

What are Integrated Resource Recovery Centres (IRRCs)?

Integrated Resource Recovery Centres are decentralized neighbourhood-based centres that include compost plants. Originally started by Waste Concern, Bangladesh, the project approach has been initiated in several smaller cities in Asia.



How do IRRCs work?

IRRCs promote segregation of waste at the source. Workers collect pre-sorted waste from households, markets and businesses and bring it to the IRRC for processing.

Workers sort the waste and take out the recyclable materials, such as bottles and cans, to be sold. Organic waste, including plants, vegetables, fruit and other natural materials are sent to the Compost Unit. In some cases, key nutrients are added, turning raw compost into organic fertilizer.

The IRRCs can incorporate various components for treating wastes. Using a biogas digester, IRRCs can treat meat and fish waste to produce biogas. IRRCs can also take care of used cooking oil and convert it into biodiesel.

A single centre can process between 2 and 20 tons of waste a day, serving a population of 1,000-50,000 people.

How do the IRRCs make a profit?

Households may be charged a nominal fee for waste collection. Profits also come from selling recyclable materials, compost and organic fertilizer.

Because the IRRCs reduce greenhouse gas emissions using an approved methodology, they can qualify as Clean Development Mechanism (CDM) projects under the Kyoto Protocol, allowing centres to sell their carbon credits to developed countries for a profit.

Who benefits from the IRRCs?

- **Local governments**, who save costs for waste management;
- **Urban communities**, who benefit from cleaner, healthier environments;
- **Waste pickers**, who are given a steady source of income and improved working conditions;
- **Rural farmers**, who gain access to more effective organic fertilizers;
- **Investors**, who earn healthy returns; and
- **The planet**, through a decreased carbon footprint and an increased recovery of natural resources.

Promoting IRRCs in Urban Asia

ESCAP and Waste Concern are supporting cities throughout Asia to establish IRRCs and develop their capacities to implement town-wide solid waste management strategies that are decentralized, pro-poor, low carbon and can be partly financed through the sale of carbon credits.



For more information on Promoting Integrated Resource Recovery Centres in Urban Asia, please contact:

Sustainable Urban Development Section
Environment and Development Division
ESCAP
e-mail: escap-edd-suds@un.org.

Wastes are resources that can be recovered

Current solid waste management systems in Asia are strained and landfill space is fast becoming a rare commodity. Governments face increasing costs of disposal – while public health and the environment suffer from the damaging effects of untreated solid wastes.

To meet the challenge of growing amounts of waste, cities need efficient, low-cost solutions.

Integrated Resource Recovery Centres (IRRCs) are a change in the paradigm, treating waste as a resource from which money can be made.

Preserving resources and mitigating climate change

60-80 per cent of municipal solid waste in Asia's developing countries is made up of organic material. This waste is currently sent to landfills and dumps, where it contributes 70 to 100 million metric tons of greenhouse gas emissions every year.

Integrated Resource Recovery Centres (IRRCs) allow local governments to reverse this process and turn 80-90 per cent of waste into resources. This efficient approach leaves only 5-10 per cent of total waste to be disposed at the landfill.

Effective waste management and efficient resource recovery reduces pollution to air, land and water. It saves landfill space as well as transport costs and reduces emissions of green house gases.

The collected organic waste from the IRRCs becomes high-quality compost increasing the eco-efficiency of local farmers.



Profit-making public-private partnerships

IRRCs are proven to be self sustaining and profitable for local governments, entrepreneurs and investors.

IRRCs help recover valuable resources from waste, making them profitable opportunities for public-private partnership. Through their simple, non-mechanical technology, IRRCs can be built and operated at low costs, meaning that initial investments can be quickly returned and that profits can be sustained throughout their operation.

By selling high quality organic fertilizer, the IRRCs are able to cover their operational costs.

IRRCs can earn carbon credits under the Clean Development Mechanism. The money earned from carbon credits will not only cover the setup costs of the facility – they will also earn profitable returns for the IRRC.

Engaging communities in managing waste

IRRCs encourage city-wide commitment to managing waste and keeping cities clean.

The IRRCs work closely with the surrounding communities and train households on how to sort their waste, separating materials that can be recycled and organic waste that can be composted.

IRRCs also directly benefit the urban poor, providing formal employment to waste pickers. The IRRCs provide waste pickers with better, more stable incomes and safer working conditions.

