

‘Promotion of Countermeasures against Marine Plastic Litter in Southeast Asia and India’

Round Table Discussion

Plastic Pollution and Role of Stakeholders

December 23rd, 2019, Mumbai

Venue: 1st Floor, Management Council, University of Mumbai, Fort Campus

Chair:	Dr. Suhas Pednekar, <i>Vice Chancellor, University of Mumbai</i>
Co-chair:	Mr. G.S. Gill, <i>IAS and Distinguished Advisor, TERI- WRC</i>



Picture No: 1 Prof. Suhas Pednekar, Hon. Vice Chancellor, University of Mumbai taking a pledge to stop using single use plastic (Top) and Stakeholders at the Round Table Discussion (Bottom)

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Summary

A roundtable discussion on the theme ‘Plastic Pollution and Role of Stakeholders’ was jointly organized by The United Nations Environment Programme (UNEP), University of Mumbai, and The Energy and Resources Institute (TERI), on December 23rd, 2019, at the University of Mumbai campus in Fort, Mumbai. This round table discussion was a part of developing a region based model project titled *‘Promotion of countermeasures against marine plastic litter in Southeast Asia and India’* sponsored by the Government of Japan.

Around 30 stakeholders attended the discussion forum and made key contributions. There was consensus amongst the stakeholders regarding the severity of marine plastic litter. Academic organizations and Civil Society Organizations (CSOs) shared various initiatives undertaken by them to contain plastic pollution by involving the youth and the citizens. The participants expressed their concerns about entry of micro-plastics in the food chain and especially bioaccumulation in fish. The discussion proved to be a great platform for the stakeholders to share their experiences/ research findings regarding plastic pollution, identify strengths and loopholes of existing policies while suggesting better policy interventions and discussing practical action at the individual/ organizational levels.

The discussion ended with all the stakeholders taking a Pledge to not use “Single Use Plastic” and endorsed on the “Rethink Plastic” campaign jointly implemented by UNEP and TERI.

Background

With increasing urbanization and industrialization, plastic has made its way into becoming an integral part of our day to day lives. From homes and offices to automobiles, machinery, packaging, fabrics, satellites, wiring, electronics and more; the list of plastic applications just seems to be endless. With the ever growing population, no natural source would be able to fulfil these requirements. However, improper disposal and irresponsible and over use of plastic for the sake of convenience, has made plastic pollution a global trans-boundary problem. In today’s day and age, when mobiles, machines and e-commerce facilities are ruling our lives, appropriate handling of plastic with informed and responsible use, reuse, recycle, and disposal could be the only way out. It now requires urgent action by individuals, communities and governments at the local, regional, national and international level.

Furthermore, Mumbai is a coastal mega city, India’s commercial capital and also home to several sandy beaches and rocky coasts along with large mangrove stretches (66 sq. km.) along the creeks¹. It is home to numerous small and large-scale businesses, industries, educational institutes, government offices and private enterprises. With an ever increasing population and

¹<http://fsi.nic.in/isfr2017/isfr-mangrove-cover-2017.pdf>

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people migrating to the city, **Mumbai generates around 408.27 tonnes per day of plastic waste² which is enough to completely fill up 500 shipping containers (size: 20 ft x 8 ft x 8.6 ft).**³ Lack of proper disposal methods and mismanagement cause a significant amount of this plastic to end up in the sea, which during storms and high tides is dumped back on the sea shore^{4,5}. Plastic waste also adds to the misery of Mumbai residents during monsoons by clogging drains and sewer lines leading to severe water logging during monsoons^{6,7}. Further, this untreated plastic degrades into smaller bits that is micro plastics both on land and in water, which through many leakage points enter the rivers, oceans and farms. The intermediate degradation products and micro plastics enter the food chain via fish, water and crops. Thus, immediate action is required to tackle this problem. This calls for effective policy intervention as well as individual contribution and behavioural change among the residents of the city.

Objectives

A roundtable discussion involving multiple stakeholders organized on December 23, 2019 was an attempt to bring together stakeholders from academia, government, industry, NGOs and grass roots levels to share insights about the ground realities of plastic pollution, management of plastic waste, strengths and gaps in policies and role of stakeholders at individual, organizational and governmental level. The key objectives of the discussion were:

1. To initiate a policy dialogue for the stakeholders of Mumbai to share experiences and be an integral part of developing a road map for Plastic Management.
2. To understand the status of policy implementation in Maharashtra, identify policy/regulatory gaps through a consultative process.
3. To use the inputs received from the stakeholders to develop a white paper highlighting the ground realities, policy gaps and suggested interventions as an outcome of this discussion would be compiled by the partner organizations.

Discussion Highlights

To initiate a dialogue TERI made a presentation (**Annexure 1**) to elaborate on the objectives of the project, to describe the current status of marine plastic litter in and around Mumbai and also to provide an overview of the policy background in the context of plastic management in the state of Maharashtra. Further, the Chair and Co-Chair and UNEP representative made the opening remarks and encouraged the learned participants (**Annexure 2**) to share their views in order get a holistic overview of on groundscenario.

² Down to Earth, [India's plastic consumption increases at over 10 per cent year-on-year, June 2018](#)

³ Volume of a container being 1360 cubic feet as per <https://www.eathrelocation.com/container-dimensions>

⁴ <https://www.entraveller.in/story/mumbai-gets-its-annual-reminder-from-the-arabian-sea-marine-drive-juhu-beach/>

⁵ <https://www.indiatoday.in/india/story/how-mumbai-s-marine-drive-turned-into-a-necklace-of-trash-1286705-2018-07-16>

⁶ <https://www.firstpost.com/india/mumbai-rains-environmentalists-say-flooding-will-persist-as-long-as-ill-planned-construction-plastic-pollution-continue-6965441.html>

⁷ <https://www.hindustantimes.com/mumbai-news/will-maharashtra-s-plastic-ban-reduce-monsoon-flooding/story-Op4ENCaUHZsh9hynve1NIO.html>

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Awareness and Data Gaps

- The participants expressed concerns over level of awareness amongst the citizens/end users about life cycle of plastic, how much is produced, disposal mechanisms, recycling and reuse of plastic as well as availability of data with state Government Departments.
- For instance, it was pointed out that the list of plastic recyclers was not easily available. Secondly how the Urban Local Bodies (ULBs) manage plastic waste is also not a transparent procedure which could be improved.
- Plastic is an integral aspect of modern life. The plastic business chain generates employment for roughly 4 million people in India. Moreover, with around 60% plastic getting recycled, India is one of the largest recyclers of plastic in the world.

Research on Life Cycle Assessment of Plastics and Micro-plastic

- The plastic product manufacturers to focus more on sustainability and environmental impact and not only on commercial aspects.
- Innovation in new sustainable products and alternatives to plastics is the need of the hour.
- The presence of micro-plastic (**particles less than 5 MICRONS**) in personal care items is worrying, and there are no efforts being made to counter this.
- MLPs (Multi-Layer Plastic) have a potential to be used as a fuel source in industries such as cement factories, offsetting their carbon footprint. This is because, when burnt in a dump yard at 500 Degrees Celsius, MLPs release dioxins which are harmful; whereas, in a cement factory, they burn at 1500 Degrees Celsius and no dioxins are released making it a safer alternative.
- Biodegradable plastic, although a possible solution, could have adverse effects as a contaminating agent.
- The affordability and accessibility of the required technology in India is inadequate to study the topic of Micro-plastics in depth. For instance, plastic less than 10 microns cannot be analysed.
- Research on micro-plastics indicated 100% incidents of micro-plastic in fish, which is harmful for the fish export industry as well as health of the consumers.
- As per the leading marine fisheries research institute based in Mumbai, about 80 particles of microplastic or microbeads found in 100 gram of fish caught 10-15km off Mumbai coast. Moreover, the micro-plastic found was of magnifiable in size. Approximately 1 kg of plastic has been found in 70 kg of marine biomass and 100% of incidence of micro-plastic in the fish

Policy Dimensions

- Addition of new synthetic/plastic products in the market is a rapid and dynamic process. At the government and institutional level, matching the pace of new material development demanding different management strategies and required policies is very important. However review of policy evolution in the context of Plastics is rather inadequate. There has been a huge gap in realising on ground realities and corresponding policy interventions. It

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is worth studying the progression of plastic ban policies in the state of Maharashtra (1990s-2006-2011-2018 laws).

- A blanket ban on plastic could lead to certain other environmental problems, along with economic, social and health-related side-effects. For example, plastic is essential for safe packaging of food items, and banning the same would lead to hygiene-related difficulties
- A regional spatial map would prove to be highly useful to identify leakage points along the water bodies.

Key Actions Suggested by the participants

1. Awareness and Data Gaps

- a. Plastic Pollution calls for a Coherent Action by all the stakeholders.
- b. Every family has to learn user responsibility. Mobilizing Youth would have better impact and hence focus on Youth Action.
- c. Reaching out to stakeholders, building capacity and encouraging large industries/manufacturers and organizations to revisit their plastic use and make it more sustainable
- d. Need for citizens outreach and digital governance
- e. Collation and comparison of data required to ensure progress in plastic management

2. Research on Life Cycle Assessment of Plastics and Micro-plastic

- a. Need to study the micro-plastic bio-accumulation in marine organisms (fish, molluscs) and its impact on human health due to consumption of other items containing micro-plastic.
- b. Need for making the technology and equipment required to measure the extent of microplastic more affordable

3. Policy Dimensions

- a. Ensure recyclable plastic collected from Mumbai reaches a recycling plant like Malegaon via freight trains, instead of dump yards.
- b. Plastic can also be recycled to be used as raw material for building roads, etc.
- c. Incentivize plastic recycling to motivate people to collect plastic and ensure its reuse and recycling. Institutionalising waste-pickers and building a material recovery facility.
- d. Identifying hotspots where leakage of plastic into marine sources occurs.
- e. Implementation of bans and laws should be prompt and delay at the grass roots implementation should be avoided by the authorities.

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Way Forward

As an outcome of this Stakeholder Interaction with the inputs received from the stakeholders, a white paper would be developed highlighting the ground realities, policy gaps and suggested interventions which would be compiled by the partner organizations. The white paper would be presented to the Hon. Chief Minister of Maharashtra along with the following attachments

- A note on existing and implemented policies of Government of Maharashtra on Plastic Pollution
- Recommendations to form a state wide Action Plan to counter Plastic Pollution and appointing a small committee to review the Action Plan further.
- A letter to develop a concrete roadmap to tackle the menace of Plastic Pollution