

## SUMMARY

# Improving Waste Management: Solutions from Five Asian Cities



One of the options considered by the municipal governments was to convert combustible components of solid waste to energy in the form of refuse derived fuel. Photo credit: ADB.

*How to improve public health and environmental sustainability by facing the challenges of managing solid waste in Asia*

## Overview

Solid waste management is one of the most neglected areas of municipal services and infrastructure in Asia. Most Asian cities face the immense challenge of managing high volumes of solid waste. Problems often include poor waste collection and processing, and insufficient landfill infrastructure, technical skills, and regulation.

When solid waste management is lacking there are significant consequences for human health and environmental sustainability.

The Asian Development Bank (ADB) provided technical assistance on mainstreaming solid waste management to five cities in Asia. The project considered a range of issues including waste haulage, recycling and waste disposal as well as information, education, and communication campaigns to help

avoid and minimize waste and encourage reuse and recycling.

The project worked with local authorities in Mandalay in Myanmar, Quezon City and Sorsogon in the Philippines, and Buriram and Mahasarakham in northeast Thailand. The focus was first on reviewing and upgrading municipal 10-year solid waste management plans to holistic integrated plans. Second, the project team delivered one tailored, city-specific project based on municipal priorities.

## Key Findings



### **Mainstreaming Solid Waste Management in Asian Cities**

As cities grow and as people prosper, more and more waste are generated everyday, affecting public health and the environment. A technical assistance project supported by the Asian Development Bank is helping five cities in Asia to improve waste management practices for the long haul. Video credit: ADB.

### **Optimistic marketing of waste-to-energy plants**

In Buriram and Mahasarakham, city officers expressed interest in converting waste to energy, particularly refuse derived fuel or RDF, which is produced from combustible components of municipal solid waste. This was because sales and marketing representatives of RDF companies were promoting refuse derived fuel as an economically feasible solution.

The project team met with some of the companies to present the results of a pre-feasibility study from Buriram. The companies then admitted to city officials that their proposal was not viable under present conditions.

Similarly, in the Philippines, the project found that Quezon City receives many unsolicited offers for waste-to energy plants, but the municipal government requires technical support to assess these offers.

## Changes required to regulation of landfill design

The current landfill design requirements in Thailand limit the mound height effectively to 10 to 12 meters. This greatly reduces site development efficiency and the life span of the site while increasing costs. The project team recommended to the most senior members of Thailand's Pollution Control Department that this restriction be amended.

## Private sector has role to fill technical, skills, and infrastructure gaps

The major lesson from the project was there is a major role for public-private partnerships (PPP) to play in supporting improved solid waste management in Asia. Using PPP would be the most effective method to improve landfill design, remediation, construction, and operation. With the exception of officials in Mandalay in Myanmar, the project found municipal officers supported this finding.

A challenge highlighted by the projects in the Philippines is that national procurement laws limit solid waste management contracts to 12 months, which deters private companies from investing in more efficient and effective equipment, especially for collection services.

Project meetings confirmed there is a growing pool of experienced landfill contractor operators in the Philippines.

## Resources

Asian Development Bank. 2017. *Integrated Solid Waste Management for Local Governments: A Practical Guide*. Mandaluyong City.

ADB. Regional Capacity Development Technical Assistance on Mainstreaming Solid Waste Management in Asia.

## Related links

Case Study: Buriram - The Economics of Refuse Derived Fuel Production

Case Study: Mahasarakham - Privatizing Landfill Operations

Case Study: Mandalay City - Outsourcing Waste Collection Services

Case Study: Quezon City: Making Waste Management a Rewarding Investment

Case Study: Sorsogon City - Options for Developing a New Landfill



**Lyndsay Chapple**

Environmental engineering consultant

Lyndsay Chapple has worked in solid waste management for more than 3 decades. His expertise covers all aspects of solid waste management, ranging from environmental assessments to detailed design of facilities. His passion is developing site-specific solutions that are pragmatic and sustainable.

Follow Lyndsay Chapple on



**Andrew McIntyre**

Head of Project Administration Unit, East Asia Department, Asian Development Bank

Andrew McIntyre heads the project administration unit of the East Asia Urban and Social Sectors Division at ADB. Earlier, he led ADB's Future Cities Program, operationalizing a One ADB approach to better engage with Asian cities over the long term, by facilitating cross-sectoral knowledge and financing partners, broadening project pipelines, and ensuring integrated results.

Follow Andrew McIntyre on



---

Last updated: June 2017