

**ANIL AGARWAL**  
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# Combating Marine Litter Challenges and Agenda

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## Marine Litter – Global overview

- Global plastic production – 460 million tonnes (2019)
- Global plastic waste – 353 million tonnes (2019)
- 9% recycled, 19% incinerated, 50% landfilled and 22% reported mismanaged
- About 12 million tonnes (3.39%) of Global plastic waste is leaked into the marine ecosystem every year



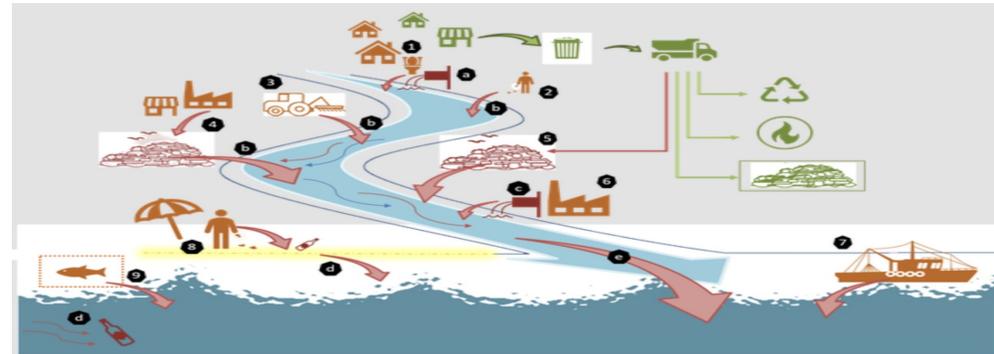
Down to Earth (CSE), reported research conducted by the "University of New Castle Australia" - Plastic and other types of plastic particles have been found in all types of sea-based organisms, which later directly and indirectly affect the food chain/ feed chain

Sources: UNEP, Boucher and Friot (2017), (Jambeck et al 2015; Kaladharan et al 2017; Kirkley and McConnell 1997)



## Marine Litter – Indian Scenario

- 15,434 tonnes of waste is leaked to South Asian Seas every day by the coastal countries including India (5.6 million tonnes per year)
- Indian coastline contributes to about 0.98 metric tonnes of litter per km stretch of coastline (concentration of 0.012 kg of waste per sq.m)
- Tributaries of major Indian rivers carry around 15-20 per cent of plastic waste into the marine environment



Type	Contribution to marine litter (%)
Plastic	55 – 57%
Foam Plastic	0 – 2%
Fabric	0 – 2%
Paper	2 – 3%
Glass	0 – 2%
Religious Materials	40 – 41%

Source: UNEP 2009, Swachh Sagar, Surakshit Sagar Campaign, MoES, 2022, TERI, 2022



# Understanding Marine Litter

- An offshoot of mismanaged waste
- Major sources – municipal / rural solid waste, lost and discarded fishing gear, tourism litter, litter from maritime activities, industrial waste
- About 80% comes from land-based activities, 20% from coastal region
- Swachh Survekshan (2024) reported 40% processing of municipal solid waste (diverted from reaching the landfills)
- Uncollected waste coupled with unscientific disposal by citizens and businesses are most susceptible to marine litter
- Most common land-to-sea pathway is storm water drainage, canals, rivers

Sources: UNEP Report, Swachh Survekshan Report 2024



## Marine Litter – Environmental Impact

- **Chemical Contamination:** Plastics act as sponges for pollutants (like POPs). When ingested, these toxins enter the food web, poisoning marine life and humans consuming seafood
- **Ecosystem Degradation:** Debris smothers coral reefs and seagrass beds, blocking sunlight and introducing invasive species that travel on floating litter
- **Ingestion and Starvation:** Animals mistake plastic for food. Sea turtles cannot distinguish between jellyfish and plastic bags, while over 90% of seabirds have plastic in their stomachs, leading to blockages, malnutrition, and death
- **Entanglement and Ghost Fishing:** Abandoned fishing nets ("ghost nets") and debris trap and drown marine animals like whales, seals, and turtles, and can suffocate coral reefs .



## Glimpses of Marine Plastic Pollution





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## Marine Litter - Intervention



- India (MoEFCC) and Norway (MFA) signed an agreement and launched India Norway Marine Pollution Initiative (INMPI) in January 2019
- During INMPI Phase-I (2020-2024), CSE's mandate was to address land-based mismanagement of solid waste
- 468 Urban Local Bodies from 31 states and UTs were supported, mismanagement was reduced by 21%
- INMPI Phase-II (2025-2029) will span for 4 years and focus on the Indian coastal region considering the downstream and coastal tourism
- Phase-II focuses on reduction in mismanaged and leaked plastics through coastal settlements to the marine environment
- Legal mandate to intercept mismanaged waste including plastic is absent. There are however provision in programmes like NMCG to install interceptors in river confluences to reduce and recover leaked plastics



**Thank you**