

**Saafu Raajje Regional Seminar:
Development of Regional and Island Waste
Management Strategies and Action Plans in Zone 6 & 7,
18-20 July 2017, GA Villingili**

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CCET - IGES Centre Collaborating with UNEP on Environmental Technologies



Outline of the Presentation

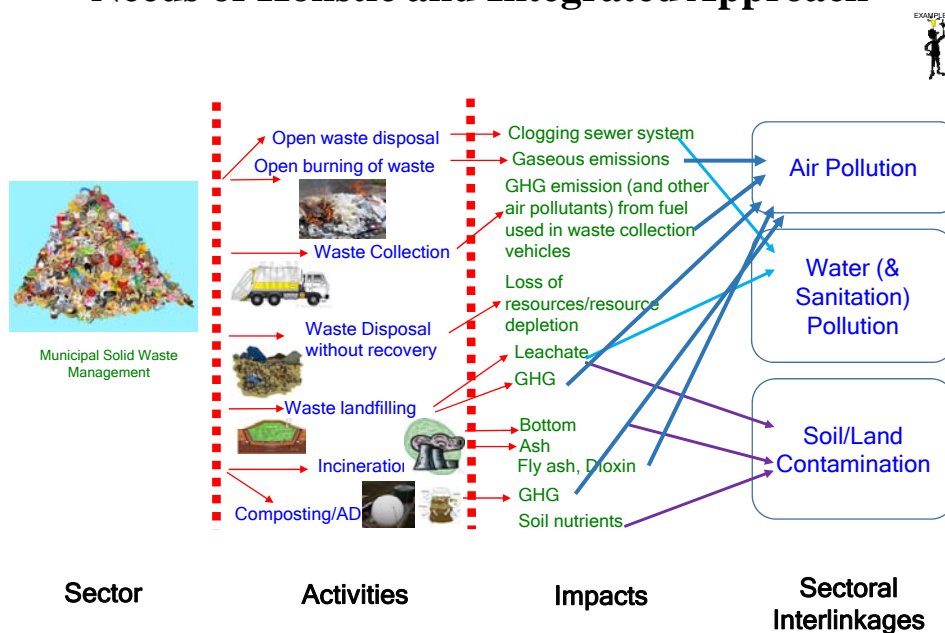
- Rational for a Strategic Action Planning for Waste Management
- A Process and Lessons Learned from Strategy Development in Cambodia



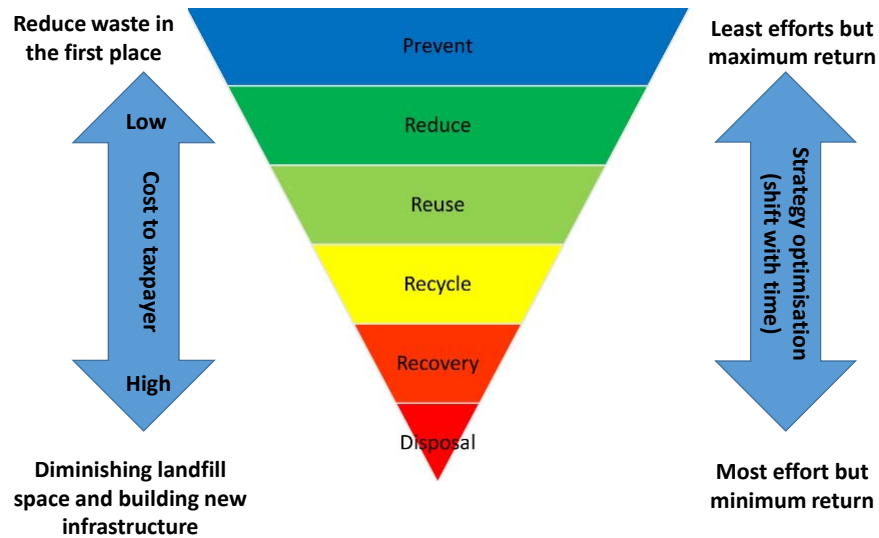
Current Waste Management System/ Practices in Zone 6&7



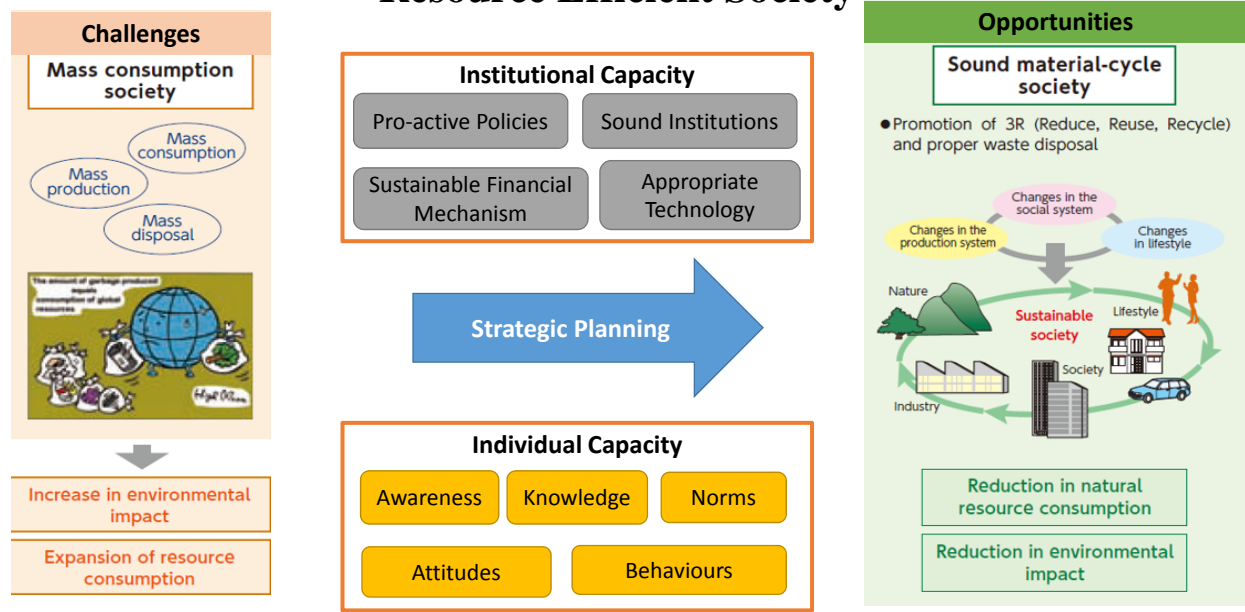
Needs of Holistic and Integrated Approach



Key Guiding Principle – Waste Management Hierarchy



Needs of Strategic Planning to Move from Business As Usual to Resource Efficient Society

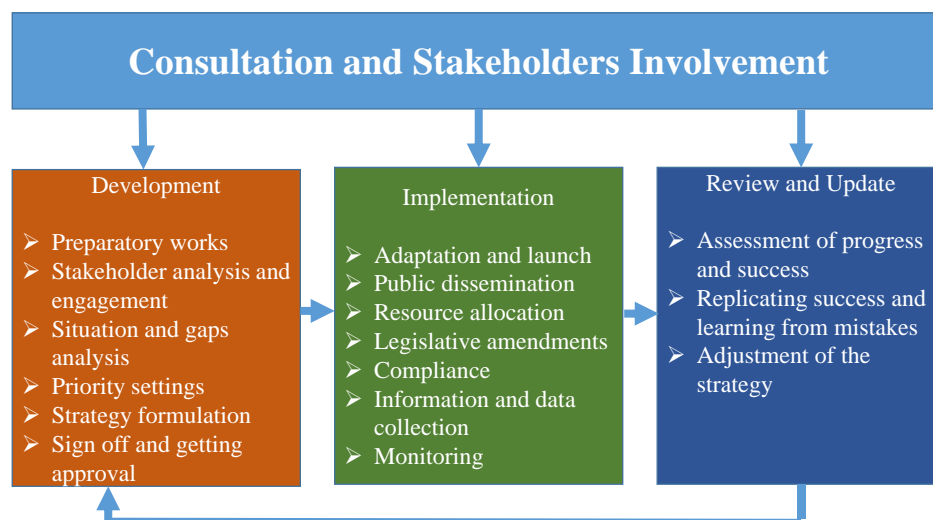


Source: History and Current State of Waste Management in Japan, MOEJ (2014)

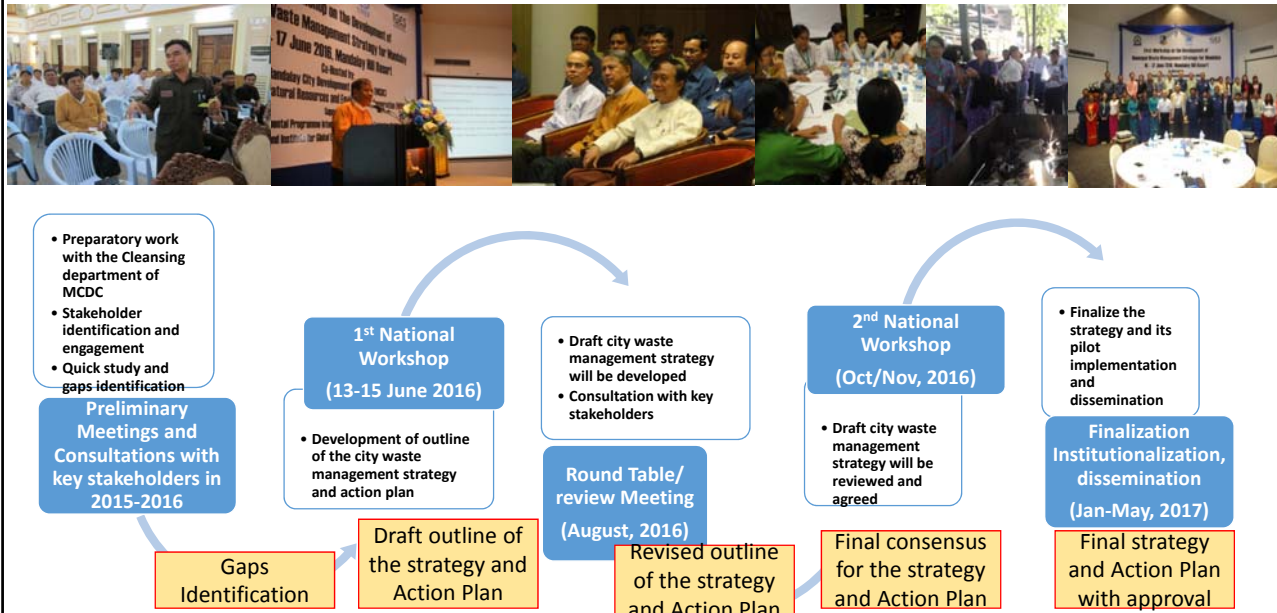
Structure of the City Waste Management Strategy and Action Plan



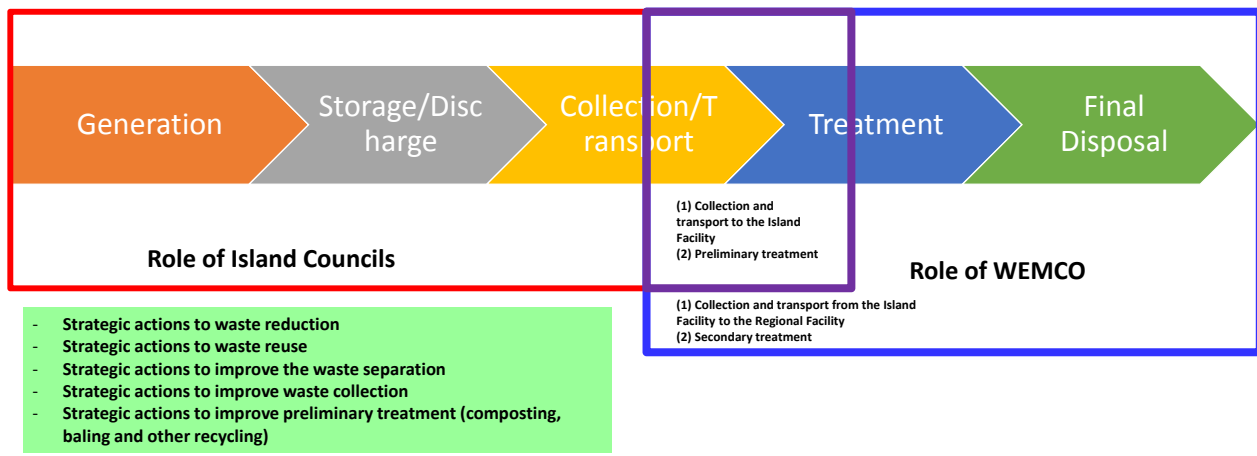
Overview of the Strategy and Action Plan Development Process



Example - A Waste Management Strategy and Action Plan Development Process in Mandalay, Myanmar



Sharing Responsibilities is important for proper implementation of Zoning Waste Management Strategy



Strategy 1 – Waste Reduction



Some Schools in Italy



Indonesia started nation wide campaign to charge plastic bags in shopping malls since 2016



Strategy 2 – Repair and Reuse



Berkley, California (USA)



Okie Town, Japan

Strategy 3 - Separated Waste Collection

Guide to Sorting Recyclables and Garbage in Nagoya

英語版

Find out your responsibilities for garbage by 4 types of area in Nishia Ward on the morning of the collection day at the designated location. Collection occurs even on public holidays.

Collection days are determined by neighborhood. Use this chart by circling the collection day in your area.

Collection Category	Main Items (Examples)	Frequency	Collection Days	Designated Bag
Burnable Garbage		Twice a Week	Mon., (Thurs.) (Sat., Fri.) (Sun.)	
Hazardous Flammable Items		Once a Month	Mon., (Thurs.) (Sat., Fri.) (Sun.)	
Non-Burnable Garbage		Once a Month	Mon., (Thurs.) (Sat., Fri.) (Sun.)	
Large-Sized Garbage		Once a Month	Mon., (Thurs.) (Sat., Fri.) (Sun.)	
Plastic Containers and Packaging		Once a Week	Mon., (Thurs.) (Sat., Fri.) (Sun.)	
Paper Containers and Packaging		Once a Week	Mon., (Thurs.) (Sat., Fri.) (Sun.)	
Recyclable Plastic Bottles		Once a Week	Mon., (Thurs.) (Sat., Fri.) (Sun.)	
Empty Glass Jars and Bottles		Once a Week	Mon., (Thurs.) (Sat., Fri.) (Sun.)	
Empty Cans		Once a Week	Mon., (Thurs.) (Sat., Fri.) (Sun.)	

Large-Sized Garbage

Items Requiring Large-Size Collection

Large items exceeding 30 cm diameter

Do not place items requiring large-size collection on the street and leave them for collection.

Procedure
 Call before 8:00 AM the day before the collection day for your area.
 Go to the required collection place.

Large Waste Service Center

0120-782-530

Procedure
 1. Put items requiring large-size collection in the designated bag.
 2. Put items requiring large-size collection in the designated bag.
 3. Put items requiring large-size collection in the designated bag.

Recycling Locations

Paper Containers and Packaging
 0120-782-530

Large-Sized Garbage
 0120-782-530

Computers
 How are computers disposed of?

How are computers disposed of?
 Computers are disposed of at the designated location.

How are computers disposed of?
 Computers are disposed of at the designated location.



Separated waste collection in Malaysia (Bangsar Baru) <http://www.thestar.com.my/metro/community/2015/09/18/confusion-over-collection-day-for-separate-waste/>



Separated waste collection in some communities in Surabaya (Indonesia)



Separated waste collection in Minamata City (Japan)

Strategy 4 - Organic Waste Management



Separated food waste collection in Seattle (USA) – City's recycling rate has increased from 18% (2003) to 56% (2013)
<https://www.epa.gov/transforming-waste-tool/zero-waste-case-study-seattle>



Separated food waste collection in Oki Town (Japan) Achieved over 50% waste reduction by 2016



Separated food waste collection in Seoul (Korea) Recycling rate of food waste raised from 2% in 1995 to 95% in 2009
<http://www.innovationseeds.eu/policy-library/core-articles/south-korea-s-food-waste-reduction-policies-kl>

Composting

Decentralized/small-scale composting (household/community)



Barrel compost in Colombo,
Sri Lanka



Takakura basket in Surabaya,
Indonesia



Simple windrow in
Dhaka, Bangladesh

Centralized/large-scale composting (transfer station, landfill site, outside of city)



Larger windrow in Fukuoka,
Japan

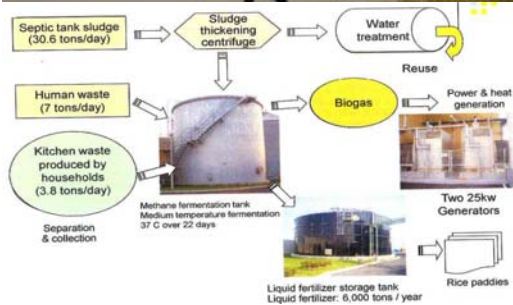


Aerated windrow in Bali,
Indonesia



In-vessel (rotary drum) in
Bangkok, Thailand

Anaerobic Digester (AD)



Anaerobic Digester in Oki Town, Japan



Anaerobic Digester in Galle (Sri Lanka)

Strategy 5 – Recycling (advanced)



PET bottle recycling



Beverage Can recycling



Fluorescent tube recycling



Home appliances recycling

Kitakyushu Eco-Town (Japan)

Strategy 5 – Recycling (Informal)



Strategy 6 – Economic Incentives (Pay-As-You-Throw)

- Take recyclable resources and garbage to designated stations by 8:30 AM on collection days in specified methods.
- Specified bags are sold at supermarkets and convenience stores.

Household Garbage	Cans and bottles	Plastic bottles	Plastic containers and packages
<ul style="list-style-type: none"> Collection days: Twice a week (Mon. and Thu. or Tue. and Fri.) Collection place: Household Garbage Station Prices: <ul style="list-style-type: none"> Large (Full, 45-liter bags): 500 yen Medium (Full, 30-liter bags): 330 yen Small (Full, 20-liter bags): 220 yen Extra small (Full, 15-liter bags): 110 yen 	<ul style="list-style-type: none"> Collection days: Every Wednesday Collection place: Recycling Station Prices: <ul style="list-style-type: none"> Five, 25-liter bags: 60 yen 	<ul style="list-style-type: none"> Collection days: Every Wednesday Collection place: Recycling Station Prices: <ul style="list-style-type: none"> Five, 25-liter bags: 60 yen 	<ul style="list-style-type: none"> Collection days: Once a week (specified day in your area) Collection place: Recycling Station Prices: <ul style="list-style-type: none"> Large (Full, 45-liter bags): 100 yen Small (Full, 25-liter bags): 60 yen

※ The Recycling Station is where cans, bottles, and plastic bottles are put out.