



Malé Declaration on Control and Prevention of Air Pollution and Its Likely Transboundary Effects for South Asia



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STOCKHOLM
ENVIRONMENT
INSTITUTE



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AGENDA

1. Opening of the Workshop
2. Organisation of the Workshop
 - (a) Election of Officers
 - (b) Organisation of Work
3. Adoption of the agenda
4.
 - (a) The Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities and UNEP's Plan to promote and facilitate its implementation: a status report
 - (b) The South Asian Regional Seas Programme: A Status Report by SACEP
5. Presentation of National Reports
6. Review of Draft Overview on Land-based Sources and Activities Affecting the Marine, Coastal and Associated Freshwater Environment in the South Asian Seas Region
7. Global Programme of Action Clearing-house Structure and Function, and possible Development of a Regional Component in the South Asian Seas
8. Review of a Draft Regional Programme of Action for the Protection of the Marine, Coastal and Associated Freshwater Environment from Land-based Activities in the South Asian Seas
9. Institutional Arrangements, Activities, Financial Considerations and Timetable for Implementation of Regional Strategic Programmes for the Protection of the Marine, Coastal and Associated Freshwater Environment from Land-based Activities in the South Asian Seas Action Plan Region.
 - * Legal and Institutional Requirements for Implementation of the Global Programme of Action with Special Reference to the South Asian Regional Seas Action Plan by Regional Environmental Law Programme, UNEP – ROAP
10. Other Matters
11. Adoption of the Report of the Workshop
12. Closure of the Workshop

LIST OF DOCUMENTS

A. Working Documents

UNEP(WATER)/GPA/SASF/RW.5/1	Provisional agenda
UNEP(WATER)/GPA/SAS/RW.5/2	Annotated provisional agenda
UNEP(WATER)/GPA/SAS/RW.5/3	Draft overview on land-based sources and activities affecting the marine, coastal and associated freshwater environment in the South Asian Seas region
UNEP(WATER)/GPA/SAS/RW.5/4	South Asian Seas regional component of the global programme of action clearing-house
UNEP(WATER)/GPA/SAS/RW.5/5	Draft regional programme of action for the protection of the marine, coastal and associated freshwater environment in the South Asian Seas region
UNEP/GC.19/INF.4	Institutional arrangements for implementation of the global programme of action for the protection of the marine environment from land-based activities
UNEP(WATER)/LBA/C-H.1	Report of the technical meeting on the global programme of action for the protection of the marine environment from land-based activities clearing-house (Geneva, 26-27 September 1996)
UNEP(OCA)/LBA/IG.2/7	Global programme action for the protection of the marine environment from land-based activities

B. Information Documents

UNEP(WATER)/GPA/SAS/RW.5/INF.1	Provisional list of documents
UNEP(WATER)/GPA/SAS/RW.5/INF.2	Provisional list of participants
UNEP(WATER)/GPA/SAS/RW.5/INF.3	Timetable
UNEP(WATER)/GPA/ROPME-PERSGA/ RW.2.INF.4	Recommendations of the workshop on implementation of the global programme of action for the protection of the marine environment in the South-East Pacific region (Lima, Perú, 18-21 November 1996) [extract of the report of the meeting, originally in Spanish]
UNEP(WATER)/GPA/ROPME-PERSGA/RW.2	Report of the workshop on implementation of the global programme of action for the protection of the marine environment from land-based activities in ROPME and PERSGA regions (Manama, State of Bahrain, 2-5 December 1996)
UNEP(WATER)/GPA/EAS/RW.3/5	Report of the workshop on implementation of the global programme of action for the protection of the marine environment from land-based activities in the East Asian Seas region (Cairns, Australia, 30 April-May 1997)
ROPME/WG-84-4	Report of the workshop on the protection of the marine environment against pollution from land-based sources in the ROPME Sea Area (Kuwait, 8-9 June 1997)
UNGA resolution 51/189 (Dec.1996)	Institutional arrangements for the implementation of the global programme of action for the protection of the marine environment from land-based activities
UNEP/GC.19/14 A-E	Implementation of the global programme of action for the protection of the marine environment from land-based activities (decisions adopted by UNEP Governing Council at its 19th session, Nairobi, January-February 1997)
UNEP(WATER)/LBA/IS/1/4	Intersecretariat consultation on implementation of the global programme of action for the protection of the marine environment from land-based activities (Geneva, 13-14 May 1996)
UNEP(WATER)/LBA/IS-IA.1/6	Joint intersecretariat/interagency consultation on implementation of the global Programme of action for the protection of the marine environment from land-based activities (Geneva, 15-16 May 1996)

UNEP(WATER)/GEF-GIWA/2.4	Report of the global international waters assessment (GIWA) workshop on water-related issues of transboundary and global concern (Geneva, 21-25 April 1997)
UNEP(WATER)/GEF-GIWA/3.3	Report of the global international waters assessment (GIWA) workshop on the formulation of a geographic framework for the analysis of international waters issues of transboundary, or regional and global significance (Geneva, 9-13 June 1997)
IFCS/EXP.POPS/Report.1	Persistent organic pollutants: considerations for global action. IFCS experts meeting on POPs. Final report of the meeting, 17-19 June 1996, Manila, Philippines (20 June 1996)
IFCS/WG.POPs/Report.1	IFCS <i>ad hoc</i> working group on persistent organic pollutants meeting. Final report of the meeting, 21-22 June 1996, Manila Philippines (1 July 1996)
GESAMP Reports and Studies No. 63	GESAMP (IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/ UNEP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection). 1997. Report of the twenty-seventh session, Nairobi, Kenya, 14-18 April 1997. Rep. Stud. GESAMP (63): 45 p.

STATUS OF THE SOUTH ASIAN REGIONAL SEAS PROGRAMME

For a variety of historical reasons, a Regional Seas Programme for the South Asian Seas was not initiated in the 1970's. The emergence of SACEP saw the revival of interest of the concerned member states towards the establishment of a Regional Seas Programme for the South Asian Seas. The quest for the launching of a Regional Seas Programme for the South Asian Seas, initiated by the SACEP Member States at UNEP's Governing Council in 1982, led a year later to the designation of the region as a part of UNEP's Programme.

The Action Plan for the South Asian Regional Seas Programme was formally adopted at a Meeting of Plenipotentiaries of the concerned countries held in New Delhi, on March 24th 1995. The Action Plan of the South Asian Seas Programme approved at the Meeting of Plenipotentiaries has certain important elements, which will assist the member countries in protecting the marine environment of the region.

The Action Plan in addition to specifying the needs under the main components of Environmental Assessment, Environmental Management, Environmental Legislation & Institutional and Financial Arrangements identified the four priority areas where action is needed for implementation under the Action Plan. These priority activities are in four specific areas. Under these Priority Areas activities that have been selected for staged implementation by the South Asian Member States.

The four Priority Areas are

- Integrated Coastal Zone Management
- Development And Implementation Of National And Regional Oil Spill Contingency Planning
- Human Resources Development Through Strengthening Regional Centres Of Excellence.
- Protection Of The Marine And Coastal Environment From Land Based Activities.

The Meeting of Plenipotentiaries also adopted resolutions for the smooth implementation of the South Asian Seas Regional Seas Programme.

The Major decisions taken with respect to institutional arrangements are:

1. Invites the Director of the South Asia Co-operative Environment Programme (SACEP),
 - (a) To act as the Secretariat for the South Asian Seas Action Plan and to enhance its capacities for this purpose.
 - (b) To prepare, with the support of the UNEP's Regional Seas Programme and in co-operation with the other competent international and regional organisations, including ADB, ESCAP, IOC of UNESCO, IMO, UNDP, and Governments of the region, detailed documents describing the operational details of projects to be developed on the basis of priorities identified in 1. above.

- (c) To convene, quarterly at the SACEP Secretariat, meetings of the Consultative Committee to review the progress achieved in implementing the Action Plan and to deliberate on activities which require immediate attention. The Consultative Committee will also advise on financial implications of project implementation and if necessary advise the secretariat on their revision.
 - (d) To co-ordinate the implementation of the projects agreed at the Meeting of Plenipotentiaries, subject to the availability of funds.
2. Under the Institutional and Financial Arrangements for the Implementation of the Action Plan, the overall authority is vested in the Governments and regular periodic meetings of the Governments. Intergovernmental Meetings will be sole authority in determining the content, review, progress and approval of the workplan of the regional programme. Their purview will also include the financial implications of the regional programme. The periodicity of the Intergovernmental Meetings will be once in 2 years.
 3. There will also be a Consultative Committee comprising of the diplomatic representatives of the Member States of the South Asian Seas in Sri Lanka which will meet quarterly at the SACEP Secretariat and their function would mainly be to deliberate on the activities which require immediate action and to review the progress achieved in the implementation of the Action Plan.
 4. Each Member State would identify and designate a National Focal Point to co-ordinate the national activities of the Action Plan. Each member state would also establish a National Co-ordination Committee, designate National Project Co-ordinators for specific activities of the Action Plan and select National Institutions for carrying out the technical work of the programme activities.
 5. There would also be a "System of Networking" established among SACEP, National Focal Points and National Project Co-ordinators for smooth implementation of project activities.
 6. A South Asian Seas Action Plan Trust Fund to be established to service the Secretariat. Contributions to the Trust Fund by the member states will be on an agreed scale of contribution. Funding for projects will be on a project to project basis.

CURRENT STATUS

The present status of the South Asian Regional Seas Programme in respect of the institutional, financial and programme activities is as follows.

In respect of the INSTITUTIONAL ARRANGEMENTS, SACEP with its present staff members serves as the Secretariat for the South Asian Seas Programme including project formulation and approaching donor agencies. The reason for the delay in the recruitment of personnel for the South Asian Seas Programme is due to the fact that one member state has yet to submit the Letter of Credential of the delegate who participated in the Meeting of Plenipotentiaries. Once this is received, steps will be taken as per provisions in the Action Plan to recruit the necessary personnel to service the South Asian Seas Secretariat.

With respect to the FINANCIAL ARRANGEMENTS, A South Asian Seas Trust Fund has been established. This fund was established in Sri Lanka on 7th August 1995 as per resolution adopted at the Meeting of Plenipotentiaries and contributions for 1995 has been received from the Governments of Bangladesh, Maldives and Sri Lanka. The contributions from the other member states are expected soon.

PROGRAMME ACTIVITIES

In spite of not having full time staff to handle the South Asian Seas Programme, the SACEP Professional Staff have been doubling up their work and significant progress has been made. Brief descriptions of major activities undertaken and ongoing are listed below.

1. Regional Training for Management of Protected Areas & Coral Island Ecosystems in the Indian Ocean.

This project is being implemented by South Asia Co-operative Environment Programme in close co-operation with the National Focal Points & Institutions and relevant UN and International Organisations. Funding to be provided by Norwegian Agency for Development Co-operation (NORAD).

A Consultative Meeting was held in July 1997 and we now have an Outline of a Training Course drawn up. It is planned to have the first of these Training Courses during the first quarter of 1998 and the second towards the end of 1998

2. Regional Oil Spill Contingency Plan for the South Asian Seas Region.

This Project will be implemented in collaboration with the International Maritime Organisation (IMO). They have agreed to assist SACEP in the updating and finalisation of the existing draft plan. We are confident of obtaining funding for this project from a Donor Agency.

3. A Proposal for a PDF Block B Grant from Global Environment Facility

SACEP currently preparing a proposal for a PDF Block B Grant from Global Environment Facility under International Waters. An informal meeting was held in Male with the National Focal Points and it is envisaged that very shortly, with the assistance of UNEP-Water Branch a proposal will be submitted to GEF.

4. Focal Point Activities on the International Coral Reef Initiative (ICRI)

At a Workshop for the South Asian Region, SACEP as the Secretariat for the South Asian Regional Seas Programme was designated to act as the Secretariat for ICRI.

An Officer, funded by British ODA is presently in Sri Lanka and has been working very closely with SACEP in the setting of the Global Coral Reef Monitoring Network (GCRMN) for the South Asian Seas Region.

SUMMARY OF COUNTRY PRESENTATIONS

INDIA NATIONAL OVERVIEW

1. GPA RELATED PROBLEMS

The following GPA related problems that have bearing on impact on the marine environment are given in the order of priority:

- i. Sewage
- ii. Wastes from large, medium and small scale industries
- iii. Litter (solid waste)
- iv. Physical alteration and destruction of habitats
- v. agricultural run off (Nutrients and pesticides) and sediment mobilisation.

2. MANAGEMENT / OTHER SOLUTIONS ADOPTED TO DEAL WITH THE PROBLEMS

- i. Enactment and enforcement of relevant legislation for prevention and control
- ii. Partial treatment of sewage in limited quantity
- iii. Development of guidelines and standards for waste disposal for large industries and enforcement of relevant legislation's
- iv. Common treatment plants and waste minimisation techniques for medium and small scale industries
- v. National Action plans for cleaning of major rivers
- vi. Incentives to industries for adoption of clean technology, import of equipment etc

3. SHORTFALLS IN IMPLEMENTATION AND REASONS FOR SHORTFALLS AS WELL AS OTHER OBSTACLES

- i. Lack of adequate financial resources for treatment of sewage
- ii. High cost of cleaner technology for industries
- iii. Lack of adequate manpower with enforcement agencies for enforcement of environmental legislation and to check periodically the compliance of regulations by the industries
- iv. Lack of awareness among the small and medium scale industries on adverse impact of pollution
- v. Lack of ambient seawater quality standards and industry specific standards for seawater.

4. ASSISTANCE AVAILABLE / NEEDED

ASSISTANCE AVAILABLE

- i. Limited aid from the funding agencies like the World bank for treatment of sewage in Bombay
- ii. Promotion of adoption of cleaner technology through incentives and subsidies.
- iii. Financial assistance (50%) for establishment of common treatment plant for small and medium scale industries
- iv. Shifting of industries to conforming areas from non-conforming areas

ASSISTANCE NEEDED

- i. Large scale financial assistance along with cleaner technology for treatment of wastes
- ii. Zero waste technology for all polluting industries especially for hazardous and toxic substances waste generating industries along with training of personnel for operation and maintenance of related machinery
- iii. Training on determination of waste load allocation and waste assimilation capacity
- iv. Training on determination of ambient water quality standards for different designated use of seawater

4. ISSUES THAT ARE RELEVANT FOR REGIONAL CO-OPERATION

- i. Need for development of a National programme of action for implementation of relevant provisions of GPA. While developing the plan, incorporate relevant regional and international concerns as appropriately and develop it within the ambit of the Integrated Coastal and Marine Area Management. Where necessary, establish a National high level committee I) to formulate the plan and its implementation strategies including development of specific project ideas; ii) to ensure inter-ministerial co-ordination in its implementation and iii) for review and monitoring the implementation of the Plan. If necessary seek assistance from the regional and international organisations for development of the National programme of Action.
- ii. Development of Regional Action plan for implementation of regional aspects as mentioned in the GPA and a suitable reporting mechanism by member countries on action taken for implementation of National aspects that have relevance to the region and the Regional action plan.
- iii. Regional status reports for various source categories of pollutants and identification of source categories that have regional relevance.
- iv. Capacity building in the areas of development of guidelines and standards for wastes disposal in the sea and determination of ambient water quality standards for seawater
- v. A clearing house mechanism for pollution from all source categories
- vi. Regional workshops for exchange of information relating to technology, techniques, management strategies etc adopted for treatment of sewage and other wastes
- vii. Creation of awareness on adverse impacts of harmful land based activities in the South Asian seas region

MALDIVES

NATIONAL OVERVIEW

1. GPA related Problems:

- Sewage (domestic) as a result of urbanization
- Garbage when dumped onto the beach.
- Sedimentation due to land erosion as a result of monsoonal variation.

2. Management/Other Solutions adopted

- Deep Sea out falls
- Construction of septic tanks near the beach
- Voluntary sewage treatment plants in hotels (Garbage)
- Compulsory use of incinerators in hotels
- Allocation of dump sites.
- Introduction of recycling
- Public awareness campaigns such as "Independent Maldives, Clean Maldives"
- Compulsory sewage and waste water treatment plants under the Tourism development Master Plan.

3. Short Falls in Implementation and Reasons for Short Falls as well as other Obstacles

- Construction of break-waters, groynes minimises land erosion but it does not solve the problem of sedimentation, because the sediments produced by the reef itself circulates around and as a result corals may suffocate.

4. Assistance Available

- Community awareness, and political commitment.

5. Assistance Required

- Capacity Building and Human resources development.
- Financial Support.
- Regional Commitment and Support
- Development of quality Standards
- Monitoring of Salt Water and Waste Water at hot spots.
- Regional treaty to address the above issues.

NEPAL

NATIONAL OVERVIEW

1. The main problems related to land-based activities

- Sediments – Land degradation due to improper land use
- Sewage
- Mining including Rock quarries
- Disposal of solid and liquid wastes
- Destruction of habitats

2. Management/ other solutions adopted to deal with the problems

- i. Policy**
 - (a) Policies related to Land, Forest, Agriculture and Environment in long term Plan (5 year Plan)
 - (b) National Environment policy and Action Plan
 - (c) National EIA Guideline
- ii. Legislation**
 - (a) Environment Protection Bill 1997
 - (b) Sectoral Legislations related to land reform, forest management, soil conservation, National Park, Pesticide, etc.
- iii. Institution**
 - (a) Environment Protection Council
 - (b) Ministry of Population and Environment
 - (c) Sectoral Institutions
- iv. Programme**
 - (a) Soil Conservation of watershed management Activities
 - (b) Afforestation and plantation of trees and grasses
 - (c) River Bank Protection
 - (d) Landfill Management
 - (e) Establishment of National parks, Reserves, Conservation Areas
 - (f) Awareness Programme

3. Short Falls in implementation and Reasons for Shortfalls as well as other obstacles;

- (a) Inadequate consideration of Environmental elements in the Development Planning
- (b) Lack of Clear and comprehensive land use policy and plan
- (c) Co-ordination problems among the relevant agencies, Institutions and NGOs

♦ Assistance Available/ Needed

- Financial resource is needed (for capacity building and implementation of Programme)
- Technical Assistance is needed in these areas
- Land use Plan formulation
- Sewage treatment
- Fixation of Standards
- Conservation

♦ **Issues that are Relevant for Regional Co-operation**

- (a) Environmental Management (Integrated Watershed management)
- (b) Study on upland and lowland interrelationship
- (c) Regional monitoring framework
- (d) Exchange of information and data (Information network)
- (e) Mobilizing financial Resources

PAKISTAN

NATIONAL OVERVIEW

1. GPA Related Problems

GPA related land based sources of marine pollution are as under:

- i. Sewage
- ii. Untreated Industrial Effluent
- iii. Urban runoff
- iv. Solid Waste
- v. Pollution due to port activities
- vi. Agricultural runoff (Nutrients & Pesticides)

2. Management/ other solutions adopted to deal with the problems

- i. Pakistan Environmental Protection Ordinance
- ii. Pakistan Environmental Protection Act approved by Parliament expected to be notified by the end of 1997.
- iii. Establishment of Environmental Protection Agencies at Federal and Provincial Levels
- iv. Development of Environmental Impact assessment procedures and guidelines
- v. Partial strengthening of EPA's
- vi. Public awareness
- vii. National Environmental Quality Standards
- viii. Establishment of Marine Pollution Control Board

3. Short Falls in implementation and Reasons for Shortfalls as well as other obstacles;

- i) Lack of resources with Environmental Protection Agencies for enforcement of environmental tasks which includes
 - a. Inadequate Financial Resources
 - b. Lack of trained manpower
 - c. Lack of monitoring equipment
 - d. High cost of waste water treatment facilities and cleaner technology
 - e. Lack of interest amongst the Industrialists for compliance of Environmental Legislation
 - f. Absence of ambient water quality and industry specific standards

4. Assistance Available/ Needed

Assistance Available

- i) World Bank assisted Project for Environmental Protection and Resource Conservation, which will continue till June 1999.
- ii) Combined Effluent Treatment plant being established for treatment of Tannery effluent being funded by the Dutch Government.
- iii) Funding of Asian Development Bank for treatment of Industrial waste water for one of the Industrial Estate.
- iv) Partial funding of Netherlands Government for Federation of Pakistan of Chamber of Commerce and Industry for adoption cleaner technology.

Assistance Required

- Financial assistance for adequate capacity building of Environmental Protection Agencies by providing Pollution Monitoring Equipment and Training
- Funding for developing Data Base of Pollutants
- Transfer of Technology and Expertise to combat Pollution Levels from various sources
- Strengthening of Institutions already engaged for the protection of marine environment

5. Issues that are Relevant for Regional Co-operation

- Development of National Programme of Action for the Protection of Marine Environment from Land Based Activities
- Development of Coastal Management Plan for Conservation of Habitats, Wetlands and Mangroves at National Level
- Conducting a Study on the Status of Marine Environment and Identification of Source Categories in relevance to Regional Plan of Action
- Establishment of a Clearing House Mechanism
- Establishing the institutional basis for co-ordination for Implementation of Regional Plan of Action.

SRI LANKA

NATIONAL OVERVIEW

1. Main Land Based Sources of Marine Pollution

- Sewage
- Solid Waste
- Industrial Waste Discharges
- Aquacultural Waste
- Agricultural Waste
- Oil Pollution
- Upstream and Estuarine mining (sand)
- Coral Mining
- Land Reclamation

2. Managerial Mechanisms

Marine and Coastal pollution problems caused through land based sources are being addressed in Sri Lanka in the following ways:

- (a) Regulatory measures imposed through:
 - National Environment Act
 - Coast Conservation Act etc.
 - Environment Impact Assessment Procedures
 - Discharge Standards/Siting guidelines
 - Environment Protection Licences
 - Monitoring Committees for discharge on designated water bodies, UDA regulations
- (b) Environmental Education and Awareness
- (c) Incentives, for compliance and Improvements
- (d) Institutional Strengthening
 - Central Government Institutions
 - Divisional Secretaries /Pradeshiya Sabahas
- (e) Implementing direct development initiatives such as Central sewage Treatment Systems at local government level.
- (f) Implementation of National Infrastructure Projects
 - Sanitary land fills
 - Hazardous waste disposal sites
 - Common treatment plants
- (g) Incorporating above concerns into Provincial Environment Acts such as NWP Environment Act.
- (h) Adopting the above concerns into the National Planning Process as Policy Guide Lines.

3. Shortcomings

- Lack of monitoring capabilities
- Lack of Financial resource to implement action
- Inadequate enforcement mechanism
- Limited support from local level institutions
- Inadequate resources and trained manpower at Pradeshia Sabaha level.
- Lack of co-ordination
- Non availability of quantitative data especially on impacts of agricultural waste
- Inadequate implementation of from private sector in decision making
- Lack of land use planning application
- Limited capacity of Pradeshia Sabaha including human resources

4. Assistance available/Needed for operational activities

- (a)
 - To expand and stream line the existing institutional set-up
 - To enforce a systematic regulatory mechanism
 - Awareness among general public and non-governmental organisations Chambers of Commerce and industry etc.
- (b) Assistance Needed at the Policy level
 - To Implement the National Environment Action Plan
 - Financial support to implement Action Plan
 - Access to low-cost technologies to control land based sources of marine pollution
 - Capacity building/training on monitoring and impact assessment.
 - Preparation of a National Zonal Plan (Zoning System) and Regional Zonal System.
 - Lack of access communication technology in important institutions, (e-mail, Internet, etc.)

5. Issues relevant to regional co-operation

- i) Support in formulation and implementation of National action plans such as Environmental action plans.
- ii) Regional co-operation on transfer of technology such as Methodologies Education and Information campaign
- iii) Regional monitoring and research network
- iv) Oil spill contingency plan for the region

RECOMMENDED APPROACH FOR IMPLEMENTATION OF THE GPA WITHIN THE CONTEXT OF THE SACEP REGIONAL ACTION PLAN

The following approach was recommended for the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), within the context of the Regional Action Plan of the South Asia Co-operative Environment Programme (SACEP)

It was agreed:

1. To implement the GPA in the SACEP region within the context of the SACEP Regional Action Plan, using a phased, step-by-step approach. The rationale for this approach is that the countries in the SACEP region have previously participated in the development and adoption of the GPA and the SACEP Regional Action Plan.
2. The phased programme of relevant activities would comprise the following:
 - (A) Development of National Action Plan for the implementation of the GPA by the individual countries of the SACEP region (Terms of Reference are attached as Annex VII to this report);
 - (B) Convening of a Regional Workshop to (i) inform countries of the SACEP Region of National Action Plan; (ii) review of the draft Regional Report on the land-based activities that impact on the marine and associated freshwater environment (the latter to be prepared by SACEP with the assistance of UNEP in advance of the workshop); and (iii) develop an agreed Regional Programme for Implementation of the GPA at the national and regional levels;
 - (C) Mobilisation of financial resources for the implementation of the National Action Plan and the Regional Programme for implementation of the GPA.
3. These steps are further elaborated, as follows:

Phase I: Development of National Action Plan for the Implementation of the GPA

In developing the National Action Plan, the following elements are suggested:

- (1) To apply a wide participatory and consultative process, involving the full range of relevant stakeholders. The process is to be steered by a National Expert Group comprising, as appropriate, representatives of relevant Government institutions, academic and scientific communities, private and public sectors, non-governmental organisations (NGOs), and the public;
- (2) The attached Terms of References provide guidance for preparing the National Action Plan;
- (3) The National Action Plan will be reviewed at a national forum, for the purpose of securing a national consensus thereon;
- (4) It is expected that the completed National Action Plan would be transmitted to the SACEP Secretariat no later than the end of 1998; and
- (5) SACEP and UNEP will endeavour to provide the necessary financial and technical support for development of the National Action Plans.

Phase II: Regional Workshop to inform countries of the SACEP region of (i) National Action Plan, (ii) review Regional Report, and (iii) develop Regional Programme for Implementation of GPA

- (1) The purpose of the Regional Workshop would include (i) informing countries of the SACEP region of the individual National Action Plan; (ii) reviewing the draft Regional Report on the land-based activities that impact on the marine and associated freshwater environment; and (iii) developing a possible Regional Programme for Implementation of the GPA.
- (2) The Regional Workshop also will provide guidelines for the finalisation of the above-noted Regional Report. SACEP with the assistance of UNEP will finalise the draft Regional Report in accordance with these guidelines within three months of the conclusion of the workshop.
- (3) The Regional Workshop also will identify possible elements and processes for inclusion in a Regional Programme for Implementation of the GPA, which is expected to be adopted at the workshop. SACEP with the assistance of UNEP will finalise the draft Regional Programme in accordance with the decisions reached at the Regional Workshop, within three months of the conclusion of the workshop.
- (4) SACEP with the assistance of UNEP will convene an inter-Governmental meeting to consider and adopt both the Regional Report and the Regional Programme for Implementation of the GPA, within six months or an agreed time following the conclusion of the Regional Workshop.

Phase III: Mobilisation of resources for implementation of the GPA within the SACEP region

It was recognised that implementation of the National Action Plan and the Regional Programme for Implementation of the GPA within the SACEP region will require additional funding. To this end, it was agreed that SACEP with the assistance of UNEP will (i) take steps to invite the relevant UN and donor agencies to participate in the above-noted Regional Workshop and inter-Governmental meeting, and (ii) use their good offices to facilitate the necessary financial resources for the national and regional activities in support of the implementation of the GPA in the SACEP region.

TERMS OF REFERENCES FOR DEVELOPMENT OF NATIONAL ACTION PLANS

1. The National Expert Group or other national consultative mechanism will follow as closely as possible the Terms of Reference, as reproduced below from the GPA (paragraphs 16-28; UNEP (OCA)/LBA/IG.2/7), in developing the National Action Plan (NAP). They will also consider the details provided in Section V ("Recommended Approaches by Source Category") of the GPA (paragraphs 91-154), as well as relevant components of the "Institutional Arrangements for Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (UNEP/GC.19/INF.4), in developing the NAP.
2. In developing the NAP, efforts shall be made to integrate relevant components of existing national action plans, policy statements and other related actions into the NAP.
3. Given below are paras 16 -28 reproduced from GPA (UNEP (OCA)/LBA/IG2/7)

REPRODUCED FROM GPA (UNEP (OCA)/LBA/IG.2/7)

ACTIONS AT THE NATIONAL LEVEL Basis for action

16. Sustainable use of the oceans depends on the maintenance of ecosystem health, public health, food security, and economic and social benefits including cultural values. Many countries depend on sources of income from activities that would be directly threatened by degradation of the marine environment: industries such as fishing and tourism are obvious examples. The subsistence economy of large coastal populations, in particular in the developing countries, is based on marine living resources that would also be threatened by such degradation. Also to be considered are the impacts of such degradation on maritime culture and traditional lifestyles.
17. Food security is threatened, in particular in developing countries, by the loss of marine living resources that are vital for the adequate provision of food and for combating poverty. Public health considerations from a degraded marine environment manifest themselves through the contamination of seafood, direct contact, such as through bathing, and the use of sea water in desalination and food-processing plants.

Objectives

18. To develop comprehensive, continuing and adaptive programmes of action within the framework of integrated coastal area management, which should include provisions for:
 - (a) Identification and assessment of problems;
 - (b) Establishment of priorities;
 - (c) Setting management objectives for priority problems;
 - (d) Identification, evaluation and selection of strategies and measures, including management approaches;
 - (e) Criteria for evaluating the effectiveness of strategies and programmes;
 - (f) Programme support elements.

Actions

19. States should, in accordance with their policies, priorities and resources, develop or review national programmes of action within a few years and take forward action to implement these programmes with the assistance of the international co-operation identified in chapter IV, in particular to developing countries, especially the least developed countries, countries with economies in transition and small island developing States (hereinafter referred to as "countries in need of assistance"). The effective development and implementation of national programmes of action should focus on sustainable, pragmatic and integrated environmental management approaches and processes, such as integrated coastal area management, harmonised, as appropriate, with river basin management and land-use plans.
20. Recommended actions to give effect to the objectives in the development of national programmes of action by States are summarised in sections A, B, C, D, E and F below. They are illustrated in more detail in the actions and targets identified in chapter V below.

A. Identification and assessment of problems

21. The identification and assessment of problems is a process of combining five elements:
 - (a) Identification of the nature and severity of problems in relation to:
 - (i) Food security and poverty alleviation;
 - (ii) Public health;
 - (iii) Coastal and marine resources and ecosystem health, including biological diversity;
 - (iv) Economic and social benefits and uses, including cultural values;
 - (b) Contaminants:
(not listed in order of priority)
 - (i) Sewage;
 - (ii) Persistent organic pollutants;
 - (iii) Radioactive substances;
 - (iv) Heavy metals;
 - (v) Oils (hydrocarbons);
 - (vi) Nutrients;
 - (vii) Sediment mobilisation;
 - (viii) Litter;
 - (c) Physical alteration, including habitat modification and destruction in areas of concern;
 - (d) Sources of degradation:
 - (i) Point sources (coastal and upstream), such as:
(not listed in order of priority)
 - a. Waste-water treatment facilities;
 - b. Industrial facilities;
 - c. Power plants;
 - d. Military installations;
 - e. Recreational/tourism facilities;
 - f. Construction works (e.g., dams, coastal structures, harbour works and urban expansion);

- g. Coastal mining (e.g., sand and gravel);
- h. Research centres;
- i. Aquaculture;
- j. Habitat modification (e.g., dredging, filling of wetlands or clearing of mangrove areas);
- k. Introduction of invasive species;

(ii) Non-point (diffuse) sources (coastal and upstream), such as:

(not listed in order of priority)

- a. Urban run-off;
- b. Agricultural and horticultural run-off;
- c. Forestry run-off;
- d. Mining waste run-off;
- e. Construction run-off;
- f. Landfills and hazardous waste sites;
- g. Erosion as a result of physical modification of coastal features;

(iii) Atmospheric deposition caused by:

- a. Transportation (e.g., vehicle emissions);
- b. Power plants and industrial facilities;
- c. Incinerators;
- d. Agricultural operations;

(e) Areas of concern (what areas are affected or vulnerable):

(not listed in order of priority)

- (i) Critical habitats, including coral reefs, wetlands, seagrass beds, coastal lagoons and mangrove forests;
- (ii) Habitats of endangered species;
- (iii) Ecosystem components, including spawning areas, nursery areas, feeding grounds and adult areas;
- (iv) Shorelines;
- (v) Coastal watersheds;
- (vi) Estuaries and their drainage basins;
- (vii) Specially protected marine and coastal areas; and
- (viii) Small islands.

B. Establishment of priorities

22. Priorities for action should be established by assessing the five factors described above and should specifically reflect:

- (a) The relative importance of impacts upon food security, public health, coastal and marine resources, ecosystem health, and socio-economic benefits, including cultural values, in relation to:

- (i) Source-categories (contaminants, physical alteration, and other forms of degradation and the source or practice from which they emanate);
 - (ii) The area affected (including its uses and the importance of its ecological characteristics);
 - (b) The costs, benefits and feasibility of options for action, including the long-term cost of no action.
23. In the process of establishing priorities for action and throughout all stages of developing and implementing national programmes of action, States should:
- (a) Apply integrated coastal area management approaches, including provision to involve stakeholders, in particular local authorities and communities and relevant social and economic sectors, including non-governmental organisations, women, indigenous people and other major groups;
 - (b) Recognise the basic linkages between the freshwater and marine environments through, inter alia, application of watershed management approaches;
 - (c) Recognise the basic linkages between sustainable management of coastal and marine resources, poverty alleviation and protection of the marine environment;
 - (d) Apply environmental impact assessment procedures in assessing options;
 - (e) Take into account the need to view such programmes as an integrated part of existing or future comprehensive environmental programmes;
 - (f) Take steps to protect: (i) critical habitats, using community-based participatory approaches that are consistent with current approaches to conservation and uses compatible with sustainable development; and (ii) endangered species;
 - (g) Integrate national action with any relevant regional and global priorities, programmes and strategies;
 - (h) Establish focal points to facilitate regional and international co-operation;
 - (i) Apply the precautionary approach and the principle of intergenerational equity.
24. The precautionary approach should be applied through preventive and corrective measures based on existing knowledge, impact assessments, resources and capacities at national level, drawing on pertinent information and analyses at the subregional, regional and global levels. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent the degradation of the marine environment.

C. Setting management objectives for priority problems

25. On the basis of the priorities established, States should define specific management objectives, both with respect to source categories and areas affected. Such objectives should be set forth in terms of overall goals, targets and timetables, as well as specific targets and timetables for areas affected and for individual industrial, agricultural, urban and other sectors. Wherever possible, States should take immediate preventive and remedial action using existing knowledge, resources, plans and processes.

D. Identification, evaluation and selection of strategies and measures

26. Strategies and programmes to achieve these management objectives should include a combination of:
- (a) Specific measures, including, as appropriate:
 - (i) Measures to promote sustainable use of coastal and marine resources and to prevent/reduce degradation of the marine environment, such as:
 - a. Best available techniques* and best environmental practices, including substitution of substances or processes entailing significant adverse effects;
 - b. Introduction of clean production practices, including efficient use of energy and water in all economic and social sectors;
 - c. Application of best management practices;
 - d. Use of appropriate, environmentally sound and efficient technologies;
 - e. Product substitution;
 - (ii) Measures to modify contaminants or other forms of degradation after generation, such as:
 - a. Waste recovery;
 - b. Recycling, including effluent reuse;
 - c. Waste treatment;
 - (iii) Measures to prevent, reduce or ameliorate degradation of affected areas, such as:
 - a. Environmental quality criteria, with biological, physical and/or chemical criteria for measuring progress;
 - b. Land-use planning requirements, including criteria for siting of major facilities;
 - c. Rehabilitation of degraded habitats;
 - (b) Requirements and incentives to induce action to comply with measures, such as:
 - (i) Economic instruments and incentives, taking into account the "polluter pays" principle and the internalisation of environmental costs;
 - (ii) Regulatory measures;
 - (iii) Technical assistance/co-operation, including training of personnel;
 - (iv) Education and public awareness;
 - (c) Identification/designation of the institutional arrangement with the authority and resources to carry out management tasks associated with the strategies and programmes, including implementation of compliance provisions;
 - (d) Identification of short-term and long-term data-collection and research needs;
 - (e) Development of a monitoring and environmental-quality reporting system to review and, if necessary, help adapt the strategies and programmes;
 - (f) Identification of sources of finance and mechanisms available to cover the costs of administering and managing the strategies and programmes.

*For the purposes of this Programme, "best available techniques" is understood to include socio-economic factors

E. Criteria for evaluating the effectiveness of strategies and measures

27. A key element in successful strategies and programmes is to develop ongoing means of determining whether they are meeting their management objectives. States should develop specific criteria to evaluate the effectiveness of such strategies and programmes. While such criteria must be tailored to the particular mix of elements (illustrated in section C above) in each strategy or programme, they should address:
- (a) Environmental effectiveness;
 - (b) Economic costs and benefits;
 - (c) Equity (costs and benefits of the strategy or programme are being shared fairly);
 - (d) Flexibility in administration (the strategy or programme can adapt to changes in circumstances);
 - (e) Effectiveness in administration (management of the strategy or programme is cost-effective and accountable);
 - (f) Timing (the timetable needed to put the strategy or programme in place and to begin producing results);
 - (g) Inter-media effects (the achievement of the objectives of the strategy or programme creates a net environmental benefit).

F. Programme support elements

28. The long-term objective of national programmes of action should be to develop integrated strategies and programmes to address all action priorities in relation to impacts upon the marine environment from land-based activities. In addition, the programmes of action must themselves be integrated with overall national objectives and other relevant programmes in relation to sustainable development. States therefore should seek to ensure that there are administrative and management structures necessary to support the national programmes of action. These include, as appropriate:
- (a) Organisational arrangements to co-ordinate among sectors and sectoral institutions;
 - (b) Legal and enforcement mechanisms (e.g., need for new legislation);
 - (c) Financial mechanisms (including innovative approaches to provide continuing and predictable programme funding);
 - (d) Means of identifying and pursuing research and monitoring requirements in support of the programme;
 - (e) Contingency planning;
 - (f) Human resources development and education;
 - (g) Public participation and awareness (e.g., based on integrated coastal area management principles).