

# **GPA Test Regional Report of the South Asian Seas Region**

Report submitted to the South Asia Co-operative Environment Programme  
(SACEP)

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## **Introduction**

Prevention of marine degradation from land-based activities is a common global and regional problem. This report was prepared with the aim of providing a status of GPA relevant activities by partners in the South Asian Region, identifying barriers to effective action, and the needs to overcome these barriers, and opportunities that could be used in overcoming barriers. Planned future activities with cooperation from regional partners are also discussed. This report is outlined as follows:

### **Component 1- Activities to address marine pollution from land-based activities**

- (i) Status of implementation- Strategies, programmes, and projects on prevention of marine degradation from land based activities
  - (ia) Legal obligations of countries under relevant conventions and protocols with regard to land-based activities that may affect the environment
  - (ib) Regional Programme of Action- Major activities to implement the Regional Seas Programme of Action and Activities, and programmes related to LBA by other partners at country and regional level including the major projects, are listed under this.
- (ii) Participation from sectors of society at the regional level
- (iii) Capacity Building programmes & Projects to address marine pollution from land-based activities
- (iv) Economic instruments and financial mechanisms

### **Component II- Barriers and needs**

- (ia) Regional legal instruments
- (ib) Regional Programme of Action
- (ii) Participation from sectors of society at the regional level
- (iii) Capacity Building
- (iv) Economic instruments and financial mechanisms

### **Component III- Opportunities**

- (i) Public health and food supply
- (ii) Socioeconomic development
- (iii) Natural resource management
- (iv) Political opportunities

### **Component IV- Proposed Joint Activities in 2002- 2006**

- (i)
  - (a) Regional legal instruments
  - (b) Regional Programme of Action
- (ii) Participation from sectors of society at the regional level
- (iii) Capacity building
- (iv) Economic instruments and financial mechanisms

In addition, an **overview of the initiatives related to Land-Based Activities funded by different donor agencies in Sri Lanka and Bhutan** is also given.

## **Component 1- Activities to address marine pollution from land-based activities**

There are a number of UN agencies and other organizations that are active in the Region for facilitating effective action by Governments and other stakeholders to address marine pollution from land-based activities. The most important ones among them are listed below.

ADB- Asian Development Bank  
ASEAN- Association for South East Asian Nations  
ASOEN- ASEAN Senior Officials on the Environment  
AUSAID- Australian Aid for International Development  
CORDIO- Coral Reef Degradation in the Indian Ocean  
DANIDA- The Danish Ministry of Foreign Affairs  
DFID/ UK- The UK Department for International Development  
FAO- Food and Agriculture Organization  
GCRMN- Global Coral Reef Monitoring Network  
GEF- Global Environmental Facility  
GTZ- German Technical Co-operation  
IGBP- International Geosphere-Biosphere Programme  
IMO- International Maritime Organization  
IOC/UNESCO- Intergovernmental Oceanographic Commission  
IUCN- The World conservation Union  
LOICZ- Land-Ocean Interactions in the Coastal Zone  
NORAD- Norwegian Agency for Development  
SACEP- South Asia Cooperative Environment Programme  
SAREC- Swedish Agency for Research Corporation with Developing Countries  
SIDA- Swedish International Development Agency  
UNDP- United Nations Development Programme  
UNEP- United Nations Environment Programme  
UNESCO\_ United Nations Educational, Scientific and Cultural Organization  
UNIDO- United Nations Industrial Development Organization  
WB- The World Bank  
WMO- World Meteorological Organization

Partnership organizations:

ASEAN/ Australian International Development Assistance Bureau (AIDAB)  
AAECP- ASEAN- Australia Economic Cooperation Programme  
PEMSEA- Partnerships in Environmental Management for the Seas of East Asia

### **(i) Status of implementation- Strategies, programmes, and projects on prevention of marine degradation from land based activities**

This section covers

(ia) Legal obligations of countries under relevant conventions and protocols with regard to land-based activities that may affect the environment

(ib) Regional Programme of Action- Major activities to implement the Regional Seas Programme of Action and Activities, and programmes related to LBA by other partners at country and regional level including the major projects, are listed under this.

**(ia) Legal obligations of countries under relevant conventions and protocols with regard to land-based activities that may affect the environment**

Countries in the South Asian Seas Region are bound to the obligations that come under various global conventions and protocols for which they are a party. Currently the main regional legal instrument is the Action Plan for the protection and management of the marine and coastal environment of the South Asian Seas (SAS) Region, and the obligations under that are categorized as follows. These categories cover all the obligations to protect the marine environment and coastal zones, cooperate at regional level, establish institutions, introduce measures, and enforce national measures.

In addition to this, other global conventions/ agreements that are operative within the region, under which the countries have various obligations, are given.

**Action Plan for the protection and management of the marine and coastal environment of the South Asian Seas (SAS) Region**

UNEP, in close association with the SACEP and Governments in the area, assisted in formulation of a Plan of Action for the environmental protection of the region within the framework of the Regional Seas programme, in line with the provisions of Chapter 17 of Agenda 21.

Under this action plan, the member countries are bound with certain obligations, which are listed under the different categories that follow.

**Environmental Assessment-** Under the Action Plan for SAS, the member countries shall carry out the following activities:

- i Assessment of national and regional capabilities to investigate and manage environmental problems
- ii strengthening of national capabilities (including training) in marine science and for monitoring and assessing the state of the marine and coastal environment and the condition of living and non-living resources
- iii Survey and assessment of present social and economic activities,
- iv compilation of an inventory of the sources and amount of pollutants reaching the coastal waters of the region from land-based and maritime sources
- v. Collection, analysis and dissemination of data on resource potential and resource utilization in relation to competing demands for such resources
- vi preparation of a comprehensive classification of coastal and marine habitats and mapping of critical habitats
- vi Establishment of national data bases on the status and trends in the quality of the marine and coastal environment, linked into regionally coordinated network, compatible with similar networks in adjacent regions
- vii. Monitoring the effects of climate and sea level change on the marine and coastal environment



**Environmental Management-** The following activities are needed to be carried out in order to adopt appropriate environmental management policies:

- i. National and regional capacity building to prevent, control and combat marine pollution from land and sea based sources and co-operation in implementing and enforcing related international agreements
- ii. National and regional capacity strengthening, cooperation and coordination in responding to marine pollution emergency threatening the marine and coastal environment
- iii. Strengthening national and regional capacities and cooperating in the management of coral reefs.
- iv. Promotion and harmonization of national and regional strategies for preventing and mitigating the damages and adverse impacts caused by natural disasters
- v. Formulation of regionally and locally applicable guidelines and standards wherever appropriate for the management and control of domestic, agricultural, industrial and other wastes
- vi. Strengthening or expansion of the relevant on going development activities that demonstrate sound environmental management practices
- vii. Development and implementation of integrated coastal environmental management plans for specific coastal areas for promoting environmentally sound utilization of coastal resources and preventing environmental degradation
- viii. Strengthening national capacities for the environmental impact assessment (EIA) developmental projects and inclusion of EIAs and integrated development approaches in the planning stages of all major development activities
- ix. Studies of the environmental, social and cultural effects of tourism, and elaboration of environmentally sound strategies for tourism development, giving particular attention to the health impacts of tourism developments in coastal areas
- x. Co-operation in devising alternatives to present land-use practices, coral and sand mining procedures, waste disposal into coastal waters and other development activities including transport and disposal of hazardous wastes which may lead to environmental degradation, where necessary.
- xi. Formulation and harmonization of policies on the management of natural habitats, wildlife and genetic resources.
- xii. Co-operation in the establishment and management of national protected coastal and marine habitats, in the establishment of a regional network of protected areas, in joint activities to protect coastal ecosystems and wildlife and in the training of technical and management personnel in the conservation of wildlife and habitats
- xiii. Co-operation in conservation and protection of marine living resources from pollution and over-exploitation.

#### **Environmental Legislation**

- i. National legislation and regulations related to protection and management of the marine and coastal environment should be reviewed, and when necessary, expanded, updated and strengthened. It is necessary to ensure the effective enforcement of national legislation related to marine and coastal resources.
- ii. National legislation and regulations for the protection and development of marine and coastal resources should be harmonized whenever international uniformity is required to meet the obligations of such legislation.

- iii. An up-to-date compilation of national laws of the states of the region related to the protection of the marine and coastal environment should be maintained.
- iv. The ratification and implementation of existing international agreements concerning the prevention and control of marine pollution and the protection of marine resources should be encouraged.
- v. Technical assistance and advice on the drafting of national legislation for the effective implementation of relevant international agreements should be provided upon request.

#### **Institutional and financial arrangements**

- i. In carrying out the action plan all available capacities, including national, regional capacities and capacities in the international organizations and coordinating bodies, should be used to the maximum.
- ii. The agreed programme should be executed primarily through existing national institutions and capabilities. Where necessary, they should be strengthened and for some projects technical assistance and experts from outside the region may be requested whenever such assistance and experts are not available from within the region
- iii. To ensure harmonious and integrated evolution of the components of the action plan, SACEP is designated as the Secretariat of the action plan to assume responsibility for its technical and administrative co-ordination with the support and close co-operation of UNEP, especially during the initial phase of activities.
- iv. A national focal point should be designated by each government to facilitate the work of and communication with, the regional secretariat and to coordinate activities within the States concerned related to the Action Plan
- v. The activities agreed upon as part of the implementation of the action Plan should be financed principally by contributions from governments, international and regional organizations and competent non-governmental organizations

Under the same Action Plan, other supportive measures including awareness creation, education, the activities that should be taken by the countries in the region with regard to the Integrated Coastal Zone Management, Development and implementation of National and Regional Oil and Chemical Spill Contingency Planning, and Human Resources development through strengthening Regional Centres of Excellence are also given.

In addition, a South Asia Regional Seas Convention and Protocol for further Strengthening the activities to protect the marine and coastal environment, may be adopted in future.

**Countries in the region that are party to the following global conventions/agreements, are also bound to the respective obligations mentioned therein.**

- ◆ United Nations Convention on the Law of the Sea (UNCLOS)
- ◆ International Convention for the Prevention of Pollution from Ships (MARPOL)
- ◆ Global Programme of Action for protection of the marine environment from land-based activities- Under this, Action Plan for the SAARC region has been developed by the SACEP
- ◆ Regional Seas Programme
- ◆ Regional Oil and Chemical Spill Contingency Plan



- ◆ Regional Action Plan on Sustainable Development in Asia and the Pacific
- ◆ Global programme of Action for the marine mammals
- ◆ International Coral Reef Initiative (ICRI)
- ◆ Other relevant international agreements that directly or indirectly address the issues of marine resource protection, such as the Convention on Bio-Diversity (CBD), United Nations Framework Convention on Climate Change (UNFCCC), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), etc.

#### **(ib) Regional Programme of Action (RPA)**

Under this, major activities to implement the Regional Seas Programme of Action and Activities/ programmes related to LBA by other partners at country and regional level (including major projects) are given.

#### **Major activities to implement the Regional Seas Programme of Action**

Under the Regional Seas Programme of Action, the pre-requisites for facilitating the development of appropriate strategies and mechanisms for implementation, and various strategies/ activities are given, which can be summarized as follows.

#### **Pre-requisites for facilitating the development of appropriate strategies and mechanisms for implementation**

- Systematic work on assessment of the problem
- Programmes for poverty alleviation, improvement of living standard of people combined with awareness on human contribution to pollution
- Programmes targeting population control, health, safe drinking water and a clean environment

#### **Strategies/ Activities**

Under the RPA, strategies/ activities for coastal environmental management have been listed under the following major areas:

- a. Solid waste
- b. Sewage
- c. Persistent Organic Pollutants (POPs)
- d. Radioactive substances
- e. heavy metals
- f. Oil
- g. Nutrients
- h. Physical alteration and destruction of habitats

**a. Solid waste Management-** Under solid waste management, the following activities are planned:

- Formulation of guidelines for collection, segregation, transport and disposal of solid waste in urban and rural areas

- Identification of suitable technology for incineration/ treatment of different kinds of waste
- Launching awareness programmes to minimize the usage of non-biodegradable materials for domestic and industrial use
- Development of appropriate technologies for recycling of wastes into the useful products without causing any adverse impact on human health
- Promotion of private sector participation in solid waste management and involvement of voluntary organizations and NGOs in awareness creation on solid waste disposal
- Financing-:  
Co-financing through welfare and commercial organizations to facilitate income generation by municipalities and efficient collection system; Giving tax incentives to private sector corporations for contributing funds for solid waste management programmes
- Capacity building- Expertise in the region in waste collection and disposal need to be exposed to modern methods of collection, segregation, disposal including treatment
- Legislation- Reviewing and amending existing legislation on solid waste dumping in coastal areas for their adequacy in facilitating proper disposal of solid waste in the urban and rural areas, where appropriate.

**b. Sewage management-** Under sewage management, programmes involving the following strategies/ activities need to be carried out:

- Preparation of inventories identifying the sources of sewage pollution and assessment of the load of sewage from cities/ towns/ villages
- Devising programmes and projects to facilitate collection of sewage through sewerages and pipelines
- Determining the waste assimilative capacity for sewage oriented parameters like Dissolved Oxygen, Biological Oxygen Demand, nutrients and bacteria in the receiving water bodies
- Formulation of sewage treatment strategies to comply with the requirement of Waste Assimilative Capacity, including the formulation of discharge standards with location specific standards where necessary.
- Adoption of Best Available Technology (BAT) and best suitable technology for primary, secondary and tertiary treatment of sewage, where appropriate and feasible
- Locating coastal outfalls to obtain or maintain agreed environmental quality criteria aiming the avoidance of coastal water degradation
- Establishing a comprehensive programme for effective monitoring of the implementation of sewerage treatment strategies
- Identifying the productive uses of sewage, sludge such as land spreading and composting, horticulture and pisciculture, etc.
- Formulating strategies for avoidance of mixing of non-compatible industrial wastes into the sewage, ensuring smooth functioning of the treatment plants specifically designed and operated for treatment of sewage
- Financing- Due to low living standards of South Asia Seas countries, funding from multilateral and bilateral donors is needed at least for the capital cost for treatment system.



- Development of Capacity building Programmes to prepare the countries to use BAT, train them on sewerage planning using GIS, and sewerage treatment technologies are essential
- Due to violation of existing laws as a result of paucity of funds for treatment of sewage, the relevant legislation need to be formulated based on the situation, especially permitting the municipalities to achieve the treatment in a phased manner
- The most appropriate strategy for regional action would be the formulation of acceptable guidelines and standards for discharge in South Asia Seas Countries

#### **c. Management of Persistent Organic Pollutants (POPs)**

- Formulating research programmes to find alternatives to POPs such as DDT
- The regional action under this would be the Development of a clearing mechanism at regional scale to provide countries with necessary technical information and advice on the substitutes that are available for persistent pesticides, and how to dispose POPs in an environmentally sound manner.

#### **d. Management of radioactive substances**

The following strategies are planned under this:

- Promoting policies and practical measures in countries that have nuclear plants in coastal areas (i.e. Mumbai and Chennai in India and Karachi in Pakistan) to minimise generation of radioactive waste and provide for their safe processing, storage, transportation and disposal
- The countries also need to adopt measures including BAT and BEP for the environmental practices for the reduction or elimination of discharges, emissions and losses of radioactive substances in the adjoining marine environment.
- The actions at regional level could be to facilitate exchange of information relevant to the quantum of radioactive substances generated, the method of disposal and proposals to adopt technologies that promote BEP.
- The regional forum can also act as a clearing house mechanism for providing the information relating to BAT

#### **e. Management of heavy metals**

The target for minimizing the heavy metal pollution should focus mainly on reducing the discharges containing toxic metals such as arsenic, chromium, mercury, cadmium and lead from all industries by adopting appropriate technologies.

The countries in the region may consider adopting the following strategies for reduction of heavy metal pollution in the coastal waters:

- Launching programmes for systematic assessment of the sources of heavy metal pollution and quantum of heavy metals reaching the coastal waters
- Preparation of national programmes on the reduction and control of pollution by toxic heavy metals in a phased manner
- Adoption of environmental criteria while selecting sites for establishment of industries
- Determining the Waste Assimilative Capacity of water bodies receiving the heavy metal loads generated by industries and others in that area, and appropriately reviewing and revising the discharge standards to meet the Waste Assimilative Capacity for heavy metals

- Introducing Environmental Audit Practices for ensuring the reduction of discharges and missions of organometallic compounds and inorganic metals.
- Development of long-term progress on heavy metal monitoring, including mussel watch
- Financing- In order to promote adoption of BAT by industries, the countries in the region may promote adoption of no waste or waste minimizing technology for industries, and providing financial incentives to industries that adopt such technology
- Capacity building for the following is needed:  
Providing the details of BAT and BEP through clearing house mechanism, promotion of adopting common environmental quality criteria and standards for point source discharges and heavy metals where appropriate, conducting inter-calibration exercises for the National Heavy Metal Monitoring Programmes being conducted by the countries concerned in order to ensure the data quality, Formulation of legislation for relocation of polluting industries and designation of areas as industrial zones based on the environmental quality criteria, promoting establishment of industrial estates for small and medium scale industries, particularly homogeneous industries to facilitate establishment of common effluent treatment plants

#### **f. Strategies for management of oil**

- Preparation of an inventory of sources of hydrocarbon pollution in inland waters and lagoons, etc. and assessment of the load of oil from these bodies to the sea
- Preparation of national programmes on the reduction and control of pollution by hydrocarbons and implementation of the programmes
- Promoting adoption of BAT and BEP in industrial installation, which are sources of hydrocarbon pollution
- Providing oil and water separating devices with economic incentives, and tax concessions for the crafts for installing such devices

#### **g. Management of Nutrients**

In order to avoid algal blooms from nutrients such as nitrite and phosphates, the target for the nations should be to minimize the levels of nutrients in the waste water discharged from the sources to the estuaries, backwater and lagoons. In achieving that target, the countries may adopt the following strategies:

- Launching programmes to identify the sources of nutrient origin and estimate the load from each source
- Formulation of guidelines and standards for discharge of nutrients like ammonia, which are toxic to marine animals
- Promoting treatment of waste at the primary, secondary and even at the tertiary level at locations where the nutrient level far exceeds the assimilative capacity
- Formulation of programmes for alternative use of nutrient rich water specially for the sea weed culture, algal culture, etc.
- Promoting adoption of BAT and BEP while dealing with the waste containing large amounts of nutrients
- Capacity building- Promoting adoption of appropriate guidelines and standards for point source discharge of BOD, nutrients and suspended solids, and provision for participation in the FAO's programme on sustainable use of fertilizers and encouraging countries in the preparation of national strategies



#### **h. Strategies to prevent physical alteration and destruction of habitats**

The South Asian Seas region experience physical alteration of habitats due to manmade activities like construction of dams on rivers and breakwaters for ports and harbors and various natural events. Therefore the countries in the region may adopt the following strategies:

- Adopting Integrated Coastal Zone Management practices incorporating watershed approach while planning irrigation and coastal development activities, minimizing reduction or loss of coastal habitats
- Undertaking impact assessment studies, particularly for upstream activities, minimizing the loss or alteration of habitats in the lower areas
- Formulating national legislation and adoption of Integrated Coastal Zone Management (ICZM) for area management especially at locations where coastal areas are largely influenced by the upstream activities
- Development of model programmes on ICZM, minimizing the impacts arising due to manmade activities

#### **Time targets in relation to RPA**

South Asian Seas countries are developing countries and have other priorities such as poverty alleviation. Paucity of funds with regard to land-based activities is also a constraint. Therefore it is difficult to prescribe time targets for accomplishment of strategies and priorities mentioned above. The time targets have to be left with individual countries.

#### **Activities and Programmes related to LBA by other partners at country and regional level**

Under this, Action plans/ Activities under the Regional Seas Programmes initiated by the UNEP, certain important National Initiatives, some bilateral and multilateral projects that have contributed to the management and protection of the marine environment are given.

#### **➤ Action plans/ Activities under the Regional Seas Programmes initiated by the UNEP**

These include

- South Asian Seas (SAS) Regional Action Plan (as detailed before)
  - the East Asian Seas (EAS) Region Action Plan. A Regional Coordinating Unit has been established in this regard
  - the ASOEN Working Group on ASEAN Seas and Environment
  - the ASEAN Council of Petroleum's Plan for the Control and Mitigation of Marine Pollution
- In addition, all South Asian countries have developed national action plans on protection of the coastal marine environment from Land Based Activities. Regional Programmes planned under the GPA are based on these national plans.

- The ASEAN strategic plan of action on the environment- Strategy 6 promotes the protection and management of coastal zones and marine resources. The main actions under this strategy are the improvement of regional marine and coastal environmental coordination and development of a framework for the integrated management of regional coastal zones.
- SACEP Strategy and Programme (SPR-1) includes regional co-operation in conserving corals, mangroves, deltas and coastal areas, and regional co-operation in the regional seas programme
- Strategies developed by the PEMSEA- Eleven Countries in the East Asia, namely, Brunei Darussalam, Cambodia, Democratic People's Republic of Korea, Indonesia, Malaysia, People's Republic of China, Philippines, Republic Korea, Singapore, Thailand and Vietnam, work together to protect the life support systems of the Seas of East Asia and to enable the sustainable use of their renewable resources through intergovernmental, interagency and intersectoral partnerships, for which they have developed various strategies.

#### **Certain important National Initiatives**

- Environmental Impact Management Agency (BAPEDAL), Indonesia- A non-departmental Government Agency that has developed a marine and coastal pollution control programme to overcome negative impacts on the coastal and marine environment. The programme includes pollution control in sea ports, tourist beaches, and tanker service Zones in Malaya Strait, Macassar Strait and Lombok Strait
- National Environmental Engineering Research Institute (NEERI), India- An institute engaged in research to develop biotechnological methods to clean up oil spills and protect marine resources.

#### **Some bilateral and multilateral projects that have contributed to the management and protection of the marine environment**

- ASEAN/ USAID Coastal Resources Management Project
- ASEAN/ Australian International Development Assistance Bureau (AIDAB) projects on *Red Tides and Tidal Phenomena* and *Living Coastal Resources Management*
- ASEAN/ Canada project on assessment of marine pollution by heavy metals
- GEF project on prevention and management of marine pollution which covers nine countries (i.e. Singapore, Philippines, Brunei Darussalam, Indonesia, Malaysia, Korea DPR, Vietnam, Thailand and People's Republic of China)
- Southeast Asia Integrated Regional Model of River Basin Inputs to the Coastal Zones (SEA/ BASINS)- Involves the creation of a hydrological model designed to help researchers understand the exact impacts of development and population growth on the region's waterways and marine areas as well as inform a future plan of action to deal with the varying demands placed on Southeast Asia's marine ecosystems

## **(ii) Participation from sectors of society at the regional level**

- The SAS Action Plan and the Regional Programme of Action identifies the importance of the participation of the Private and NGO sectors in the implementation of those prescribed important activities within the region. Private sector can contribute through both financial and technical support.

### **Current rules and regulations with regard to participation of private sector and NGOs in programme development and implementation at regional level**

Although private sector and NGO participation is encouraged by all the partners in the region, there are not many set rules or regulations in the regional countries with regard to the programme development and implementation at regional level.

- Under the SAS Action Plan, the need for the establishment of a secretariat for the proper implementation of the Action Plan is stressed, and under the general functions of the Secretariat it is expected to seek and encourage the involvement of United Nations Organizations, Multilateral and bilateral donors, and Non-Government Organizations in the implementation of the Programme of Action.
- In addition, various important regional forums such as the Ministerial Conference on Environment and Development in Asia and the Pacific, also consider the private sector and government cooperation as a very important theme under which the major decisions drawn are based.

### **Major projects/ Activities involving private sector and NGOs**

- The projects that involve the private sector and NGOs in the region include the rehabilitation of coastal environment through replanting mangroves, projects dealing with the protection of coastal bio-diversity, tourism industry, sewage management, etc. Marine Turtle Conservation Project in Rekawa, Sri Lanka is one such successful project implemented by the NGO sector, which has been implemented under NORAD funding. Tourist sector activities, especially eco-tourism related activities are mainly conducted by the private sector in these countries.
- Although major activities in the region are mainly dealt with by the Government, private sector and NGO involvement is found in certain important areas. For example, in Philippines, the administration of water resources and sewage management systems has been handed over to the private sector.
- Malaysia is leading in private sector involvement in the sewage management. Malaysia has adopted a plan to modernize its sewerage system through a long-term contract with a group of investors led by a British water company. This project involves investment of around US\$ 2,220 million spread over next 25 years. This project is expected to generate revenues around US\$ 9000 million.
- Private sector involvement in the construction, operation and maintenance of water supply and sanitation networks and treatment plants has begun to grow in the Asian



region. The experiences have already shown that private sector participation in various forms that range from management contracts for part of the operations, to full ownership of utilities, is efficient and viable.

- In Sri Lanka, wastewater treatment plants in Ratmalana and Ekala/Ja-ela area will be built and operated by private investors within the framework of the Colombo Metropolitan Area infrastructure development project. The government is fully committed to engaging private sector as an engine of growth for the development of the country. However, only limited functions such as billing out collection, construction and designing of plants have been privatised.
- IUCN is a leading Non-governmental organization in the region, and in Sri Lanka it is very active with the following on-going projects related to conservation of the marine environment.
  - (i) Small Cetacean Conservation Project Phase II- funded by the Netherlands Government
  - (ii) Sri Lanka Reef Watch 2000 Project- with funding from DFID of the UK, GCRMN, and CORDIO
  - (iii) Project on the Factors influencing sustainability- Funded by the FORD Foundation
  - (iv) Conservation Management Plan for ten selected marine habitats South of Colombo, Sri Lanka

#### **Voluntary commitments by private sector**

Although private sector participation is common in the activities related to the protection of the marine environment from Land Based Activities, there are not many voluntary commitments (by the private sector) known within the region.

#### **(iii) Capacity Building programmes & Projects to address marine Pollution from land-based activities**

The following are among the important capacity building programmes and projects being implemented in the region, to address the protection of marine environment from pollution caused due to land-based activities.

- Capacity building in the Field of Planning and Management of the Coastal Areas in the South Asian Seas Programme- Phase 1 (A UNEP Programme)
- Establishment of the GESAMP (Group of Experts on Scientific Aspects of Marine Environment Protection) with UNEP support
- Capacity building through strategies developed at the ESCAP/ UNEP/ SACEP Intergovernmental Meeting on Capacity Building in Coastal Environment Management in the South Asian Seas Region.
- GPA/ Train-SEA- COAST Programme: Strengthening Capacity for the Effective Implementation of the GPA



- SACEP has undertaken the development of a five year South Asian environmental education and training action plan, 2001-2005, to address the critical areas for human resources development and institutional strengthening to promote environmental awareness and capacity in the region.
- SACEP Strategy and Programme (1992- 1996) covers a number of key areas including capacity building and awareness raising, systematic information exchange and intra-regional technology transfer , training on environment management, and institutional development, cooperation in the management of coastal resources, etc.

### **Regional partnerships**

- Coastal and Marine Environment Management Information System (COMEMIS)- A collaborative project among three countries (Cambodia, China and Vietnam), ADB and UNEP/ EAP-AP. It aims to develop, improve and increase the capacities of all the countries in South China Seas Region to engage in multi-sectoral analysis and to apply Geographic Information Systems (GIS) to environmental impact assessment and management
- UNEP technical support to Global and Regional Programmes for the assessment, prevention, control, and abatement of marine pollution

### **(iv) Economic instruments and Financial mechanisms**

There are several economic instruments and financial mechanisms operative within the region, including the following:

- Bilateral and multilateral aid is a significant source of environmental investment and expertise. Financing for programmes/ projects related to coastal/ marine sector comes through loans, grants or co-financing (which could involve the private sector).
- Improve, build and plan control mechanisms for tourism development within the coastal zone and apportion tourism taxation revenue for tourist development, and management of environmental improvement activities.
- Provide economic incentives to private sector to promote sustainable coastal and tourism development activities such as tax exemptions on pollution control equipment, incentives, etc.

### **Private sector participation in public and private initiatives**

- At the UNEP/SACEP/ NORAD South Asian Seminar on Environmental Management held in Pakistan 1998, it was recognized that the private sectors of the South Asian countries are making an increasingly important contribution to national development, and unanimously recommended that follow-up action be taken to find specific ways and means of further strengthening partnership between the government, the private sector and other stakeholders in the area of environment and development, and to

develop a framework for cooperation among governments and private sector of countries in South Asia. The private sector was viewed as not only a key engine of growth, but also a principal partner in efforts to promote environmentally friendly development. They felt that strengthening partnership between government, which lays down the environment and development policies and regulatory mechanisms would serve as a catalyst for further strengthening relevant policies, legal and institutional framework, facilitating their effective implementation, and promoting wider public participation.

- One major theme at the Ministerial Conference on Environment and Development in Asia and the Pacific sponsored jointly by ESCAP, UNEP and ADB, which was held in Kyushu, Japan in September 2000, was the promotion of multi-stakeholder participation in the field of environment and development, including partnership between the government and the private sector.
- In ASEAN countries, the private sector has played an increasingly important role in stimulating economic development, especially with the gradual reduction in ODA. Its role in resource and environmental management is likely to expand with the introduction of economic instruments, third party monitoring and auditing, and the privatization of environmental management systems, but this requires huge investments.
- Regional Environmental Hub for Southeast Asia and Oceania, Bangkok, Thailand will work with national governments, public sector agencies, regional international organizations, businesses, NGOs and others. One of the issues it will focus initially will be the land-based sources of marine pollution.

### **Mechanisms used by international financial institutions**

- Official Development Assistance (ODA) is a main source of external funding and make a significant contribution to the promotion of sustainable economic development in the region. However, ODA flow, globally as well as in the region, have been declining over the years.
- A major trend in foreign assistance at global level is the increasing importance placed on co-operation and co-ordination between donors. The Metropolitan Environment Improvement Program (MEIP) of Sri Lanka is an example of successful donor collaboration. Initiated by the UNDP and the World Bank, the programme attracted assistance from several European and Australian donors.
- Foreign assistance strategies vary by donor organization. Several donor agencies, particularly certain bilateral donors, pursue strategies of long-term involvement within a sector, emphasizing components such as capacity building, awareness creation, and developing institutional maturity and strength. This approach is successful when the donor organization and the recipient agency commit to a process (often, long-term) of institutional and policy development.

- Most donors support the vision of long-term assistance strategies that are mutually compatible, build on specific advantages of each donor, and contribute to the overall effectiveness of aid. However, practical mechanisms for effective consultation are yet to be created. In Sri Lanka, a forum for donor co-ordination was operative in the past, but it ceased functioning since the change of Government.

## **Component II- Barriers and needs**

In implementation of the projects, programmes and other activities related to the protection of marine environment from land-based activities, the international partners operative within the region are faced with numerous barriers.

According to the representatives from the World Bank, UNDP, ADB and SACEP, existing barriers and any further needs are as follows.

### **(i) a. Barriers in relation to the implementation of regional legal instruments**

- Although there are regional and national legal instruments, lack of proper implementation is the major barrier
- Sometimes legal instruments cannot be properly applied, because of the other priorities (e.g. poverty) felt by the people in the relevant coastal areas
- Lack of awareness on certain legal obligations by the people; Lack of awareness is very much high in relation to the relevant international agreements/ conventions.
- Lack of political will (only under certain circumstances)
- Low capacity and relative weakness of environmental institutions, specially the focal points to the international agreements
- inadequate funds and technical expertise
- One of the greatest policy challenges of the decade is to promote liberal trade while maintaining and strengthening the protection of the environment and natural resources. Trade and investment have been the principal engines of economic growth but they have resulted in serious environmental degradation.

### **b. Regional Programme of Action**

- Lack of awareness among general public and officers of certain important stakeholder agencies.
- Lack of time targets for accomplishing the planned strategies which delays the proper implementation
- Low capacity and relative weakness of environmental institutions, specially the focal points to the international agreements
- inadequate funds and technical expertise
- Although there are established national strategies for sustainable development, proper understanding/ awareness on their respective roles by the important stakeholders, and hence proper implementation are lacking
- There are no agreed priorities due to lack of monitoring and assessment
- When there are several government institutions (Departments, Ministries, etc.), designated roles and relevant issues might not be properly dealt with.
- Lack of capacity and expertise in the relevant fields.



- Sometimes when most developmental activities are based on the coastal environment, proper protection of it due to land based activities is hindered.

**(ii) Participation from sectors of society at the regional level**

- Private sector and NGO participation is mainly based on the available funds. Voluntary commitments by the private sector or NGOs are very rare.
- Lack of monitoring and assessment to see if the given tasks are completely fulfilled by the relevant sectors
- Lack of interest and awareness among NGOs and private sector
- Lack of government (specially in relation to policy) support to the private sector and NGO participation in relation to certain important issues
- Misperception on NGOs by the Government officials
- Reluctance from the private sector towards introduction of certain measures and instruments
- Unnecessary government interventions
- Common property/ open access nature of the problem

**(iii) Capacity Building**

- Lack of proper plan with regard to capacity building and training
- Lack of sufficiently educated, knowledgeable people in the relevant fields
- Lack of resource persons and funding for training and institutional strengthening
- Reluctance to accept new technology and lack of public awareness on the importance of the capacity building in specific fields

**(iv) Economic instruments and financial mechanisms**

- Non-acceptance of economic instruments by policy makers
- Lack of institutional mechanism/s to implement economic instruments
- Lack of a mechanism to link causes and effects
- Lack of financial incentives
- Resistance towards foreign involvement within the country and reluctance to accept foreign investments
- Lack of government funding allocated
- Lack of confidence on economic instruments
- A particular sector may not be lucrative enough to attract investors.
- Other social and cultural barriers

**Needs related to above barriers**

Needs include

- Institutional strengthening and capacity building in relation to various aspects of the protection of marine/ coastal environment from pollution due to LBA
- strengthening of the legal frameworks available and proper law enforcement
- Proper coordination mechanisms among all relevant stakeholder groups
- Sufficient funding
- Proper awareness mechanisms



### **Component III- Opportunities**

This section identifies the trends and developments in other policy sectors that may be relevant to marine degradation and land-based activities.

#### **(i) Public health and food supply**

- Political awareness of its importance is minimum and it seems to be increasing

#### **(ii) Socio-economic development**

- Tendency to adopt market-based economic principles by many governments is increasing.
- Urbanization of coastal areas and tendency towards association of activities such as eco-tourism seem to be increasing
- Plans for tourist development, etc. are continuously developing. When proper environmental concerns are included through EIA (Environmental Impact Assessment), etc., there is a high potential and opportunities for private sector and NGOs to get involved in relevant activities

#### **(iii) Natural resource management**

With the developments in the coastal and marine system, opportunities in areas such as fisheries, aquaculture (prawn farming), conservation projects such as Turtle Conservation projects, coral mining, etc. are increasing which also have associated marine environment degradation aspects.

#### **(iv) Political opportunities**

- Most countries have ratified many important environmental conventions.
- Some politicians have begun to recognize the importance of the sustainable development.

### **Component IV- Proposed Joint Activities in 2002- 2006**

The following information was obtained from the regional partners/ donor agencies in relation to the regional legal instruments, Regional Programme of Action, Participation from sectors of society at the regional level, capacity building and economic instruments and financial mechanisms.

- The GEF, UNDP, ADB and World Bank are still in the process of organizing and deciding what activities are to be implemented within the region during the period of 2002- 2006.

Even though the World Bank has planned on certain projects, their relevance to the coastal and marine sector is very low. (For example, Legal and Judicial reforms in Sri Lanka).

- A project on Integrated Management of the Environmentally Sensitive Coastal and Marine Ecosystems is planned by SACEP for the period 2001- 2002. But this project has run into some difficulties with the ADB with regard to the implementing Agency.
- One of the major themes of the Ministerial Conference on Environment and Development in Asia and the Pacific is the promotion of multi-stakeholder participation in the field of environment and development, including partnership between the Government and the private sector. Towards this end, the Ministerial Conference has planned to endorse a Asia- Pacific environmental Plan of Action for the period of 2000- 2005 to be implemented with the assistance and support from UN agencies, multi-lateral funding agencies and other relevant organizations.
- SACEP has undertaken the development of a five year South Asian environmental education and training action plan, 2001-2005, to address the critical areas for human resources development and institutional strengthening to promote environmental awareness and capacity in the region.
- IMO will be sponsoring a research and development forum in relation to developments in the area of oil spills, in March 2002, focussing mainly on response to spills of high- density oil.

### **Overview of the initiatives related to Land-Based Activities funded by different donor agencies in Sri Lanka and Bhutan**

Almost all the initiatives taken by Sri Lanka with regard to land based activities are very much relevant to the coastal and marine sector, the country being an island. But when the projects being operated in Bhutan are overviewed, it can be clearly found how they are not dealt with the coastal and marine sector. In exemplifying these aspects major projects that are being operated in Sri Lanka and Bhutan are given below.

#### **Land-Based Activities funded by different donor agencies in Sri Lanka**

##### **Coast conservation, protection and management**

<b>Project name</b>	<b>Donor Agency</b>
Coastal Resources Management Project – Technical Assistance (1998-1999)	<b>ADB</b>
Coastal Resources Management Project (1999-2005)	<b>ADB</b>
Fisheries Community Development and Resources Management Project (On going)	<b>GTZ</b>
Wetland Conservation Project Phase I, II and III (1991- 1998)	<b>Netherlands</b>
Integrated Resource Management Programme of Wetlands in Sri Lanka (1998- 2003)	<b>Netherlands</b>
Hambantota Integrated Coastal Zone Management Project- Technical Assistance (1997-1998)	<b>NORAD</b>
Hambantota Integrated Coastal Zone Management (1998- 2000)	<b>NORAD</b>
Coastal Resources Management Project (Past)	<b>USAID</b>



<b>Project</b>	<b>Donor Agency</b>
Coast protection schemes for Negombo and Moratuwa stabilizing 16 km coast (1987- 1989)	<b>DANIDA</b>
Protection of the main coastal road between Beruwala and Weligama at points where it is threatened by erosion (1990- 1992)	<b>DANIDA</b>
Hikkaduwa wastewater and solid waste management (1999- 2001)	<b>AUSAID</b>
Small Cetacean Conservation Project Phase II- by IUCN	<b>Netherlands Governmnet</b>
Sri Lanka Reef Watch 2000 Project- by IUCN	<b>DFID of the UK, GCRMN, and CORDIO</b>
Project on the Factors influencing sustainability-by IUCN	<b>FORD Foundation</b>
Conservation Management Plan for ten selected marine habitates South of Colombo, Sri Lanka	<b>NORAD</b>
Fisheries Community Development and Resource Management Project (1997- 2000)	<b>GTZ</b>
Port efficiency improvement project (Proposed)	<b>World Bank</b>
Research on the Natural Resouces managment in the coastal environment of Sri Lanka (1998- 2000)	<b>SAREC/ SIDA</b>
Conservation of Biodiversity through integrated collaborative management in the Rekawa, Ussangoda and Kalametiya coastal ecosystems, Sri Lanka (2000- 2005)	<b>UNDP- GEF</b>

### **Institutional Strengthening**

<b>Project</b>	<b>Donor Agency</b>
Implementation of the Master Plan for coastal erosion management (1988- 1991)	<b>GTZ</b>
Institutional strengthening of Coast Conservation Department	<b>GTZ</b>

## **Initiatives related to Land-Based Activities funded by different donor agencies in Bhutan**

### **Programmes/ Activities conducted by the UNDP**

Since 1973, five country programmes have been implemented. Areas of UNDP support ranged from human resources (agriculture, forestry and livestock), health, education, infrastructure development including telecommunications and civil aviation, private sector, and industrial development.

The current UNDP funded projects in Bhutan are as follows. These projects are categorized according to three critical SHD (Sustainable Human Development) related areas as given below;

#### **Sustainable livelihood**

Under this the following projects are been operated

Private sector Development Programme

Cottage, Small and Medium Scale Industries Development Project (Phase II)

Partners in Development Programme

Integrated Horticulture Development Programme

Assistance to Essential Oils Development

First Eastern Zone agricultural Development Project (FEZAP)

#### **Governance**

Human Resource Management

Human Resource management & Sustainable Human Development

Assistance to Technical & Vocational Education & Training (TVET) & RBP

Strengthening Technical Manpower Capabilities in Bhutan through UNVs (Phase III)

Human Resource Development for the Telecommunication Sector in Bhutan

Strengthening Capacities for Development Management & Decentralization

Strengthening Capacities for National Execution, Aid Coordination & Management

Strengthening the Bhutan Legal Framework

Strengthening Capacities for Urban Management & Human Settlements Sector Planning

#### **Environment**

Integrated Management of Jigme Dorji National Park

Strengthening Environmental Management & Education in Bhutan

Forest Resources Management & Institutional Capacity Development

Bhutan National Greenhouse Gas Project

National Biodiversity Conservation Strategy, action Plan & Report to the CBD

The UNDP/GEF Small Grants Programme



**Projects by the UNDP/ UNCDF (United Nations Capital Development fund, which is a part of the UNDP)**

Strengthening capacities for development management and decentralization  
Rural Credit Programme administrated by the Bhutan Development Finance Corporation (BDFC)

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