

Hanoi, Viet Nam, 26 November 2013



Promoting decentralized and integrated resource recovery centers in cities in the Asia-Pacific region



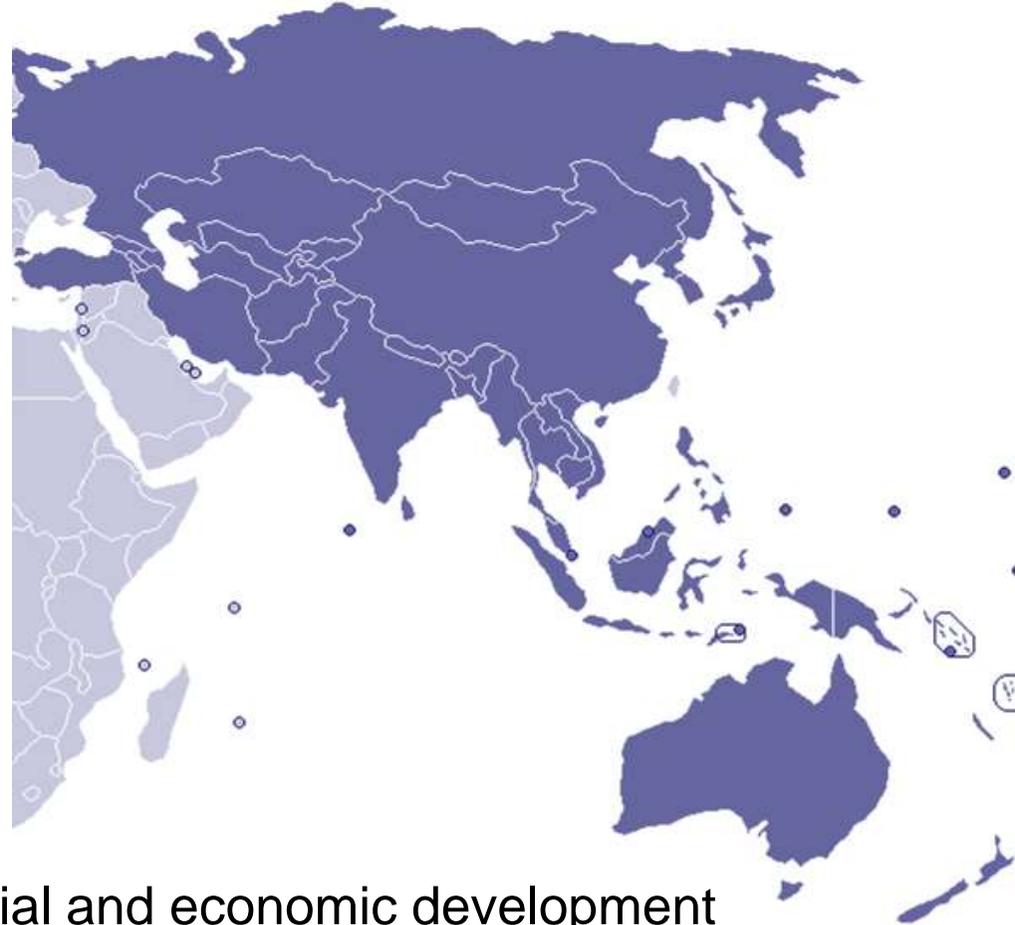
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www.waste2resource.org

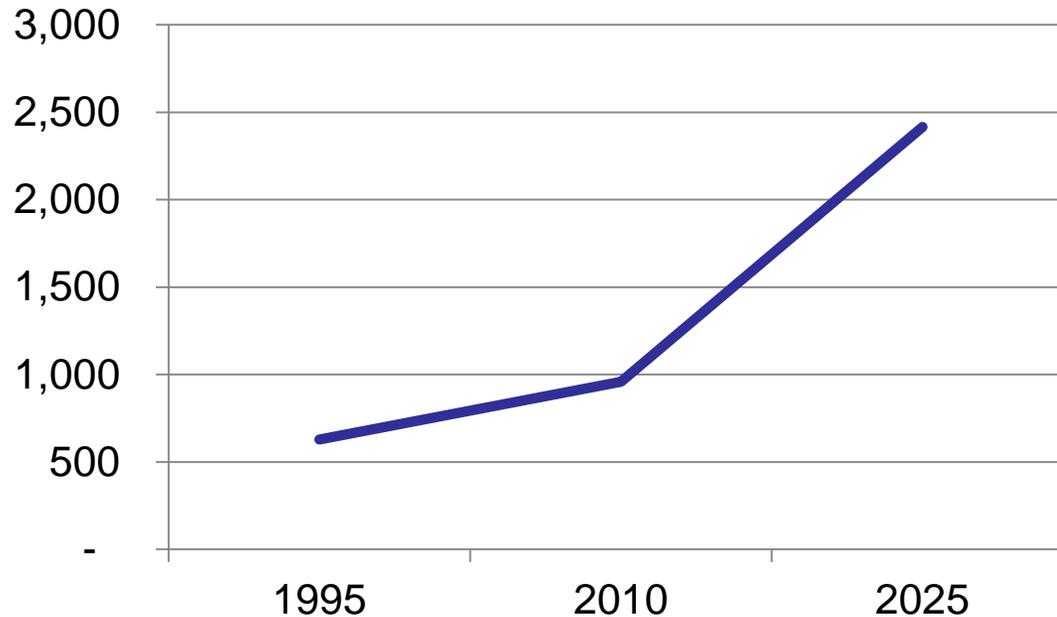
About UN-ESCAP

- 62 member states
- UN-ESCAP covers the world's most populous region
- Based in Bangkok, with 4 sub-regional offices
- UN-ESCAP fosters:
 - Regional cooperation to promote social and economic development
 - Normative, analytical & technical cooperation at the regional level
 - A platform for South-South dialogue / exchange of practices



Municipal Solid Waste Trends in Asia-Pacific

Rapid urbanization and economic growth, accompanied by high consumption patterns, is leading to increased solid waste generation in cities in Asia-Pacific

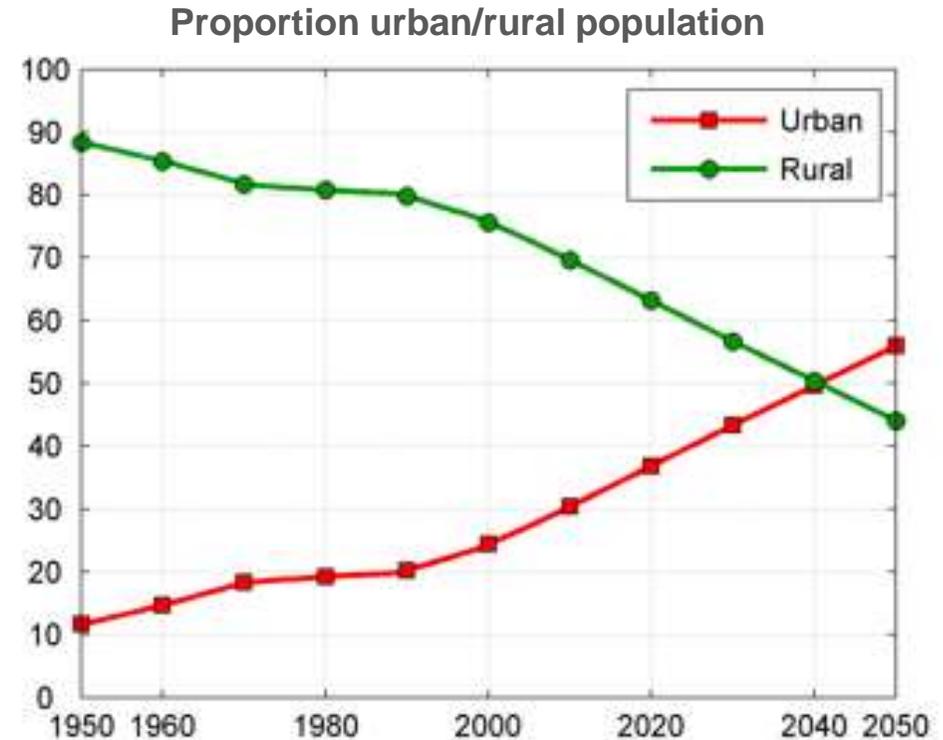


Solid waste generation (thousand tons/day) in middle income developing countries in Asia-Pacific

Viet Nam is not an exception to these trends



Urban Population Change between 1999 and 2009



- The urbanization rate of Viet Nam is of 3.4% per year, most of which in and around Ho Chi Minh City and Hanoi
- In 2009 30% of Viet Nam's population was urban

Source: UN DESA 2013; Vietnam Urbanization Review, World Bank 2011

Current Solid Waste Management Practices

End-of-pipe solutions, such as open dumping and landfilling, are practiced in most cities and towns in Asia, with associated negative externalities



Negative Externalities

Vermin and other disease vectors

Leachate
(pollution of water sources)

Odor Nuisance

Methane Emissions
(a Greenhouse gas)

More Land Required for landfilling

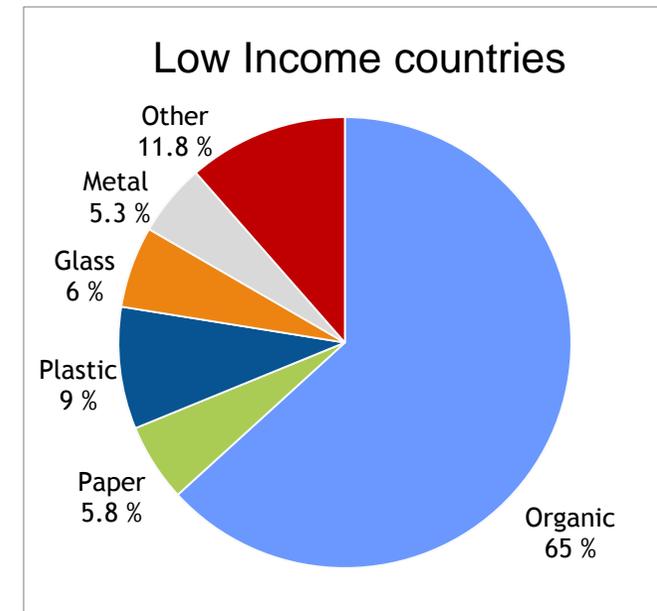
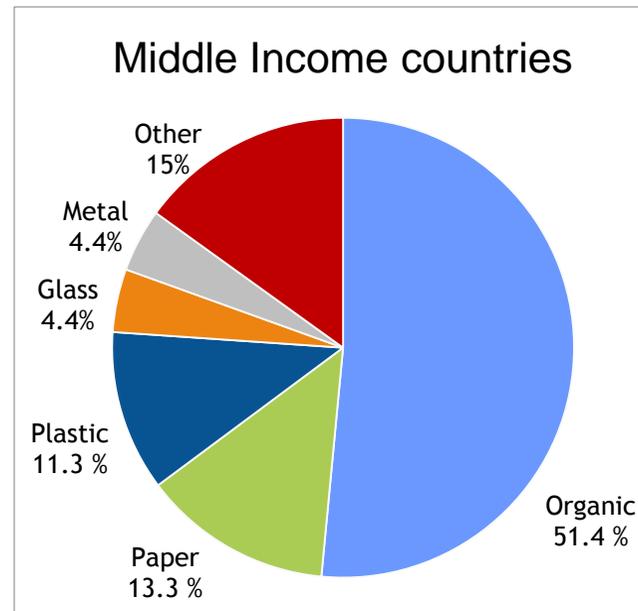
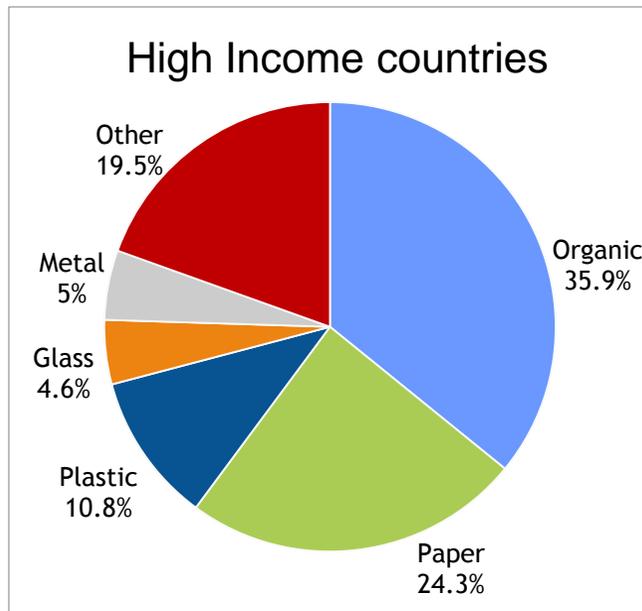
▶ The current paradigm is not sustainable and overlooks the enormous potential for turning waste into resources!

Waste Composition Patterns in Asia-Pacific

The high percentage of **organic waste (50-70%)** and **recyclables (20-35%)** in low and middle income countries of Asia-Pacific means that:

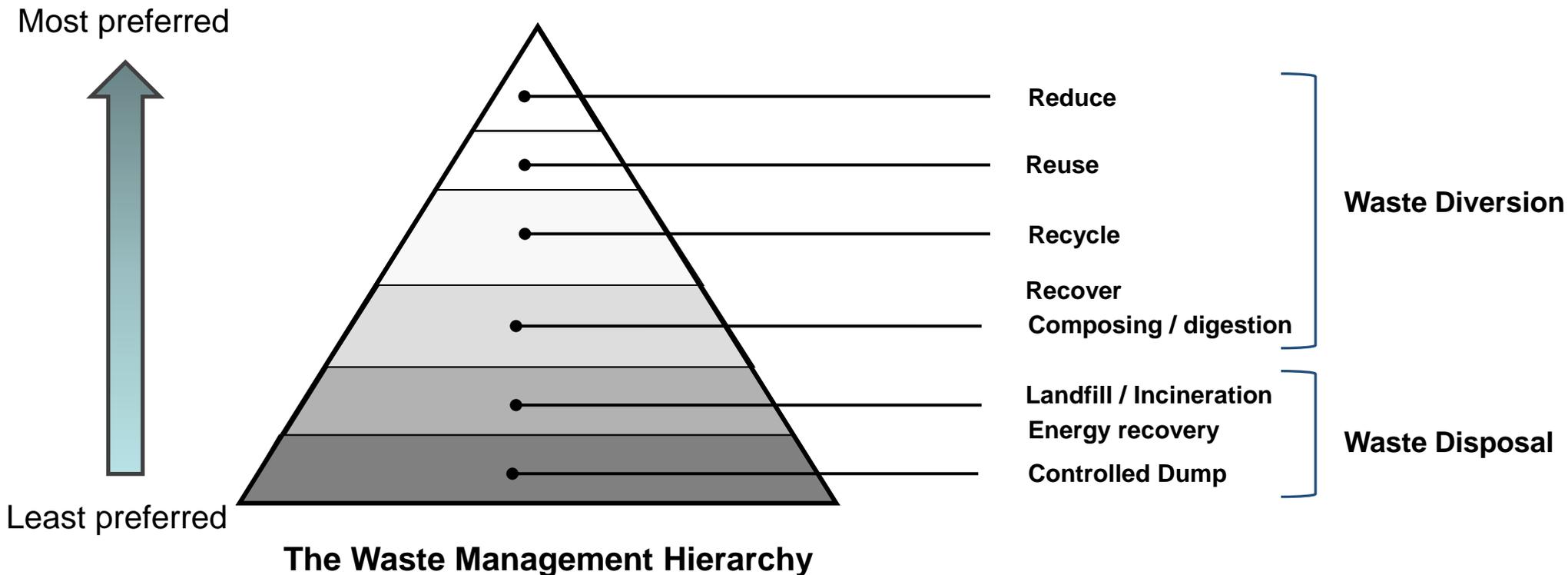
→ **85-90% of waste can be converted into valuable resources** such as:

- Compost through aerobic treatment
- Bio-gas/electricity through anaerobic digestion
- Recycled materials



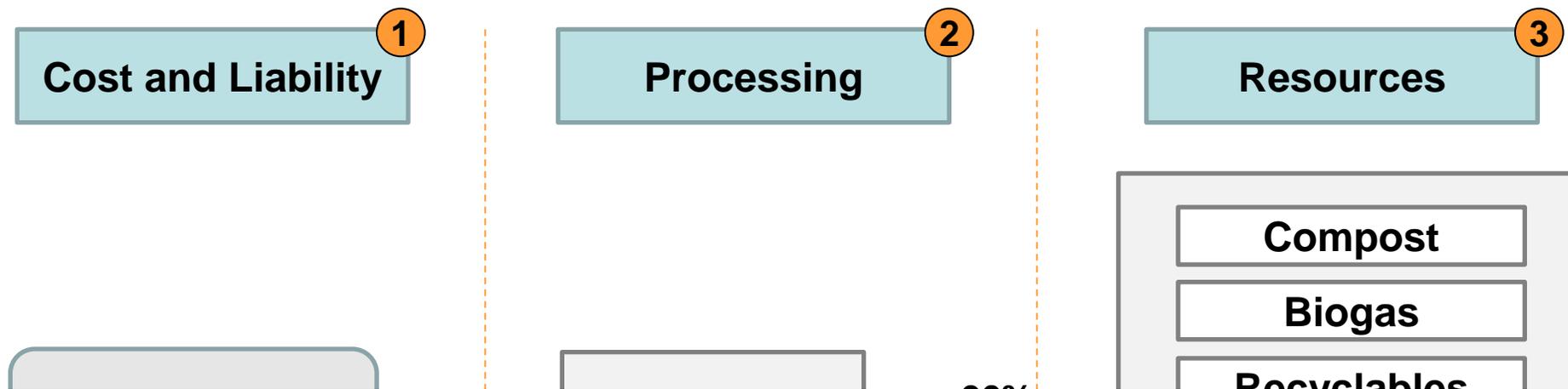
Paradigm Shift and the Need for System Change

There is a need to change towards a more systemic approach based on 3R principles, where value can be generated from waste, with potential for co-benefits along the three dimensions of sustainable development



The IRRC Approach and Concept

An **Integrated Resource Recovery Center (IRRC)** is a facility where a significant portion (80-90%) of waste can be processed in a cost effective way, in proximity to the source of generation, and in a decentralized manner. The IRRC concept is based on 3R principles.



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https://www.yunbaogao.cn/report/index/report?reportId=5_6169

