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South Asia Co-operative Environment Programme

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# Marine litter in the South Asian Seas Region





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## Marine Litter

### in the South Asian Seas Region

- Part-1: Review of Marine Litter in the SAS Region
- Part-2: Framework for Marine Litter Management in the SAS Region



A Report by the South Asia Co-operative Environment Programme

Colombo, September 2007

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#### FOREWORD

The SAS Region includes the seas bordering Bangladesh, India, Maldives, Pakistan, and Sri Lanka and comprises the Northern part of the Indian Ocean, along with parts of the Bay of Bengal and the Arabian Sea.

The countries constituting the SAS Region have almost a fifth of the world's total population. High population density, low income, low development indicators, and high dependence upon natural resources for livelihood characterise all these countries.

The Indian subcontinent has the most extensive beach area (more than half of its coastline). Beaches are also found in the other countries. The coasts of these countries are dotted with estuaries, which sometimes form lagoons or backwaters. Such areas are important for fishing. There are major lagoons in the region.

The major sources of coastal and marine pollution originating from land vary among the SAS countries, which show great disparity in size and demography. The nature and intensity of development activities, human population size, income level, and state and type of industry and agriculture are among the factors contributing to each country's unique pollution problems

In the SAS Region numerous cities and industries with inadequate waste management are situated along major rivers such as the Ganges, Narmada, Bramhaputra, Indus, Kelaniya & Mahaweli. Pollution from distant sources can also enter the marine environment through atmospheric deposition. The tsunami of 26 December 2004, which seriously affected Sri Lanka, India, and Maldives, demonstrated that in addition to land-based sources of pollution induced by human activity, natural events result in substantial but sporadic contributions mainly in the form of disaster debris and litter

Surveys have indicated that nearly 80 percent of marine debris originates from land-based activities. It is believed that around 70 per cent of litter entering the oceans lands on the seabed, 15 per cent on beaches and 15 per cent remains floating on the surface.

The threat and impacts of marine debris have long been ignored. The trash and other waste that drifts around the global ocean and washes up on the nation's shores, pose a serious threat to fishery resources, wildlife, and habitat, as well as human health and safety. While marine debris is a global problem requiring international cooperation, many of its negative impacts are experienced at the local level and require local involvement.

Marine litter was identified as one of the nine source categories of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, (UNEP, 1995). The issue of marine litter and the destructive effects of abandoned fishing gear were further emphasised in Resolution 59/25 of the UN General Assembly on 17 November 2004 on Oceans and the Law of the Sea – Sustainable Fisheries". Furthermore a decision 59/22 of 10 November 2004 on Oceans and the Law of the sea recommended that marine debris should be included in the discussions of the United Nations Consultative Process on the Law of the Sea (UNICPOLOS) as well as in the 2004 UN Secretary General's Report.

Considering the magnitude and the severity of marine litter problems, UNEP/Regional Seas programme has been developing activities relevant to the marine litter issue in consultation and in co-operation with many UN Agencies, such as the International Maritime Organization (IMO), Intergovernmental Oceanographic Commission (IOC) of UNESCO, the Secretariat of the Basel Convention, The Mediterranean Action Plan and the Food and Agricultural Organisation of the United Nations (FAO). One such programme is a "Feasibility Study on Sustainable Management of Marine Litter"

Based on the National Reports of the five Maritime Countries of South Asia, the Framework for Marine Litter drawn up will now be formally endorsed at the 4<sup>th</sup> Inter Ministerial Meeting of the South Asian Seas.

This activity is most timely especially to the South Asian Seas Region and on behalf of the member countries of the South Asian Seas programme, I am thankful to UNEP for initiating this activity

I am confident that the Institutions identified will assist SACEP in the implementation of the activities identified in the Framework Document

Dr. A. A. Boaz Director General South Asia Co-operative Environment Programme

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In the cover page of this publication we have incorporated the award winning painting done by Master Hari Krishna, Student of Kendriya Vidyala, Annanagar, Chennai India for the Poster Competition in connection with the SACEP, Indian Coast Guard and Ministry of Earth Sciences, India, Coastal Clean up Campaign Day Campaign 2007and we wish to acknowledge his contribution.

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The documents also contains information extracted from a number of publications including the State of Environment Reports, National Environment Action Plans, Environment Policies of our member countries, and a number of other published and unpublished documents obtained through personal contacts of the Regional Consultant and downloaded from the websites of UNEP-GPA, FAO, HELCOM, World Bank, The Ocean Conservancy, the authorised Government Websites. We wish to acknowledge with thanks these organisations for their contribution to enrich this document by making use of this valuable information.

Dr Arvind Boaz Director General, SACEP

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### **Executive Summary**

#### Part – 1: Review of Marine Litter in the SAS Region

Marine and other aquatic litter/debris is the world's most pervasive pollution problem along shorelines, coastal waters, estuaries, and oceans throughout the world, affecting our seas and waterways. Marine litter consists mainly of slowly degradable or non-degradable substances, which inevitably accumulate in the environment, causing an ever growing problem. The threat and impacts of marine debris have long been ignored. The trash and other waste that drifts around the global ocean and washes up on the nation's shores, pose a serious threat to fishery resources, wildlife, and habitat, as well as human health and safety.

#### State of Marine Environment in the SAS Region

The nature and intensity of development activities, human population size, income level, and state and type of industry and agriculture are among the factors contributing to each country's unique pollution problems. The priority issues in the SAS Region include:

- *Sewage:* About 7,000 million l/day of sewage is generated in the coastal areas of all the South Asian countries. The sewage treatment facilities are inadequate in almost all cities/towns/villages in the region.
- *Agricultural chemicals:* Nearly 90% of the applied pesticides reach the coastal and marine environments via rivers and by atmospheric transport.
- *Sediment:* Annually, 1.6 billion tonnes of sediment is reaching the Indian Ocean from rivers in the Indian sub-continent. Total sediment load in rivers in Bangladesh alone amounts to 2.5 billion tonnes, of which the Brahmaputra carries 1.7 billion tonnes and the Ganges 0.8 billion tonnes.
- *Oil hydrocarbons:* Contribution to marine oil pollution is mainly by oil tankers, which transport an estimated 500 million tonnes annually through the SAS Region. Approximately 5 million tonnes of oil enter the Arabian Sea each year and the Bay of Bengal receives some 400,000 tonnes from similar sources.
- Solid waste: The quantity of solid waste generated by the coastal population of the Region is 11,650 tonnes/day (average of 0.5 kg/person/day). The waste is mostly composed of paper, plastics, and biodegradable matter. In Bangladesh, India, Pakistan and Sri Lanka, only a fraction of the solid waste generated is collected; and the rest is dumped in a haphazard manner in open areas. Solid waste dumped at sea comes from shipping, commercial fisheries, and other offshore activities. The ship-generated waste accounts for nearly 80% of the solid waste in the coastal and marine areas.

All the countries in this region now have a framework Environmental Protection Law that allows for the setting up of an institution to control and regulate environmental pollution and other problems; and they have also adopted requirements of Environmental Impact Assessment (EIA) as part of their environmental protection law, to enforce better management practices and control environmental destruction.

#### Status of Marine Litter in the SAS Region

In the entire SAS Region, data/information of some utility on marine litter is available only from India, Sri Lanka and Maldives and in the other two countries the information available is scanty.

There are more weaknesses than strengths in the current marine litter management programmes of the countries in the SAS Pagion. There is no standard methodology adopted even in India. Pakistan and Sri Lanka where periodic accestal aloon up

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