking to implement policies based on the practices of reducing, reusing and recycling (the 3R principles), including waste separation at source, home composting and high community engagement.



Promoting the IRRC model in Ratnapura

In 2012, the Ratnapura Municipal Council, ESCAP, Waste Concern and Sevanatha Urban Resource Centre, an NGO, established a 5-tonne IRRC. Since opening, it has been operated by Micro Enriched Compost, a social enterprise launched by Sevanatha. Following the success of initiatives in Matale, the Matale model (see Figure 9) was adapted to local conditions in Ratnapura. ESCAP provided the funds for the construction of the IRRC, with designs for the plant and technical assistance provided by Waste Concern. The municipal authority provided the land, and Sevanatha, in partnership, with Micro Enriched Compost and the municipal authority undertook community outreach and awareness-raising programmes. The municipal authority also supports the facility's ongoing operations by offsetting the cost of workers, electricity and water.

A range of community outreach initiatives has been deployed:

- *Door-to-door awareness-raising programmes*—These have focused on source separation and entailed health and community development staff from the municipality visiting households to inform residents of waste separation at source and the waste-to-resource initiative more generally.
- *School outreach programmes*— These have involved Sevanatha and municipality staff liaising with local schools to inform students and teachers of the importance of recycling, source separation and environmental sustainability.
- *Loudspeaker announcements*—These have involved loudspeakers mounted on municipal trucks that tour communities to remind them to practise waste separation at source.

The municipal authority has taken an active role in these initiatives, contributing municipal staff, equipment, time and financial resources. In addition, municipal vehicles are used for waste collection and transportation of waste to the IRRC facility. The municipal authority intends to continue the community outreach initiatives over the next several years.

Results and impact

As of 2015, the IRRC processed an average of 3 tonnes of waste per day and had yet to reach its full capacity (at 5 tonnes). This constituted some 10 per cent of the total daily solid waste generated in Ratnapura and some 17 per cent of the total waste collected. The main sources of waste include households, shops and fresh produce markets, with waste picked up by the municipal collection service and delivered to the IRRC.

With this daily feed of organic waste, the facility produces approximately 100 kg of compost per day. Compost sells at around LKR11,473 (\$85) per tonne. The main compost buyers are local farmers, the Municipal Department of Agriculture, tea plantation owners, local nursery operators and home gardeners. The facility also processes and recovers around 1.7 tonnes of recyclable inorganic materials per month, which are sold for around LKR24,000 (\$180) per tonne. The relatively low retail price of compost and the absence of collection fees make the municipal subsidy necessary, which accounts for nearly 80 per cent of the facility's total revenue.

When the project launched in 2012, waste was not separated at source anywhere in the city. By 2015, 10 per cent of the city's total waste was separated (some 3 tonnes daily). This also reflects a reduction in the amount of waste landfilled daily, which continues to decline as the amount of waste processed by the IRRC increases. This balance is expected to improve with the expansion of the facility in early 2016. The Central Environmental Authority, under the Pilisaru Programme, which is Sri Lanka's national solid waste management programme, is preparing a 5-tonne expansion of the facility, taking its total daily processing capacity to 10 tonnes, or one third of the total waste generated in the city and approximately 50 per cent of the total waste collected.

