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Short Communication

Marine Litter: The Issues of Marine Litter Pollution and Its Management

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DESCRIPTION

Marine litter is made up of goods that have been manufactured or used by people and then thrown into the sea, rivers, or on beaches carried to the sea inadvertently through rivers, sewage, storm water, or winds or lost at sea in poor weather. Marine litter comes from a variety of places and has a wide range of environmental, economic, safety, health, and cultural consequences. The sluggish rate of disintegration of most marine litter items, primarily plastics, combined with the ever-increasing volume of litter and debris discarded, is resulting in an increase in marine litter found at sea and on the coastlines [1].

Human behavior, whether unintentional or intentional, results in marine litter. Land-based activities, such as garbage dumped from dumpsites along the coast or river banks, beach littering, tourism and recreational use of the coasts, fishing sector activities, and ship-breaking yards, are the main sources of it. Floods and other storm-related occurrences drain the trash out to sea, where it sinks to the bottom or is swept away by coastal eddies and ocean currents. Abandoned, lost, or discarded fishing gear, shipping activity, and legal and illegal dumping are all major sea-based sources.

All of this has the potential to result in significant financial losses. Beach cleaning, public health, and waste disposal are all becoming more expensive in coastal cities. The tourism industry is dealing with a loss of revenue and negative PR. Higher costs connected with fouled propellers, damaged engines, trash removal, and garbage management in harbours have an influence on the shipping industry. Reduced and lost harvest, damaged nets and other fishing gear, clogged propellers, and contamination plague the fishing sector, which also affects fish farming and coastal aquaculture. Marine trash can also cause ecosystem functions and services to be lost, as well as biodiversity. Discarded, misplaced, or abandoned fishing gear, for example, continues to catch and trap sea animals, entangling and potentially killing marine life, suffocating habitat, and posing a threat to human health [2].

Micro plastics are a source of concern as well. Toxins such as DDT, BPA, and pesticides attach to these microscopic plastic particles, which can be swallowed by small aquatic life. Toxins ingested migrate up the food chain, biomagnifying and accumulating in birds, sea life, and possibly humans. Marine litter has cultural and multi-sectorial causes, including poor solid waste management methods, a lack of infrastructure, a lack of public understanding of the potential implications of its acts, insufficient legal and enforcement systems, and a lack of financial resources.

Floating waste and plastics, in addition to the environmental and health risks posed by marine litter, are a costly and dangerous concern for ships, since they can cause navigational hazards and become entangled in propellers and rudders. The vast accumulation of plastics, not just in coastal areas but also in the deep sea, is another issue that requires immediate attention. This waste is damaging to marine life because sea sea animals can become trapped within containers or strangled by nets or ropes, and micro plastics, which are indigestible when eaten, can enter the food chain [3].

Micro plastics are little bits of plastic or fibers that are becoming more common in the oceans. They can occur as a result of bigger plastic items fragmenting, especially when exposed to sunshine. They may also be specifically designed for certain industrial or home uses. They can form in far-flung places like mid-ocean gyres, as well as near population centers and commerce routes. Micro plastics are ingested by fish and shellfish, and have been identified in a variety of commercial fish and shellfish in retail outlets. To identify how and if micro plastics constitute a concern to food safety and even food security, more research is needed [4].

The ability of ships to comply with MARPOL's discharge regulations is heavily reliant on the availability of suitable port receiving facilities, particularly in restricted locations. As a result, the Annex requires governments to ensure the availability of suitable waste reception facilities at ports and terminals that do not cause excessive delay to ships and are tailored to the needs of the ships that use them [5].

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CONCLUSION

It is illegal to dump trash at sea from ships or aircraft, except for items on an approved list for which a special authorization may be obtained, and only after a thorough examination of alternate disposal options and potential consequences. Dredged material, sewage sludge, fishery wastes, inert inorganic geological material, organic material of natural origin, and carbon dioxide streams from carbon capture and storage systems are among the wastes that could be allowed. Before a permit is issued, any such trash must be thoroughly evaluated. Almost every aspect of a ship, including steel, machinery, equipment, fittings, and furniture, can be recycled when it approaches the end of its useful life. Virtually no materials or equipment are wasted, and they are almost fully reused and repurposed.

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