

Position Paper on Marine Litter and Microplastics

Submitted by

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1. Introduction

Sri Lanka is located in the Indian Ocean southeast of India, between 5°55' and 9°51' N latitude, and 79°41' and 81°53' E longitude. The coastal and marine environment, with a coastline of about 1,620 km and Exclusive Economic Zone (EEZ) extends up to 200 nm from the baseline offering jurisdiction over 8 times larger ocean area than the land (Figure 1). The coast and Ocean offer an array of resources in the form of fish, gas and oil, minerals, energy, etc. and serves as a natural defense against natural disasters and regulator for climate impacts. Coastal ecosystems such as coral reefs, mangroves, sea grass beds, sand dunes, estuaries, coastal lagoons and coastal wetlands serve as nursery grounds to fish species, and also play important role in providing protection from storms and tidal waves.

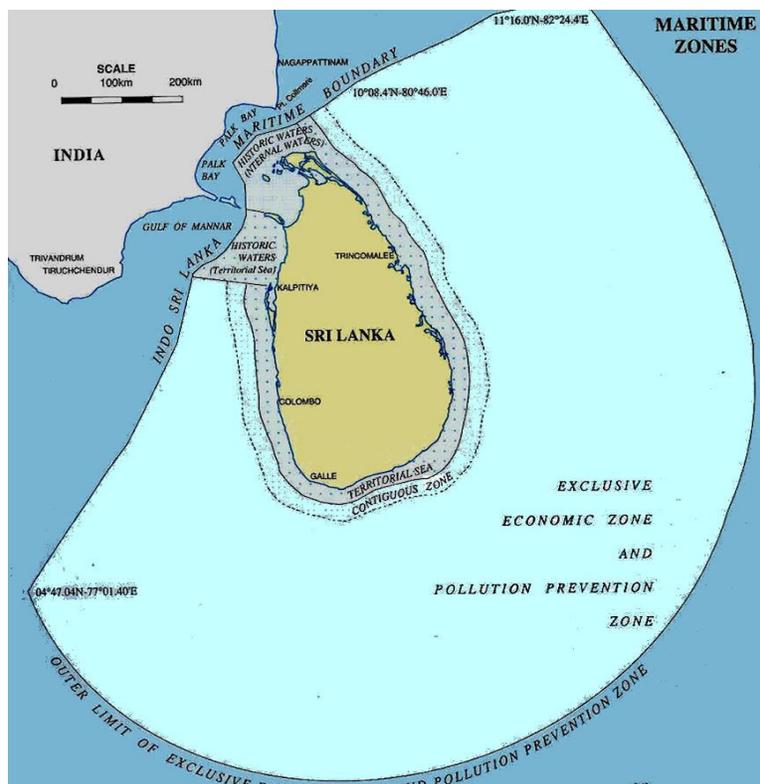


Figure 1: Maritime zones of Sri Lanka

1.1 Current Situation and Problem

The coastal zone is also a home for over 60% of the industrial units and over 70% of the country's tourist establishments. However, one of the major issues, marine litter and microplastic pollution in Sri Lanka has been growing over past few decades at an unprecedented rate putting coastal and ocean resources and resource users at a great risk. Sri Lanka generates about 400 MT of plastic & polythene waste per day. This includes 15 million lunch sheets and 20 million shopping bags. Though there are around 170 plastic /polythene collectors and recyclers registered under the Central Environmental Authority, plastic and polythene recycling is not taking place at a satisfactory level.

There are two major contributors for marine pollution, land based and ocean based. Solid and liquid waste delivering through inland river system is the main source of land based pollution while ballast water, sea dumping, oil and chemical spills, ship emissions, pollution from fisheries and hotel industry as well as are the major sources of ocean based pollution. Major portion of coastal and marine pollution is contributed by the land based pollution sources (Figure 2). In Sri Lanka a survey, conducted according to the ocean conservancy guideline, has quantified the quantity of marine litter collected within the coastal zone (Mean High Water Line to 50m landward) of Sri Lanka as 103.38 Kg/Km in 2017.



a. Gandara, Matara

b. Gurunagar, Jaffna

Figure 2. Extreme coastal pollution conditions

2. View on major barriers to combat marine litter and micro plastics

To effectively manage the waste issue in Sri Lanka, provision of suitable lands for establishment of waste projects, development of adequate infra-structure facilities throughout the country, improvement of waste collection systems for waste recycling, and strengthening physical, financial and human resources of local authorities can be improved. In addition to that, introduction of zero waste concept, load based license fees and EPR will help to reduce the plastic and polythene waste generated. The corporation of the community in waste minimization and segregation will further strengthen the waste management system. Rehabilitation of the existing 261 waste dumps throughout the country are a must to avoid inland waste issue and the resulting marine pollution.

However, the main concern in controlling marine litter and micro plastics is that, once the litter is allowed to enter into the marine environment it may basically restrict 99% of the litter recovery options due to the vastness of the area to be considered and the physical characteristics of the environment. Specially once they are added to the deeper waters, the accessibility is restricted. Therefore, preventing polythene and plastics adding to the ocean should be the prime objective in controlling marine litter.

In Sri Lanka, major barriers on combating marine litter and micro plastics are listed below.

1. Awareness – Awareness level on micro plastics and plastic pollution is still slowly improving, specially the awareness on the usage of primary microplastics such as plastic beads added in scrubbing and washing cream, social and environmental impacts of scattered garbage, and the health and environmental impacts of open air burning of plastics. Hence, the awareness on micro plastics and plastic pollution among the government officials as well as the public should be extensified and expedited to ensure safe living for marine life.

2. Attitudes – Most of Sri Lankans are paying negative interest on proper disposal of waste. Solid waste is freely disposed and scattered irrespective of the location and its toxicity. Waste segregating at household level is also practiced at a minimum level. Even though they are segregated, collectors dump all wastes into one collecting chamber installed on the garbage collecting vehicles.

Therefore awareness, monitoring, strict guidance, and strict rules and regulations are needed to direct the public and waste handling agencies into a more environmentally friendly procedures.

3. Empowerment – Government officers engaged in waste management, including police officers and other law enforcement agencies should be thoroughly educated, motivated for attitude change, and empowered to take appropriate decisions on site such as spot fine. Simultaneously, strengthening of the legal provisions by amending existing acts and imposing new rules and regulations are essential where necessary. However, well connected inter agency coordination mechanism is needed in implementing laws effectively.

Economic, environmental and social costs and benefits of waste and waste-related activities must be estimated to figure out each and every aspects of the issue. But the lack of expertise in this regard is a major hindrance.

4. Legal framework – Existing legal framework should be strengthened uniformly in central and local government level to ensure the implementation of policies relevant to prevent marine environment being polluted from plastics and litter

5. Alternatives – The public should be educated on the alternatives available in place of plastic and polythene. Government has to encourage producers, who have already engaged and who are willing to provide such alternative options, through tax concessions, publicity, and providing technologies and necessary consultancies.

However, there must be a proper study on marine litter and micro plastics on its sources, abundance and distribution at national level. Based on that, a proper management plan to combat the problem has to be prepared. Until a proper management plan is developed and implemented, current waste management procedures can be proceeded with closer monitoring.

3. View on potential national regional and international response options and associated environment, social and economic costs

3.1 Nationally

Sri Lanka has taken many initiatives to improve waste management systems in the country where some of them are development of policies, strategies, guidelines, legislation and provision of infrastructure facilities for waste management. In 2017, Sri Lanka imposed a ban on lunch sheets, shopping and carry bags, High Density Poly Ethylene (HDPE) including lunch boxes, encouraging consumers to use environmental friendly alternatives. In addition, Sri Lanka implements national policies and programs such as National Action Plan for Haritha (Green) Lanka Programme and Sustainable Development Goals (SDG) of the United Nations which aid in addressing the marine litter issue. Specially, working towards SDG target 14 supports prevention and significant reduction of marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution; sustainably managing and protecting marine and coastal ecosystems to avoid significant adverse impacts.

Further, several specialized national programs and projects are being implemented annually, addressing this issue at national level, by several government organizations (Figure 3). The clean beach city project, a project to convert beaches in cities to the cleanest as possible; marine debris surveys to prepare area specific marine debris management plans; beach and underwater clean ups; creating awareness among the general public through various activities are some of the key illustrations.



Figure 3: Beach cleanup with the participation of school children and general public

3.2 Regionally

Sri Lanka is closely working with South Asia Co-operative Environment Programme (SACEP) and South Asia Seas Program (SASP) in developing a regional management plan on marine litter and micro plastics and the proposal will be launched at the upcoming World Environment Day in Delhi, India. Further, SACEP actively collaborates with Sri Lanka on commemoration of international coastal cleanup days and environment day activities.

3.3 Globally

Ocean pollution from marine litter and micro plastics is the major issue which is being focused globally. In order to control marine pollution from shipping sector, Sri Lanka ratified International Convention on MARPOL 73/78. Sri Lanka has already ratified MARPOL annexures I to V where Annex VI is under the process for the ratification.

In line with international initiatives, Sri Lanka joined UN Environment's CleanSeas campaign against marine litter and ocean pollution. Further, Sri Lanka joined Commonwealth Clean Oceans Alliance – an agreement between member states to join forces in the fight against plastic pollution and pledged to eliminate avoidable single use plastic in an ambitious bid to clean up the world's oceans. In addition to that, Sri Lanka actively contributed as a UNEP Advisory Group member for the UNEA-2 Marine Litter Study 2015-2016 and Advisory Group member for the Marine Plastic Litter and Microplastic Assessment – 2017.

4. View on feasibility and effectiveness of different response options

The effectiveness of all these options mainly depends on the effectiveness of implementations. Sri Lanka has attempted its utmost effort to implement all tools available to combat land and marine based macro litter. However, in spite of these efforts, some options worked well in some places, and the same option failed in another place. Therefore selection of such options should be site specific.

At the country level, there are number of options available

1. 6R concepts – Awareness campaigns are in place. Some households and private agencies adopt these concepts for their day to day activities. However, in general, the implementation is lacking.
2. Polluter pay principle – Although these concepts are discussed, the implementation is at very low level, mainly due to the anomalies and loop holes in the existing legal setup, and the absence of a proper mechanism to implement.
3. Extended Producer Responsibility (EPR) – Implementation is at a very low level with the absence of a proper mechanism.

4. Banning of usage of some items (single use of plastics) – Some items were banned. However the monitoring of the effectiveness of the implementation is questionable. However, single use plastics ban has to be implemented in Sri Lanka at the earliest effects.
5. Rules and regulations – Though there are enough controlling measures available, proper implementation is lacking and the absence of a proper organized implementation mechanism is also an issue. In addition, new provisions have to be added to existing legal setup in order to effectively control plastic and microplastic pollution.
6. Fines – Spot fining, various level of fines depending on the level of pollution, new rules for polluters have to be introduced and properly implemented.
7. Awareness – Number of awareness programs are conducted islandwide. However, the effectiveness and level of application at the ground level is still not known and not monitored. In addition to that, inclusion of such topics into primary and secondary level school curriculum along with onsite practicals will be useful in the long run.
8. Commemoration of international environmental events such as World Environment Day, World Ocean Day, International Coastal Cleanup Day, etc. are used for the awareness raising with the support of media.
9. Partnering with International tools such as UN Clean Seas Program, UN Environment program, etc.
10. Effective implementation of commitments made under International Conventions at local level and continuous progress monitoring can ensure a higher commitment level of the country in beating plastic pollution from marine environment.
11. Cleanups – Cleanup activities are used to boost the environment health and also as an awareness material and are organized frequently. However, segregation of collected waste, auditing them and their proper disposal are still lacking.
12. Recycling – Recycling of garbage is at very low level and most of the collected garbage is dumped at municipal dump sites and used in land filling. The country as a whole needs a proper system to recycle the collected garbage without causing any secondary environmental problems through garbage piles and land filling.