South Asian Seas Programme (SASP)

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Technical and Policy Workshop on Sustainable Nutrient Management
Venue: Vietnam, Date: 17-19 November, 2015.

South Asia Cooperative Environment Programme (SACEP)

- Established in 1982, SACEP is an inter-governmental organization of eight member states:

- Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka

- Apex decision body is the SACEP Governing Council comprising of Ministers
- SACEP core programme and project activities apart from South Asian Seas Programme and are:
  - + Waste Management
  - + Adaptation to Climate Change
  - + Data base and Information Management
  - + Biodiversity

South Asian Seas Programme (SASP)

- Action Plan for SASP (sub-regional agreement) was formally adopted at a Meeting of Plenipotentiaries of the concerned countries held in New Delhi, on March 24th 1995.
- The overall objective of the SASP is to protect and manage the marine environment and related coastal ecosystems of the region in an environmentally sound and sustainable manner.
- The Action Plan in addition to specifying the needs under the main components of Environnemental Sassement, Environnemental Management, Environnemental Legislation & Institutional and Financial Arrangements, identified the following priority areas:

✓ **Integrated Coastal Zone Management (ICZM),**
✓ **oil - spill contingency planning,**
✓ **human resource development and**
✓ **the environmental effects of land - based activities**.

Important Features of South Asian Seas Region

The coastal habitats of South Asia are at a high risk of eutrophication from nutrient enrichment due to leakages from agriculture, aquaculture, sewage, industrial effluents, marine trade and transport. Some of the important features of the South Asian Seas region mostly Indian Ocean are:

- **About 22% of the global population;**
- **With only 4.8% of the world's land mass;**
- **14% of the global arable land;**
- **2.73% of the world forest area and**
- **4% of the world's coastline.**

Partnership

- IMO
- UNEP-GPA,
- UNEP Coral Reef Programme
- FAO
- Bay of Bengal Large Marine Ecosystem
- USDA
- Private Sector/Shipping Associations
- Other regional and sub-regional agencies

Programme Activities

- Regional Strategy and Task Force on Ballast Water Management in South Asia
- South Asia Coral Reef Task Force
- Regional Oil Spill Contingency Plan in south Asian Region
- A Scoping Study of Nutrient Pollution on the Coastal and Marine Systems of South Asia
- Development of a Marine and Coastal Biodiversity Strategy for the South Asian Seas Region

Controlling Nutrient Loading and Eutrophication of Coastal Waters of the South Asian Seas Region (UNEP-GPA)

Project objectives:

- An inventory of point/non - point sources of nutrients that end up in the coastal waters
- Estimating the impact of nutrient enrichment on coastal waters.
- Develop and undertake actions to reduce nutrient inputs to agriculture as well as remedial masseurs to over utrophication/ hypoxia conditions in identified sites.
- Development of a regional action plan and establishment of a regional policy forum to be pursued by member countries

Study Report

- The study report was validated during the two day regional consultative workshop; 20-21 May 2014 in Colombo, Sri Lanka.
- The report set targets and identified opportunities for technical and financial support from potential donors .
- The report will be presented at the 6th-Inter Ministerial-SASP
- SACEP is working closely with Bay of Bengal Large Marine Ecosystem (BoBLME) Phase 2 to incorporate some of the actions identified in this report (BoBLME Steering Committee meeting). The report is available at SACEP website.

Main Findings

- With over 94% of arable land already under cultivation;
- Food production in both rain-fed agriculture and irrigated areas depends on the use of fertilizers and nutrients, at a varying scale;
- Sediment transport through river systems and sediment upwelling from the ocean surface also results in the release of nutrients into the ocean waters.
- Nutrients are also lost through sewage in densely populated areas along the major watercourses;
- Sewage treatment is mostly unavailable and/or inadequate, except in a few large cities and towns.

Main Finding Cont..

- Increasing contribution of reactive nitrogen compounds from the burning of fossil fuels in power generation and transport
- South Asia is also oceanographically significant, with two seas of opposite circulation physically separated by the Indian peninsula.
- The Bay of Bengal maintains a clockwise circulation of major currents during both the northeast and southwest monsoons while in the Arabian Sea it reverses with surface water masses circulating counter clockwise in the northeast monsoon and clockwise during the southwest monsoon, which encourages phytoplankton blooms and biogeochemical process due to increased mixing of nitrogen and phosphorus.

Impact of Nutrient Pollution

- Signs of degradation of aquatic, estuarine, coastal and marine ecosystems;
- Enhanced **growth** of aquatic vegetation or phytoplankton and **algal** blooms-Eutrophication;
- Sediment transport and sediment release can also trigger algal blooms and eutrophication;
- Estuarine and coastal systems in South Asia are nitrogen-limited/depleted and nitrogen loading through upwelling;
- Some of the estuaries, especially along the Indian east coast, are phosphorus limited and are adversely affected by phosphorus loading.

Policy recommendations

- Strict adherence to laws and policies related to coastal ecology.
- Effective river conservation program ensuring direct linkage to coastal habitat conservation.
- Develop quality standards for coastal waters including introduction of uniform standard for primary water quality criteria for the coastal waters.
- Managing pollution sources on land including capture and recycling of the nutrients emanating from agriculture, aquaculture, poultry and livestock farming etc.
- To minimize nutrient leakages throughout the food chain. They should be enforced and monitored periodically through a joint task force comprising relevant scientific, administrative and civil society stakeholders.
- Develop national and **sub-regional policies for conservation, protection** and sustainable policies for conservation, protection and sustainable development of oceanic and marine resources through a South Asian level intergovernmental working group/task force with governmental and civil society representatives.

Thank you very much