



Plastic Waste Management and Marine Plastic Pollution in South Asia

Presentation By:

Amardeep Raju,
MoEFCC, India

Second Sub-Regional Workshop on Preparation of Status Report and Sub-Regional Roadmap for Implementing the Global Waste Management Goals towards addressing SDGs in South Asia

15th July, 2019, Dhaka

India- Solid Waste Management Scenario



- **Municipal Solid Waste:**

- **52.4 Million Ton (MTs)** (CPCB, 2014-15)
- **62 MTs** (Task force, Planning Commission, 2014)
- Country generate 1.45 Lakh Ton per Day, which is 52.9 Million Ton per Annum of Solid Waste. 53% waste is processed. - MoHUA

- **25940 TPD- Plastic waste**

- **Estimates:**

- 165 MTs tons by 2031
- 436 MTs by 2050

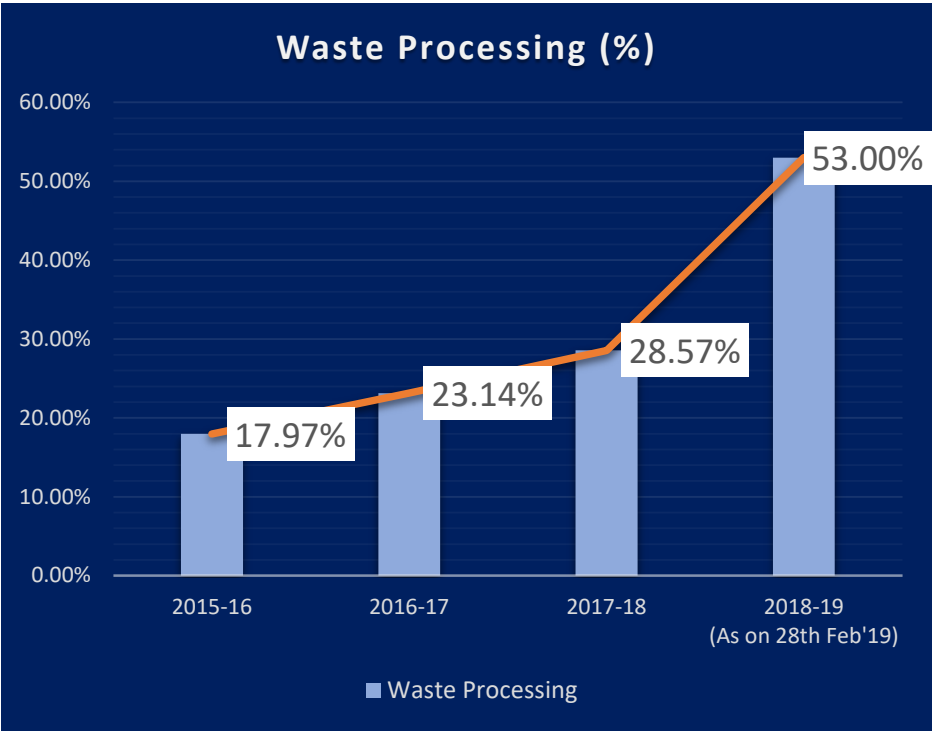
- **India is losing 1,240 hectares of additional precious land every year to accommodate processed/ un-processed municipal solid wastes...**



Ministry of Environment, Forest
and Climate Change

Solid Waste Management-Current Status

Year-wise
Progress of
Waste
Processing



89% of wards are practicing
Door To Door Collection

Total Wards: **84,229**
Wards with 100% D2D Collection: **75,367**



61% of wards are practicing Source
Segregation

Total Wards: **84,229**
Wards with 100% Source Segregation: **51,757**



53% of waste is being processed

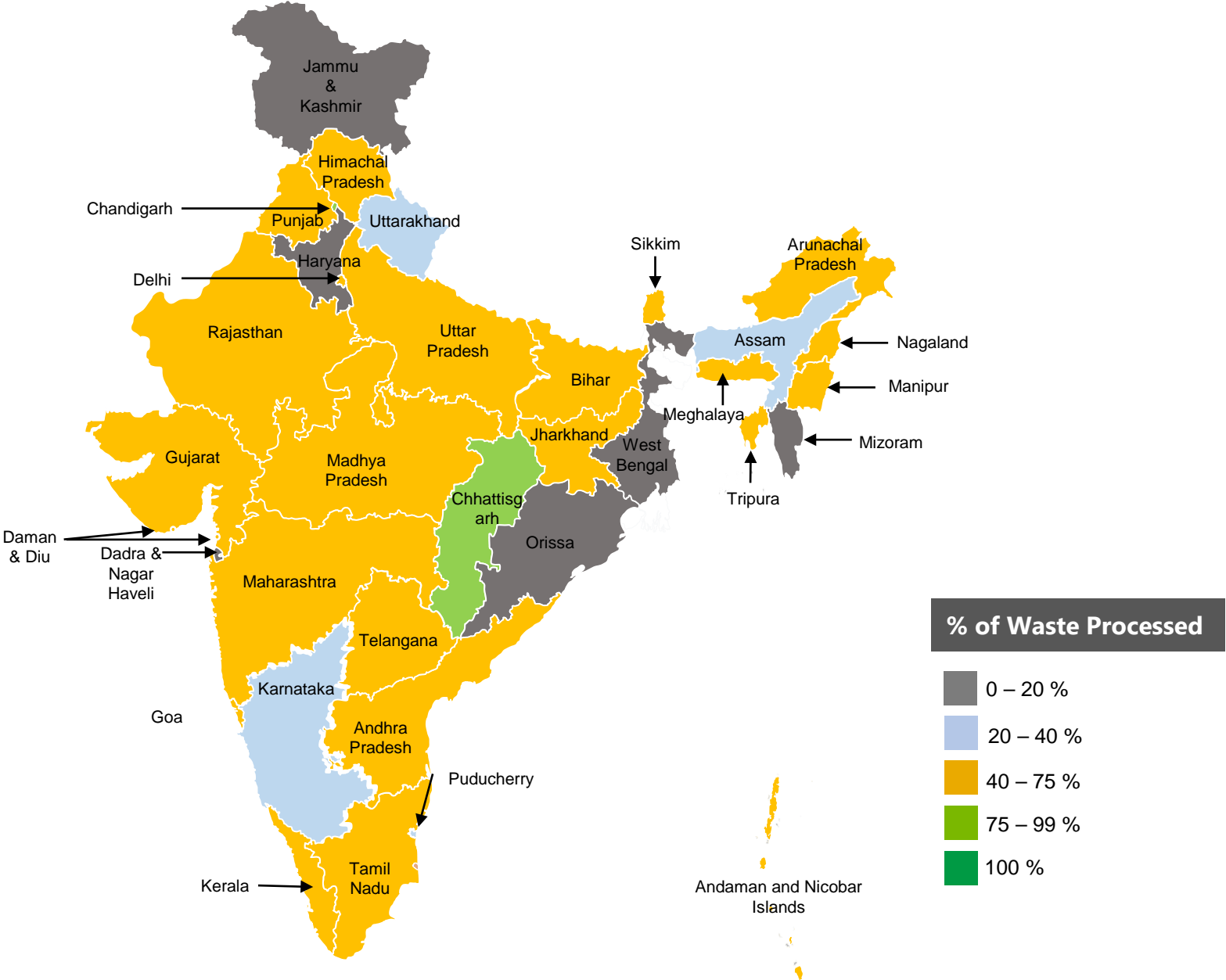
Total Waste Generated: 1.45 Lakh TPD



Ministry of Environment, Forest
and Climate Change

Processing of Municipal Solid Waste

 **53% of generated waste is being Processed**





Solid Waste Management Rules, 2016

Salient Features:

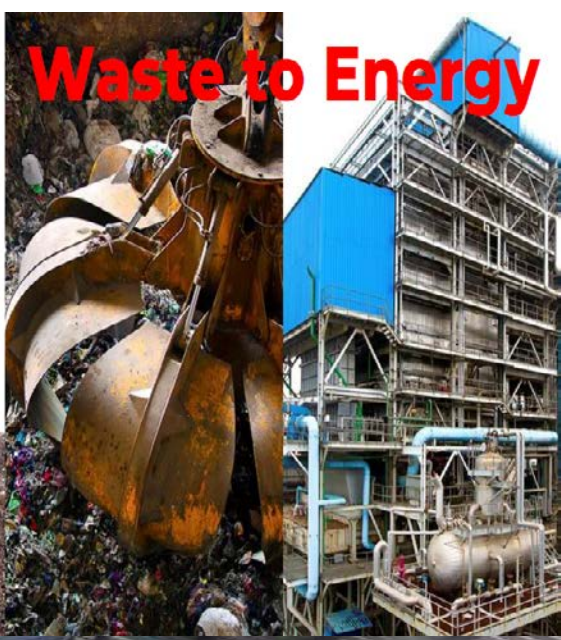
- Expanded Jurisdiction – Urban Agglomeration, Rural areas
- Emphasize source segregation of waste - channelizing the waste to wealth by recovery, reuse and recycle.
- Duties and responsibilities of authorities such as MoUD, MoP, MNRE, CPCB, SPCB etc
- Formulation National and State policy on solid waste management
- Undertake training and capacity building of local bodies and other stakeholders to spread awareness about the rules

Support Mechanisms:

Grants for Infrastructure, Market Development Assistance for compost, Mandatory Buy-backs, User Charge and Spot Fines through Byelaws



Waste to Energy



Waste to Compost



Recent Development on Solid Waste Management in India

- There are 410 Waste-to-Compost (WTC) plants operational with 5.9 Million Ton Per Annum (MTPA) waste processing capacity.
- Further 335 Plants with 6.09 Million TPA proposed production capacity in progress.
- There are 5 Waste-to-Energy (WTE) Plants operational with 50.75 MW capacity.
- Further 32 Plants in progress.
- Also it is made mandatory for DISCOMs to purchase Waste-to-Energy power.



Ministry of Environment, Forest
and Climate Change

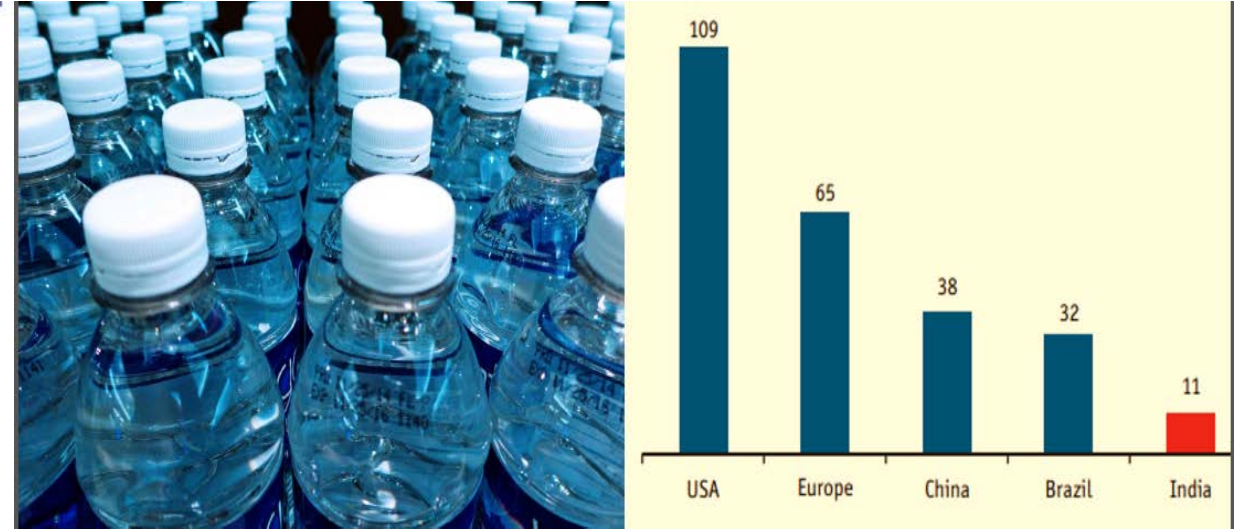
Plastic Production & Consumption in India

RISE OF PLASTIC CONSUMPTION IN INDIA (Per Year)



Source: Central Pollution Control Board

Figure: Consumption of Plastic has increased in the country



Plastic consumption rate (Kg/person) in India is low compared to other countries

India generates **25940 TPD of plastic waste** amounting to **9.4 million TPA**. It is estimated that approximately **70% of plastic packaging products are converted into plastic waste** in a short span. Even though **60% of the plastic produced in India is recycled**, it still leaves **9400 TPD of plastic waste unattended** causing **land, air and water pollution**.

Evolution of Plastic Waste Regulation in India

**Plastic Waste
Management Rules,
2016**

**Plastic Waste
(Management and
Handling) Rules, 2011**

**Recycled Plastic
Manufacture and
Usage Rules, 1999**



Plastic Waste Management Rules, 2016 - Salient Features



- The jurisdiction of the new Rules, have been extended to cover rural areas also;



- Minimum thickness of carry bags increased from 40 to 50 microns;
- Minimum thickness criteria not applicable for compostable carrybags (conforming IS/ISO: 17088 & having CPCB Certificate for marketing/selling)



- Manufacturers of plastic carry bags shall register with SPCB/PCC.

Contd....

- Waste generators including individual, bulk generators etc have been made responsible for source segregation and handover, pay user fee as per bye-laws of the local bodies;
- Rules mandates establishment of collect back system of plastic waste by the Producers/ Brand owners as per Extended Producers Responsibility;
- enhanced scope of usage of plastic waste in road, waste to energy, waste to oil etc.



Beat Plastic Pollution

Commitment to beat plastic pollution and drive innovation & investment to create a more sustainable plastic value chain. Ministry is working on following areas:

Baseline
Assessment

Plastic
recycling
industry
Assessment

Eliminating
Single Use
Plastic

Use of Haz
Chem in
Plastics

New Plastics
(Bio-,
compostable)

Extended
Producer
Responsibility

Investment
Strategy

Marine- litter
&
Microplastics

Circular
Economy in
Indian
Context

Monetizing
informal
plastic
economy

International
Cooperation

Monitoring
Mechanism

Capacity
Building



Marine Plastic Pollution

Globally, three quarters of marine debris is made up of various forms of plastic which are highly persistent and also contain toxic chemicals



According to 2015 estimates, 16 of the top 20 countries contributing to marine plastic litter are middle-income countries

It is estimated that between 1.15 and 2.41 million tonnes of plastic waste currently enters the ocean every year from rivers.

The top 20 polluting rivers, mostly located in Asia, account for 67% of the global total



The economic damage caused by plastic waste is vast. Plastic litter in the Asia-Pacific region alone costs its tourism, fishing and shipping industries \$1.3 billion per year. Studies suggest that the total economic damage to the world's marine ecosystem caused by plastic amounts to at least \$13 billion every year.



Combating Marine Plastic Pollution

I N I T I A T I V E S

← **The Hon'ble Prime Ministers of India call on eliminating single use plastic by 2022 in the country**

← To ensure removal/elimination of Single-Use Plastic (SUP) from all Government offices & subsidiary bodies, DO letters were issued by Hon'ble MEFCC

← Letters to principals of schools, all major PSUs, Corporates and institutes, heads of all major Temples, Mosques, Gurudwaras & Churches regarding elimination of SUPs were issued

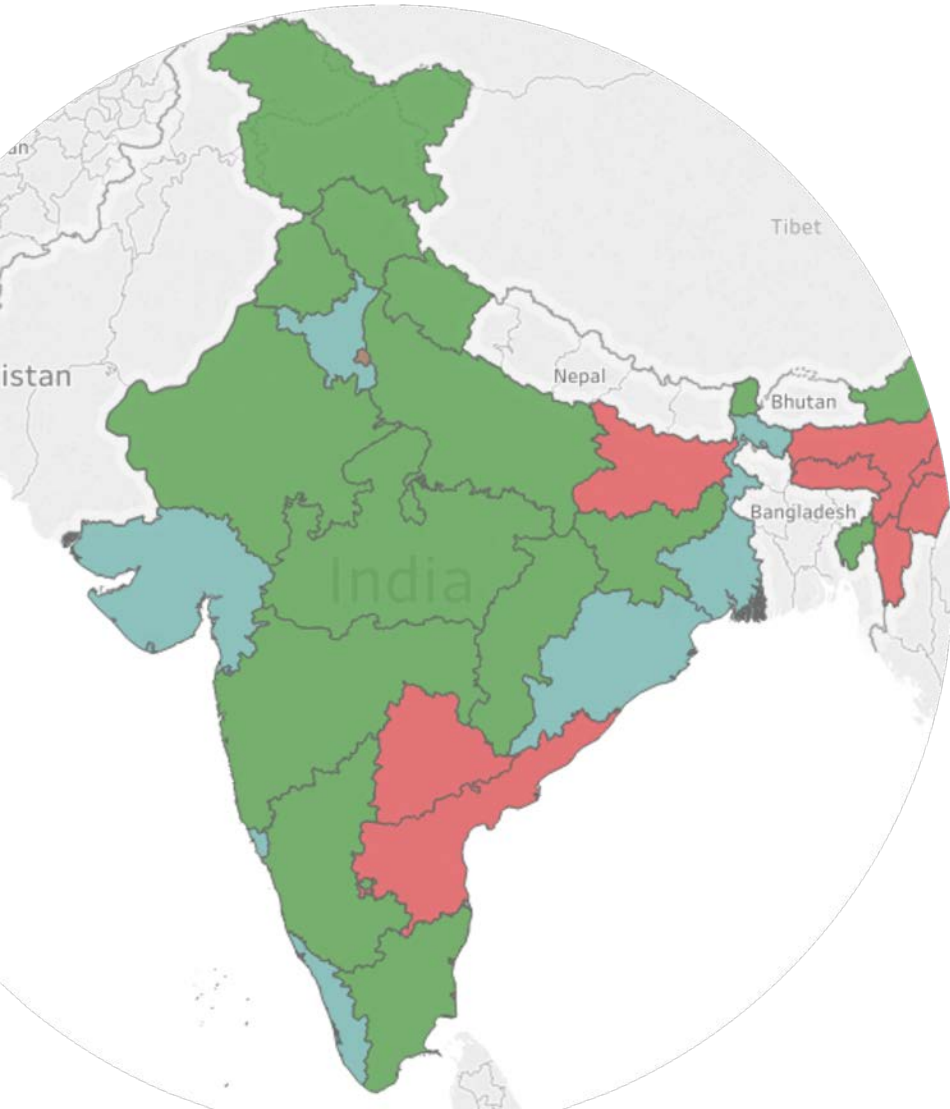
← Guidelines were issued on the elimination of 'Single Use Plastic' in all States.

← **Draft Models for National Framework on EPR has been finalized with due consultation with all stakeholders**

← To tackle the problem of marine littering a Steering Committee with stakeholders from all the concerned Ministries and Departments has been constituted by MoEFCC.

Single Use Plastic

Central and State regulations



- Central regulation: Plastic Waste Management Rules, 2016, Amendment in 2018
- 23 States/ UTs have introduced complete prohibition on plastic carry bags
- 6 States/UTs have introduced prohibitive regulations on some Single-Use Plastic (SUP) products
- Prohibitive regulations have been successful in some States/UTs especially Sikkim, Himachal Pradesh, Maharashtra, Tamilnadu
- Need for synchronization among regulations at Central/ State level

A large indoor facility, likely a waste sorting center, with a high ceiling and exposed metal beams. Several women wearing blue uniforms, green skirts, white headscarves, and face masks are working. They are sorting waste into large blue and red bins. The bins are numbered, and some have labels like '20' and '19'. The women are also wearing yellow gloves. The facility has a concrete floor and hanging lights.



By women SHg	Segregation revolution	Reuse recycle
Primary segregation	At Household Door step	Organic & Inorganic
Secondary segregation	At 17Garbage Clinics	17 Organic 20 inorganic
Tertiary segregation	At tertiary segregation centre	139 inorganic recyclables



Plastic to road, Rajnandgaon

- ❖ The process of road lying using waste plastics is designed and the technique is being implemented successfully for the construction of flexible roads at various places in Rajnandgaon
- ❖ Roads made from plastic-bitumen mix inhibits leaching of toxic compounds into soil
- ❖ Penetration of water is reduced which resists stripping and hence no pothole formation takes place on these roads



Zero waste management units, Mysuru

- ❖ The corporation has set up 9 Zero waste management units in the city, which cater to 200 MT of waste generated. Waste is segregated in 25-27 categories at these centers
- ❖ 47 Material Recovery Facilities have been set up by the corporation for recovery of recyclables
- ❖ Mysuru has achieved segregation of waste at source in over 80% of households



Zero Landfill City- Panaji

- ❖ City practicing effective segregation of waste at source
- ❖ Residential/housing colonies and commercial establishments segregate their waste in the 2 fractions and housing colonies and commercial establishments into minimum 5 fractions
- ❖ Wet waste processed at source
- ❖ Strict norms put in place for segregation of waste by bulk generators



Plastic to Road- Ranchi

- ❖ In ward No 40 of Ranchi's Dhurwa, of the total 2500 feet area a stretch of 200 feet has been built using waste plastic
- ❖ This step will not help in reducing plastic pollution in the city but will also be helpful in increasing the durability of the road
- ❖ Use of plastic has also helped the agency reduce cost of Bitumen

School Children Participating in Plastic Removal Drives in Navi Mumbai



Meat Waste Processing From Mutton And Fish Market-Ambikapur



350 Ducks



Fish/mutton waste –
100/120 kg/day

Beach Cleaning Drives in various cities





Citizens come together for a Polythene Free Ghaziabad Drive

Thank You!

