

## Recommendations – COMAD 2018

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Marine debris – its removal, disposal and management has become one of the major problems world over affecting the functioning of the marine ecosystem and the sustainability of the resources. Already, more than 6 international conferences addressing the same issue has been organised world over. The Marine Biological Association of



National  
Conference on  
Marine Debris  
CoMaD 2018

India has taken up this issue for the first time in the form of a National Conference on Marine Debris (COMAD) on 11-12 April 2018 at Kochi to create awareness about the impacts and consequences. The COMAD was attended by more than 300 delegates who presented more than 50 research papers and 52 waste processing success stories. Besides, there were 302 photo and 25 video submissions in the competition section

Among the different types of marine debris, the major threat is from the indiscriminate disposal of various products of plastics and allied materials. About 95% of marine debris is deposited at various levels of benthic realms and only 5% is seen as floating or washed ashore. On the basis of research papers and success stories presented, deliberations and interactions, the COMAD recommends the following for implementation and effective management.

1. A policy advisory should be prepared and submitted to the Government on amelioration and management of marine debris within 6 months. This policy should outline the steps to be taken by current regulatory authorities of the State and Central Governments.
2. Data acquisition on marine debris has to be systematically carried out and properly stored for retrieval in the form of a database. Research on marine debris has been initiated by CMFRI in all maritime states of India and this organisation may be identified as the Nodal Agency for marine debris data and policy.
3. Thrust must be given for intensive research on micro-plastics, nano-plastics and chemicals adsorbed from plastic materials and macro-plastics into the marine ecosystem. Impacts on bioaccumulation and bio-magnification have to be carefully studied.
4. Practically no studies have been made on the exact effects of nanoparticles and leached out elements of plastics on water quality and biota. Emphasis has to be given for such research programs.
5. Civic bodies should establish basic infrastructure for solid waste management including collection at household and commercial levels including public places and marine facilities, and their segregation, transport and responsible disposal. Effective mechanisms and action plans to reduce, reuse and upcycle, and recycle non-biodegradable wastes need to be developed.
6. Plastics collected from households can be utilized for road laying. Plastone blocks and other useful products can also be developed in each district. Such programs should be encouraged which would reduce waste which would ultimately reduce marine debris to a large extent.

7. Considering the huge quantity of litter generated in tourist destinations, norms should be developed especially to prevent use of single use plastic items. Special facilities to dispose debris should be developed and properly maintained.
8. Depending on socio-economic circumstances, provide incentives to develop alternate products which are eco-friendly and minimise waste production.
9. Develop facilities to collect land based litter which has entered the rivers and coastal waters by using specially designed collecting mechanisms.
10. Based on 50 successful models in collection, processing, treatment and management of biodegradable and non-biodegradable wastes presented at COMAD 2018, facilitate collaborative industry partnership to increase recovery and recycling efforts in particular with respect to plastics and allied products.
11. Organize adequate awareness programmes at various levels – stakeholders, local people along the maritime states, NGOs and school children, for addressing the issue of marine debris. Attempts should be made to include responsible waste disposal as part of school curriculum.
12. Integrate management approaches across the sectors and involve stakeholders from the land and marine based sectors for controlling marine debris by adopting the principle of 3-Rs, reduce, reuse and recycle. Encourage “refuse” strategy for disposable plastic whenever and wherever possible.
13. Considering the quantum of biomedical waste generated, more BMW treatment plants should be established, along with the creation of public awareness campaign as per guidance from IMA.
14. Hackathons, E-platforms and web based application platforms including those for connecting households to bring about informed action at the community level and to connect the point sources of waste generation to the recyclers and upcyclers, need to be developed urgently.
15. Large scale drives need to be initiated at local Self Government levels for effective reduction in the use of single-use disposable materials, collection of bio and solid wastes and their efficient recycling and reuse, taking Kolayad Panchayat in Kannur District of Kerala as a model.
16. Scrap should be considered in zero tax Category to encourage people involved in handling scrap. Environment friendly services are now attracting 18% GST, which would discourage private sector to invest or undertake such project. This should be reduced.
17. Coastal police station in Neendakara, Kollam, Kerala with its initiative ‘*Shuchithwa theeram Surakshitha theeram*’ (Clean coast, safe coast) program is involved in clean-up drives and controlling public littering along the coast. Such programs can be promoted by the Government and special funds can also be allotted for implementing these programs.
18. Abandoned, lost and discarded fishing gear (ALDFG) has emerged as a new issue in Indian waters. A comprehensive plan of action for identifying the areas of frequent occurrence of entanglement and loss of fishing gear, retrieval of such lost fishing gear, and prevention of ghost fishing by ALDFG need to be taken up involving fisher communities, experienced scuba divers and other stakeholders.
19. Buy back and recycling of retrieved ALDFGs are to be developed.
20. A procedure for marking of fishing gears need to be evolved, following FAO guidelines, and implemented for traceability purposes.

21. Research on technological measures to minimise ghost fishing by ALDFGs need to be enhanced and proven technological and operational measures need to be popularised among fishers. Besides, awareness programs to fishermen on dangers to marine biota by ALDFGs should be organised.
22. State Fisheries Departments should be made aware of ALDFGs and a retrieval mechanism should be initiated to remove lost gear. A helpline should be established to report the gear loss by fishermen.
23. Contour mapping of sea bottom up to 30 m depth should be initiated to identify ghost net hotspots along the Indian coasts.
24. All trawl fishermen throughout the country may be encouraged to bring back to shore non-biodegradable wastes recovered during trawling and hand it over to civic authorities or NGOs for processing and recycling. A replicable model is the “Suchitwa Sagaram” program organised by Kerala State in association with trawl operators/owners of Kollam District, Kerala.

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