



Management of Marine Debris Waste in Southeast Asia

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ICCF-AIPA-UNCTAD Joint Briefing:

Technology and Innovation Solutions to Address Marine Debris
in Southeast Asia

July 6th, 2023





1. Background and urgency

2. International and National Initiatives

3. Good practices (Japan, Indonesia,
The Philippines, Singapore)

Plastic Pollution Fact



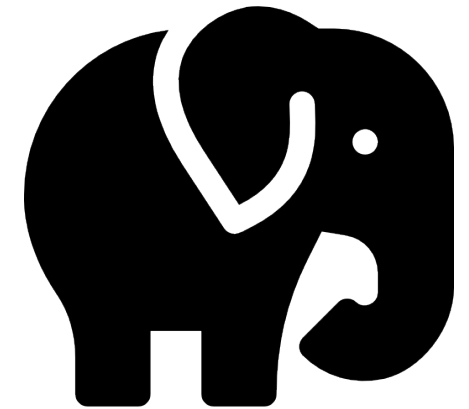
Plastic production

8,4% increase/year



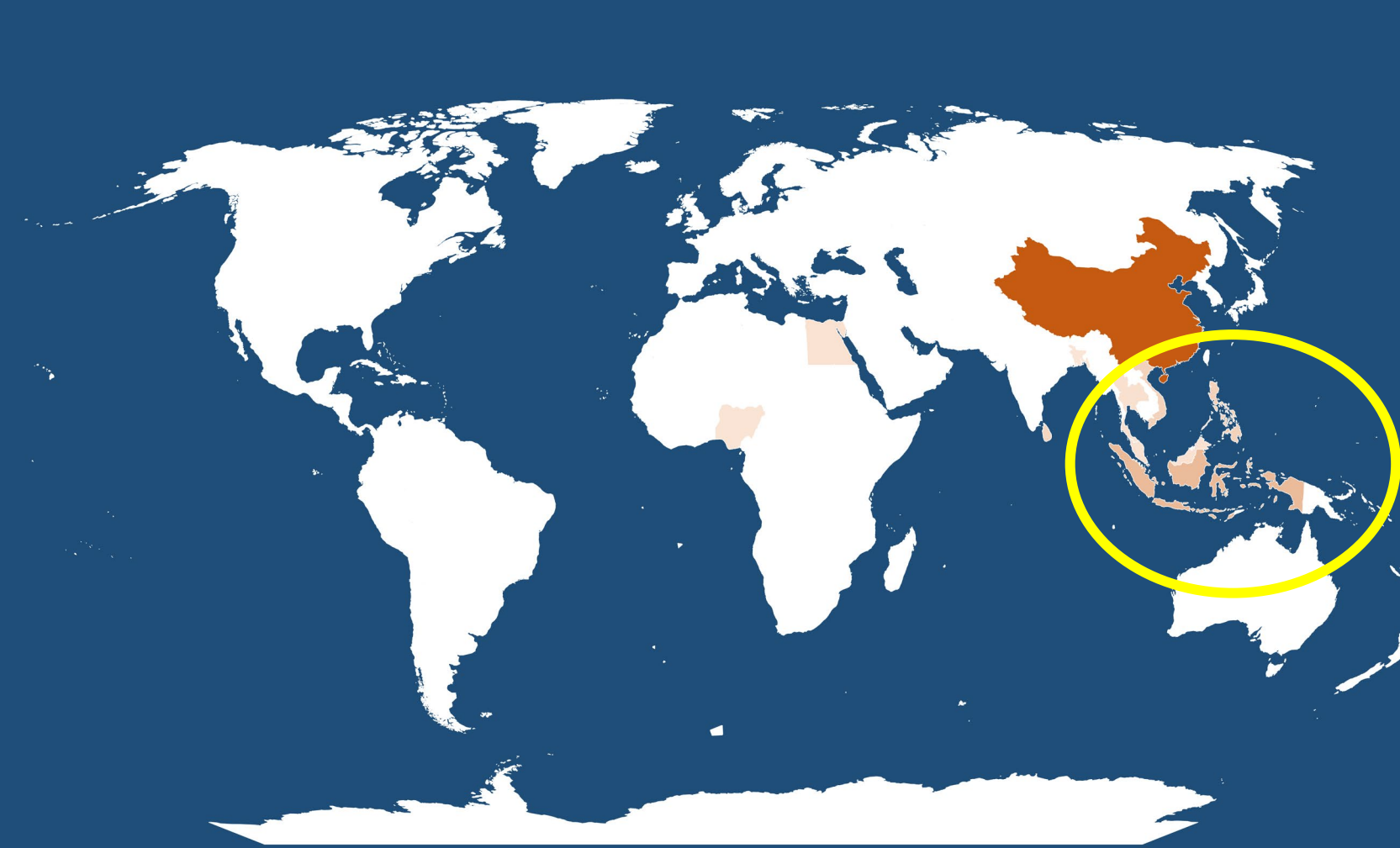
Plastic leakage to the oceans

8 million MT/year



2 million elephants/year

Plastic leakage to the oceans



Marine plastics (MMT/year)



- Southeast Asia countries are among the biggest contributors.

- The region also suffers from the impact of plastic waste import from developed countries

Jambeck et al., 2011, Greenpeace, 2019

International Negotiation: Intergovernmental Negotiating Committee (INC) on Plastic Pollution

Aim:

Develop **international legally binding** instrument on plastic pollution, including in the marine environment

INC-1 (Punta del Este, Uruguay)

28 November – 2 December 2022



- Key takeaways**
- Different countries may require **different approaches**
 - **Waste pickers** are at the forefronts of the solution
 - Enabling **business** to support the government as a partner in solving the problems

INC-2 (Paris, France)

29 May – 2 June 2023



- **Draft agreement** to be developed before the next INC-3 in Nairobi, Kenya
- The need to look at the plastic crisis as a **related topic** with other environmental problems
- The importance of global plastic mitigation **agreements and platform** for organisations and countries to discuss

- Action Plan and/or Road Map have been developed by many countries in ASEAN region
- Examples:
 1. Indonesia's Plan of Action on Marine Plastic Debris 2017-2025
 2. Malaysia's Roadmap toward Zero Single-Use Plastics 2018-2030
 3. National Action Plan for Management of Marine Plastic Litter by 2030 (Viet Nam)



Design for Recycling: case of PET bottle

A best practice on design for recycling is the **voluntary guideline** for the design of PET bottles developed by **Japan's Council for PET Bottle Recycling**.

- First version developed in 1992, guideline revised several times
- Access the English version here: <https://www.petbottle-rec.gr.jp/english/design.html>

In 2020, Japan's collection rate is 96.7%.

Bottle to bottle recycling rate is about **32% of total recycling volume**.

- PET bottle to bottle chemical recycling was approved by the Food Safety Committee in 2004.
- Bottle to bottle mechanical recycling of PET was also approved in 2012.

A harmonized design for recycling in ASEAN could be implemented to ensure the recycling standard across member states

Design for Recycling: case of PET bottle

Prohibit the coloring of PET:
PET waste with color has limited demand of recycling.



No color of PET bottle in Japan.

Caps should be made of PE or PP with specific gravity <1 in order to sort caps from PET



Perforation on the labeling of PET bottle.

Inter-Municipal Waste Management

- Inter-municipal cooperation or regional scheme is important to expand waste management in small cities and rural area.
- The inter-municipal cooperation for waste management (e.g: landfill and waste to energy plant), can reduce the cost of investment because there is economy of scale in the waste management facilities



Fujisan Eco-Park Incineration Center that accommodates waste management for Gotemba and Oyama City with the capacity up to 143 ton of waste/day

Ban on single use plastics by the local government

Bali

- **Governor Regulation No. 97/2018** to ban the use of plastic materials in Bali
- The regulation was taken into effect on **1 July 2019**
- The plastic materials included: plastic bag, styrofoam, plastic straw
- Challenge:
 - Data availability
 - Lack of coordination
 - Penalty



Effort:

Change plastic bag into paid reusable bag

Remove the use of plastic straw and styrofoam

Result:

51-57% plastic bag
66-70% plastic straw
77-81% styrofoam

} **reduction**

Ban on single use plastics by the local government

Jakarta

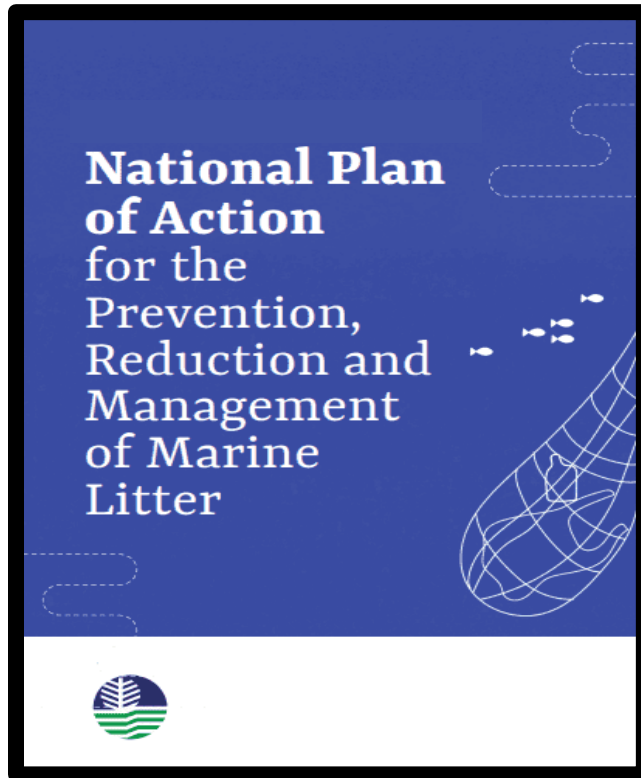
- **Governor Regulation No. 142/2019**, which bans the use of disposable plastic bags and requires shopping mall management and traditional markets to use environmentally friendly shopping bags.
- Challenge → Many traditional markets were not informed about the regulation

<https://en.tempco.co/read/1359836/jakarta-officially-bans-the-use-of-disposable-plastic-bags>



A banner in Pasar Jaya Market, Jakarta, saying that as per 1 July 2020, the sellers will not provide plastic bags for the customers (Government of Jakarta, 2022)

The recently launched EPR Regulation



- **The Extended Producers Responsibility (EPR) Act of 2022** is a response to Strategy 2 of the National Plan of Action of Prevention, Reduction, and Management of Marine Litter
- The EPR Act took effect on 12 August 2022
- The plastic packaging covered by the EPR Act:
 - Sachets, labels, laminates, and other flexible plastic packaging
 - Rigid plastic packaging
 - Plastic bags
 - Styrofoam

The recently launched EPR Regulation

Current updates:

- 50 employees of the Department of Environment and Natural Resources (DENR) have been trained for the full implementation of the EPR Act
- The training will equip the employees to communicate a standardized messaging of the EPR law to various stakeholders for proper implementation
- The EPR practices focus on:
 - Waste segregation at source and collection
 - Waste reduction
 - Waste recovery and recycling
 - Development of environment-friendly products

Deposit Refund Scheme

- The National Environment Agency (NEA) will implement Deposit Refund Scheme for beverage container as the first phase of EPR implementation
- Under the scheme. **Producers will finance take-back** of used beverage containers **with refunds offered to consumers** when they return their empty containers to designated return points
- Detail:
All pre-packaged beverages in plastic bottles and metal cans ranging from **150 milli liters to 3 liters** will have a refundable deposit of **10 cents**. This deposit will be fully refunded when empty beverage containers are returned at **designated return points**.

(National Environment Agency, 2020)



<https://www.todayonline.com/singapore/explainer-how-will-proposed-beverage-container-return-scheme-work-and-how-are-consumers-refunded-1998136>



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