

# Battambang, Cambodia



## City overview

Population	
180,000 (2008)	
Total waste generated per day	Waste generated per capita per day
90 tonnes	0.6 kg
Waste-to-resource programme established	2012
Focus of programme	Source separation at community level
Programme lead	Cambodia Education and Waste Management Organization
Local partners	
Battambang Municipality, Battambang Province, Cintri	

Source: CSARO.

# Introduction

Battambang is the capital of Battambang Province in the north-west of Cambodia. It is a commercial hub and popular tourist destination. The city faces a range of challenges related to improper waste management, flooding and pollution. At the same time, population growth, rising per capita income and changes in consumption habits are increasing the amount of waste generated. There is limited waste management capacity locally and limited environmental awareness.

Within the city, three parties have solid waste management responsibilities: the provincial government of Battambang has an advisory role and decision-making powers; the municipality is tasked with implementing local policies; and Cintri, a private company, manages waste collection. Cintri, however, lacks the capacity and resources to cover all areas of the city and currently collects waste from only around 25 per cent of households and businesses. As a result, most households dispose of their solid waste by burning, burying or dumping into rivers, waterways or open spaces. Additionally, collection rates are hindered by the reluctance of many households to pay the \$.50–\$1 that Cintri charges as a monthly waste collection fee. Other households are difficult to access due to narrow or poorly maintained roads. In some communities, low-hanging power lines pose a significant risk to the waste collection vehicles, which further impedes proper waste collection.

An estimated 350–400 informal waste workers are active in Battambang. Some of the workers use pushcarts and motorized carts to collect and buy recyclable material for onward sale to recycling shops. These waste workers tend to earn around \$5–\$10 per day. They sell to approximately 20 shops across Battambang, where recyclable waste is collected, stored, packaged and transferred. On average, 2 tonnes of waste is processed daily in this manner. Scavenging for recyclables also takes place at the city's main dumpsite, although the quality of the materials retrieved is poor. Approximately 50 people earn their living by scavenging at the dumpsite, subsisting on an income of about \$1–\$1.25 per day.

## Promoting waste separation in Battambang

The Cambodia Education and Waste Management Organization (COMPED) launched a composting facility in Battambang to take advantage of the potential of recycling organic waste. The plant is located on land owned by the municipality. It has the capacity to process 10 tonnes of organic waste per day but over 2010-2012 tended to treat only 1.5-5 tonnes per day due to poor understanding or awareness of source separation among the general public.

An awareness-raising programme on source separation was launched in 2012. This involved a partnership between ESCAP and COMPED (building off a larger programme led by the Institute for Global Environmental Strategies) and targeted three fresh produce markets: Psa Thom Battambang, Psa Thmey Makara and Psa Boeung Chuk. The waste separation programme aimed to educate market vendors, market workers, market association members and some households on the need for waste separation at source.



## Results and impact

As a result of the programme, the rate of waste separation increased, at least in one of the markets. The programme found the most success in Psa Boeung Chuk market, with 35 per cent of vendors separating their waste within a year's time. The market cleaning team facilitated waste separation by collecting separated waste from vendors and transporting it to the Cintri collection point. Cintri also modified its waste collection truck that serviced the market by introducing an internal partition to maintain the separation of waste types.

Less successful outcomes, however, were recorded in the other two markets (Psa Thom Battambang and Psa Thmey Makara) for several reasons:

- The market management and market cleaners did not fully cooperate. Consequently, waste that was separated by the vendors was often 're-mixed' by the market cleaners during transportation to the Cintri collection point. Hence, the vendors quickly lost interest and ceased to separate.
- In both markets, only two workers were appointed by the market management to collect separated waste. This was insufficient for such a job.
- Market vendors also demonstrated some resistance to the programme. Vendors in both markets already paid a waste collection fee to the market's management authority. The additional task of waste separation by the vendor was not reflected in the fee (by decreasing the fee for those vendors who separated) and thus there was little financial incentive to comply.
- More than 40 bins were distributed by COMPED across the three markets. But in the two markets where the programme failed, the bins were not used for capturing separated waste. Instead, because the market cleaners did not provide adequate collection of separated waste, the COMPED bins were used for mixed waste.

These experiences underscore the role and importance of market management and market cleaners. To establish an effective collection and transfer system for separated waste in fresh produce markets, market managers and cleaners need to understand (and accept) their roles. Often, awareness-raising campaigns concentrate only on vendors. The Battambang experience demonstrates that without clear buy-in and commitment from waste collectors within a relevant market, a waste-to-resource programme will not succeed.