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Workshop on Implementation of the Global
Programme of Action for the Protection of
the Marine Environment from Land-based
Activities in the South Asian Seas Region

Colombo, Sri Lanka. 20 - 23 October 1997

REPORT OF THE WORKSHOP



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Background

1. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities [working paper UNEP(OCA)/LBA/IG.2/7] was adopted by an Intergovernmental Conference held in Washington, DC, USA, 23 October-3 November 1995. The goal of the Global Programme of Action is to prevent degradation of the marine environment from land-based activities, by facilitating the realisation of the duty of States to preserve and protect the marine environment. It is designed to assist States to take actions individually or jointly within their respective policies, priorities and resources, which will lead to the prevention, reduction and control and/or elimination of the degradation of the marine environment, as well as to its recovery from the impacts of land-based activities. Implementation of the Global Programme of Action will contribute to maintaining and, where appropriate, restoring the productive capacity and biodiversity of the marine environment, ensuring the protection of human health, as well as promoting the conservation and sustainable use of aquatic living resources.
2. The Washington Conference designated the United Nations Environment Programme (UNEP) as Secretariat of the Global Programme of Action and requested that, as the co-ordinator and catalyst of environmental activities within the United Nations system and beyond, it should through its programmes and secretariat role: (a) promote and facilitate implementation of the Programme of Action at the national level; (b) promote and facilitate implementation at the regional, including sub regional, level through, in particular a revitalisation of the Regional Seas Programme; and (c) play a catalytic role in the implementation at the international level with other organisations and institutions.
3. To facilitate implementation of the Global Programme of Action, UNEP as Secretariat of the Programme of Action is organising in co-operation with relevant regional organisations, a series of regional technical workshops of Government-designated experts, as well as representatives of relevant international organisations, funding agencies and, whenever possible, the private sector and experts of non-governmental organisations, as a means of strengthening national capabilities for protection of the aquatic environment from land-based activities, and to promote regional and sub regional co-operation. More specifically, the workshops are being convened to:
 - (a) Review the general objectives (paragraphs 18-35) of the Global Programme of Action and implications of the Programme;
 - (b) identify possible elements of regional framework strategies, with special reference to recommended approaches by source categories (chapters II-III of the Global Programme of Action);

- (c) Consider the requirements for development and implementation of national action programmes, including the assistance required and available for this purpose through the organisations supporting the Global Programme of Action; and
 - (d) Design and agree on general outlines for preparation of regional programmes of action to address land-based activities.
4. For the workshop participants, special attention will be drawn to the need for:
- (a) An integrated approach for the development of national action programmes, which should encompass not only concern for the marine and coastal environment, but also the protection of associated river basins including pollution from land-based sources;
 - (b) Placing national action programmes in the framework of existing or evolving national environmental and development programmes, strategies and policies;
 - (c) Flexibility in the design of action programmes, to ensure their ready adaptation to the information on the effectiveness of particular activities carried out under the programmes;
 - (d) Sub regional, regional and global co-operation in implementation of national action programmes, including co-operation with regional economic groups, relevant regional and international organisations, development banks, and relevant existing regional bodies, authorities and programmes (e.g., river basins authorities and commissions, programmes operated under regional seas conventions and action plans); and
 - (e) Development of options for representation of non-governmental organisations and private sector from the region to contribute to the development and implementation of national and regional action programmes.
5. The present workshop is the fifth of a series of similarly-planned regional workshops that UNEP, as Secretariat of the Global Programme of Action, will convene between 1996-1998 in the framework of the Regional Seas Programme, and in co-operation with relevant regional and international organisations to facilitate implementation of the Programme of Action at the national and regional level.

Agenda item 1. Opening of the Workshop

6. The workshop was opened by Mr. Hussain Shihab, Director, South Asia Co-operative Environment Programme, at 9.30 a.m. on Monday 20th October 1997 who made the Welcome Address. Dr. Suvit Yodmani, Director and Regional Representative, UNEP's Regional Office for Asia and the Pacific spoke on behalf of Ms. Elizabeth Dowdeswell, UNEP's Executive Director. Hon. Mr. Mahinda Rajapakse, Minister of Fisheries and Aquatic Resources Development, Government of Sri Lanka and Hon. Mr. Nandimitra Ekanayake, Minister of Forestry and Environment, Government of Sri Lanka were the Guests of Honour and delivered keynote addresses. Dr. Walter Rast, Deputy Director, Water Branch, United Nations Environment Programme, Nairobi addressed the meeting regarding the purpose of the workshop. Mr. Prasantha Dias Abeyegunawardene, Deputy Director Programmes, South Asia Co-operative Environment Programme (SACEP) delivered the Vote of Thanks.
7. The Workshop was attended by representatives of five governments (India, Maldives, Nepal, Pakistan & Sri Lanka), two United Nations agencies (WHO & IAEA), one UN inter-agency programme (GCRMN) and one regional non-governmental organisation (IOI – India). UNEP was represented by its Regional Office for Asia and the Pacific (Bangkok) and its Water Branch (Nairobi). SACEP acted as the Secretariat for the Workshop.

8. A list of participants is attached as **Annex I** to the present report.

Agenda item 2. Organisation of the Workshop

(a) Election of officers

9. The workshop elected Mr. R. A. D. B. Samaranayake, Representative of Sri Lanka as Chairman, Mr. Mohamed Khaleel, Representative of Maldives as Vice Chairman and Dr. B. R. Subramanian, Representative of India as Rapporteur.

(b) Organisation of work

10. The Workshop, as proposed by the Secretariat, worked in plenary sessions

Agenda item 3. Adoption of the agenda

11. The workshop participants adopted the agenda on the basis of the Provisional Agenda (**Annex II**). The list of documents available to the workshop is attached as **Annex III**.

Agenda item 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

12. The workshop was informed by the representative of UNEP's Global Programme of Action Co-ordination Office of the most relevant matters on implementation of the Global Programme of Action following its adoption by the Washington Intergovernmental Conference, including UNEP's role in facilitating its implementation.
13. The Washington Conference requested UNEP to prepare a proposal outlining a practical plan for the implementing the Global Programme of Action. This Plan was prepared by UNEP in co-operation with experts of United Nations agencies, intergovernmental and non-governmental organisations. The first draft of this plan was reviewed at three consultations held in New York during 1996: with agencies (30 January), Governments (1-2 February) and non-governmental organisations (6 February). On the basis of comments and suggestions received from these consultations, the draft was revised and presented to the Inter-sessional ad hoc Open-ended Working Group on Sectoral Issues of the Commission on Sustainable Development (New York, 26 February – 1 March 1996) for its considerations and comments.
14. The Plan was then revised and presented to the Fourth Session of the Commission on Sustainable Development (New York, 18 April – 3 May 1996) for consideration within the context of its review of Chapter 17 (Oceans and Seas) of Agenda 21, as a basis for the preparation of a draft resolution by Governments on Institutional arrangements for the implementation of the Global Programme of Action, to be adopted by the United Nations General Assembly at its fifty-first session in December 1996. The present implementation plan (working document UNEP/GC.19/14 A-E) also reflects the provisions set forth in the above noted United Nations draft resolution (particularly following the provisions for developing the clearing-house source category), as well as the outcome of the informal intergovernmental consultations (Geneva, 13-14 May 1996) (information document UNEP(WATER)/LBA/IS.1/4) and joint intersecretariat/interagency consultation (Geneva, 15-16 May 1996) (information document UNEP(WATER)/LBA/IS-IA.1/6). The outcome of a technical meeting on the Global Programme of Action clearing-house, convened by UNEP (Geneva, 26-27 September 1996) (working document UNEP(WATER)/LBA/C-H.1) also has been incorporated in the Plan. Other elements of GPA including the clearing-house mechanism, Technical Co-ordination Office and on going activities, were also introduced.

15. In introducing the Implementation Plan, the representative of the Global Programme of Action Co-ordination Office also emphasised its regional components.

Agenda item 4. (b) The South Asian Regional Seas Programme: A Status Report by SACEP

16. A representative of South Asia Co-operative Environment Programme presented a status report on the South Asian Regional Seas Programme. The copy of his presentation is attached as **Annex IV**.

Agenda item 5. Presentation of National Reports

17. The Government-nominated experts presented their country's National Reports on land-based activities, in the following order: India, Maldives, Nepal, Pakistan and Sri Lanka. There was no representation from Bangladesh and Bhutan. The summary of the Country Presentations are given in **Annex V** of this report.

Agenda item 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

18. The UNEP Consultant presented the Draft Regional Overview of Land-based Sources and Activities affecting the Quality and Uses of the Marine, Coastal and Associated Freshwater Environments in The South Asian Seas. The country presentations that preceded it provided a view of the diverse impacts of land use on the marine, coastal and associated freshwater environments. Therefore, the UNEP Consultant used a "Pressure-State-Response Framework" to illustrate some of the common problems a regional Programme of Action may have to address. The significant underlying pressures include population increase and poverty, urban growth, industrial growth, agriculture (and forestry) and changes in the hydrologic regimes, transportation, coastal aquaculture and tourism. These leads to proximate pressures of land-use and untreated waste entering the marine and associated fresh water environment. The conclusions of the overview are addressed as the problems for which several activities are proposed in the Draft Regional Programme of Action, prepared by the UNEP Consultant.
19. In discussing the Draft Regional Overview, the following questions were asked:
- Does the Draft Overview adequately reflect the actual problems and the situation with regard to the impacts of land-based activities on the marine, coastal and associated freshwater environments?
 - How will the overview be finalised?
 - Should the information be presented on the basis of (i) individual countries or (ii) individual pollutants ?

It was suggested that the overview may not adequately reflect the existing situation since much of the information was outdated. In response, the UNEP Consultant noted that the overview was a "draft" to be revised on the basis of the information provided by the country delegates. Accordingly, it was decided that the issues and their regional commonality would be illustrated in the form of a matrix. The country delegations would complete the matrix, providing the necessary information to revise the Draft Regional Overview. Because the commonality of problems was the more important point to address in the Draft Regional Overview, a suitable combination of country-specific information and pollutant source category information will be provided. It also was noted that many national programmes already exist to address the problem of domestic sewage, industrial pollution and solid waste disposal, but that these programmes are not adequately addressed in the Draft Regional Overview. Accordingly, the country delegations will provide the information required for completion of the Draft Regional Overview in the questionnaire to be distributed to them.

Agenda item 7. Global Programme of Action clearing-house structure and function, and possible development of a regional component in South Asia

20. The Global Programme of Action (paragraphs 45-46) called for the development of a clearing-house mechanism, as a referral system through which decision makers at the national and regional level can be provided with access to current sources of information, practical experience and scientific and technical expertise relevant to developing and implementing strategies to deal with the impacts of land-based activities. As recognised in the Global Programme of Action, the World Wide Web (WWW) on the Internet offers a basic access mechanism, through electronic means, to the data directory. However, because the Internet is not universally available, it is important also to use and build upon existing information-delivery systems, including the United Nations Development Programme's network of resident representatives, INFOTERRA and linked regional systems, including secretariats of regional seas and other regional conventions.
21. UN General Assembly resolution 51/189 on institutional arrangements for implementation of the Global Programme of Action calls upon States to take action in the governing bodies of relevant intergovernmental organisations and programmes, in order to ensure these organisations and programmes take the lead in co-ordinating the development of the clearing-house mechanism with respect to the source categories agreed in the Global Programme of Action.
22. As a first step to establishing an inter-organisational group composed of relevant international organisations to co-ordinate the basic design and structure of the data directory of the clearing-house, as well as its linkages to information delivery mechanisms (as called for in paragraph 46 of the Global Programme of Action), UNEP convened an *ad hoc* meeting with representatives of agencies (Geneva, 15-16 May 1996) [information document UNEP(WATER)/LBA/IS-IA. 1/6]. In response to the recommendations of this *ad hoc* meeting, UNEP subsequently convened a technical meeting to prepare the initial specifications for the clearing-house, drawing on established systems. The results and discussions of this technical meeting are reflected in the report of the meeting (Geneva, 26-27 September 1996) [working document UNEP(WATER)/LBA/C-H.1].

South Asian Seas regional component of the Global Programme of Action clearing-house

23. The representative of the Global Programme of Action Co-ordination Office introduced the working document UNEP(WATER)/GPA/SAS/RW.5/4, which proposes the possible development of a South Asian Seas regional component of the Global Programme of Action clearing-house.
24. The document identifies several critical tasks, which need to be accomplished in the region as part of the initial implementation of the regional components of the clearing-house mechanism:
 - (a) Prioritise the relevance of the nine source categories with respect to the region;
 - (b) Assign responsibility for each prioritised source category to a lead institution in the region;
 - (c) Identification of Internet information resources pertaining to the source categories (as defined by paragraph 44 of the Global Programme of Action);
 - (d) Identification of non-Internet information resources pertaining to the nine source categories;
 - (e) Compilation of lists of Frequently Asked Questions for the most relevant source categories;
 - (f) WWW site on the Global Programme of Action, including clearing-house information covering the most relevant source categories;
 - (g) List Server (electronic conference) on regional aspects of the Global Programme of Action and its clearing-house;
 - (h) Co-ordination of regional awareness-raising campaigns on the Global Programme of Action; and
 - (i) Co-ordination of regional query-response service, possibly in co-operation with INFOTERRA national focal points and the UNDP network of permanent representatives.

25. After discussion on possible modalities for development and implementation of the clearing-house mechanism on the regional level, and noting that the possibilities for Internet communication were relatively limited in the countries in the SACEP region, it was agreed that the SACEP Secretariat would function as the central node for the regional clearing-house mechanism, and will work to ensure completion of the tasks outlined in paragraph 24. It also was agreed that the individual member countries in the SACEP region would identify a lead organisation(s) for each of the source-categories identified in the Institutional Arrangements for "Implementation 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). The lead organisation(s) would (i) identify the modalities for providing information, data and responses to GPA-related queries, including electronic and written media; (ii) work in co-operation with the SACEP Secretariat in developing common formats and keywords to facilitate the clearing-house function in the region; and (iii) identify, maintain, update and revise as necessary the relevant information and data bases on the source categories identified in the "Implementation 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). The SACEP Secretariat and the member countries of SACEP will collaborate further as necessary in the continuing development of the clearing-house components on the national and regional-level.

Agenda item 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

26. The UNEP Consultant explained that, in keeping with the UNEP mandate to strengthen the existing regional seas programmes for implementation of GPA, he prepared his Draft Regional Programme of Action in a manner that harmonised the content of the South Asian Regional Seas Action Plan and the decisions at the intergovernmental meeting on the implementation of GPA (Washington, 23 October – 3 November 1995). The UNEP Consultant presented the objectives of the GPA and the proposed activities for five source categories: sewage, industrial waste (POPs, heavy metals and oils), agricultural waste and sediment mobilisation, litter (solid waste), and physical alteration and destruction of habitats. The activities proposed under each source category consisted of a mixture of interventions, including regional studies, training and capacity building, pilot studies, demonstration projects and mapping and strengthening of regional institutional capability by upgrading selected institutions in the region.
27. Following extensive discussions it was suggested that the Draft Regional Programme of Action did not adequately reflect national activities already in progress. It was not clear that the proposed activities were in fact the priorities as seen by the Governments. There was consensus that initially agreeable activities addressed by the Draft Regional Programme of Action are capacity building and public awareness. It was agreed that the UNEP Consultant would revise the Draft Regional Programme of Action to include regional studies in four pollutant source categories: sewage, industrial waste, agricultural waste and litter (solid waste). More emphasis also would be placed on public awareness and capacity-building activities under the theme of supporting measures.
28. The SACEP Secretariat then suggested that the regional components of the Draft Regional Programme of Action prepared by the UNEP Consultant be used as input for preparation of a more comprehensive SACEP Regional Action Plan for Implementation of the GPA. These regional components include the clearing-house mechanism, capacity-building and public awareness.

Agenda item 9. Institutional arrangements, activities, financial considerations and timetable for implementation of a Regional Programme of Action for the Protection of the Marine, Coastal and Associated Freshwater Environment from Land-based Activities in the South Asian Seas

(a) UNEP's functions in the implementation of the Global Programme of Action

29. Based on the agreed provisions in the Global Programme of Action, as well as on discussions carried out during the above-mentioned consultations, the distinction is made here between UNEP's secretariat role and UNEP's role as one of the United Nations bodies contributing to implementation of the Programme of Action.
30. As indicated in paragraph 74 of the Global Programme of Action, UNEP, as Secretariat of the Programme of Action, will: (a) promote and facilitate its implementation at the national level; (b) promote and facilitate implementation at the regional, including sub regional, level through, in particular, a revitalisation of the Regional Seas Programme; and (c) play a catalytic role in the implementation at the international level with other organisations and institutions.
31. The representative of the UNEP Regional Office (Bangkok) briefed the meeting on:
- (b) Legal and Institutional Requirements for Implementation of the Global Programme of Action with Special Reference to South Asian Regional Seas Action Plan**
32. The regional seas programmes and organisations within UNEP Regional Seas Programmes will be encouraged to provide an integrated framework for national action programmes. The advantages and benefits from this approach will be twofold:
- (i) As existing regional seas programmes and other regional programmes already encompass the protection of the marine environment from land-based activities as a main goal, they provide a "ready-made" programmatic, institutional and legal framework and organisational infrastructure for the implementation of the Global Programme of Action. The use of these programmes and their infrastructures as regional elements of the Global Programme of Action will obviate the need to develop a parallel mechanism for implementation, thereby avoiding duplication of efforts and wasted of resources; and
- (ii) by incorporating the existing regional seas programme activities into the wider framework of a globally co-ordinated programme, each programme will benefit from mutually supportive activities and will be strengthened through the assistance envisage to be available through the Global Programme of Action.
33. The presentation of UNEP Representative focused on the legal and institutional aspects of the GPA in the context of the South Asia Regional Seas Action Plan. The legal basis of the Global Programme of Action and its obligations and responses, were outlined. Further, the measures required to implement the Regional Seas Action Programme-comparing the obligations of the GPA were indicated. It was suggested that a possible course of action for countries in the region to promote their effective implementation would be commencing with national plans of action and progressively developing arrangements to compliment national action through regional co-operation.
34. Based on the previous discussions on (i) the draft regional overview report and the draft regional programme of action prepared by the UNEP Consultant, (ii) the clearing-house mechanism and (iii) the institutional arrangements, the overall recommendations of the meeting are as follows:

(i) Clearing-house Mechanism:

The SACEP Secretariat will function as the central node for the clearing-house mechanism in the SACEP region, and each of the member countries in SACEP will identify lead organisation(s) for the source-categories identified in 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). Concerted efforts will be made by SACEP to identify and secure the support of relevant UN and donor agencies and organisations and national Governments for the functioning of the clearing-house mechanism.

(ii) Initial Draft Overview on Land-based Sources and Activities Affecting the Marine, Coastal and Associated Freshwater Environment in the South Asian Seas Region:

This draft report will be revised in accordance with additional information, data and materials already provided by, or to be requested from, the member countries of SACEP.

(iii) 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:

Regional components of this draft report (e.g., capacity-building, training and public awareness) were accepted as immediate initiatives to be implemented by SACEP with the assistance of UNEP and other agencies, including non-governmental organisations.

(iv) Institutional Arrangements:

Previously existing institutions and programmes at the national and regional level be used to the maximum extent in the implementation of the GPA.

(v) Recommended Approach for Implementation of the GPA within the SACEP Region:

- The GPA is to be implemented in a phased, step-by-step approach in the region, involving both national and regional actions;
- As a primary component, the member countries of SACEP are to prepare National Action Plans for Implementation of the GPA (hereafter called NAPs) in accordance with the terms of reference (Annex VI), for implementation of the GPA at the national level;
- A Regional Workshop will then be convened (a) to inform member countries of SACEP of the NAPs, (b) to develop a Draft SACEP Regional Action Plan for Implementation of the GPA, and (c) to review progress in the interim;
- The Regional Workshop also will consider a finalised draft Regional Report on land-based activities impacting the marine and associated freshwater environment;
- Regional components in support of implementation of the GPA, including capacity-building, public awareness and training, be developed and implemented simultaneously with the development of the Draft SACEP Regional Action Plan for Implementation of the GPA;
- Concerted efforts will be made to identify and secure the support of UN and donor agencies and organisations regarding needed technical and financial resources for preparation of NAPs, and implementation of the GPA at the national and regional level.

The specific steps envisioned to achieve development and implementation of the NAPs, the Draft SACEP Regional Action Plan for Implementation of the GPA, and the draft Regional Report on land-based activities impacting the marine and associated freshwater environment are elaborated in **Annex VII** to this report.

Agenda item 10. Other matters

35. The absence of the representatives from Bangladesh and Bhutan was noted with regret. It was agreed that SACEP would make every effort to ensure their participation in the follow-up activities to this workshop.

Agenda item 11. Adoption of the report of the Workshop

36. The Rapporteur introduced the draft report of the Workshop. The Workshop adopted the report with agreed amendments.

Agenda item 12. Closure of the Workshop

37. The meeting was closed by the Chairman and the Secretariat at 1400 hrs.

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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 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 Pradeshhiya 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 Pradeshhiya 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

**TERMS OF REFERENCE
FOR DEVELOPMENT OF NATIONAL ACTION PLANS
FOR IMPLEMENTATION OF THE GPA**

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 Plans (NAPs) for the Implementation of the GPA. 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):

**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).*

RECOMMENDED APPROACH FOR THE IMPLEMENTATION OF THE GPA AT THE NATIONAL AND REGIONAL LEVELS WITHIN THE SACEP REGION

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), at the national and regional levels, within the context of the South Asia Co-operative Environment Programme (SACEP).

It was agreed:

1. To implement the GPA at the national and regional levels, using a phased, step-by-step approach.
2. The phased programme of relevant activities would comprise the following:
 - (A) Development of National Action Plans (NAPs) for the implementation of the GPA by the member countries of SACEP (Terms of Reference are attached as Annex VI to this report);
 - (B) Convening of a Regional Workshop to (i) inform member countries of SACEP of the NAPs (ii) review the finalised draft Regional Report on the land-based activities that impact the marine and associated freshwater environment (to be completed by SACEP with the assistance of UNEP); and (iii) develop an agreed SACEP Regional Action Plan for Implementation of the GPA.
 - (C) Mobilisation of financial resources for the implementation of the NAPs and the SACEP Regional Action Plan for Implementation of the GPA.
3. These steps are further elaborated, as follows:

Phase I:

A. Development of NAPs for the Implementation of the GPA

In developing the NAPs, 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 NAPs;
- (3) The NAPs will be reviewed at a national forum, for the purpose of securing a national consensus thereon;
- (4) SACEP and UNEP will endeavour to secure the necessary financial and technical support for development of the NAPs, and
- (5) It is expected that the completed NAPs would be transmitted to the SACEP Secretariat no later than 1 December 1998.

B. Clearing-house Mechanism

- (1) SACEP will function as the central node for the Regional Clearing-house Mechanism. Member countries will identify national lead organisations for the source categories identified in the document, "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). SACEP and the national lead organisations will co-operate in developing and implementing the clearing-house mechanism in accordance with the details provided in the above-noted document.
- (2) SACEP shall make concerted efforts to secure the technical and financial support of UN and other relevant agencies to carry out the clearing-house functions of SACEP and the national lead organisations for the source categories.

C. Capacity Building, Public Awareness and Other Relevant Activities

- (1) SACEP, in co-operation with its member countries, shall identify the capacity-building, public awareness and other relevant requirements for implementation of the GPA at the national and regional levels.
- (2) SACEP, in co-operation with its member countries, shall agree on the modalities for meeting these requirements, including identification of the national and regional organisations, including NGOs, that may be most appropriate for implementing the relevant activities
- (3) SACEP shall make concerted efforts to secure the technical and financial support of UN and other relevant agencies for implementing the above-noted activities.

Phase II: Regional Workshop to inform member countries of SACEP of (i) NAPs, (ii) Draft Regional Report on Land-based Activities, and (iii) Draft SACEP Regional Action Plan for Implementation of GPA

- (1) The purpose of the Regional Workshop, to be convened no later than 1 March 1999, would include (i) informing SACEP member countries of the individual NAPs; (ii) reviewing the finalised draft Regional Report on the land-based activities that impact on the marine and associated freshwater environment; and (iii) developing a SACEP Regional Action Plan for Implementation of the GPA.
- (2) The Regional Workshop also will likely provide additional information useful in the finalisation of the above-noted Regional Report on land-based activities. SACEP with the assistance of UNEP will finalise the draft Regional Report in accordance with the decisions agreed at the workshop, no later than 1 May 1999.
- (3) The Regional Workshop also will identify possible elements and processes for inclusion in the Draft SACEP Regional Action Plan for Implementation of the GPA, which is expected to be adopted at the workshop. SACEP with the assistance of UNEP will finalise the draft SACEP Regional Action Plan in accordance with the decisions reached at the Regional Workshop, no later than 1 May 1999.

- (4) SACEP with the assistance of UNEP will convene an Inter-Governmental meeting to consider and adopt both the Regional Report on Land-based Activities and the SACEP Regional Action Plan for Implementation of the GPA, no later than 1 June 1999.

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

It was recognised that implementation of the NAPs and the SACEP Regional Action Plan for Implementation of the GPA will require additional funding. To facilitate this funding for all phases of the GPA in the SACEP region, 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 seek the necessary financial resources for the relevant national and regional activities.