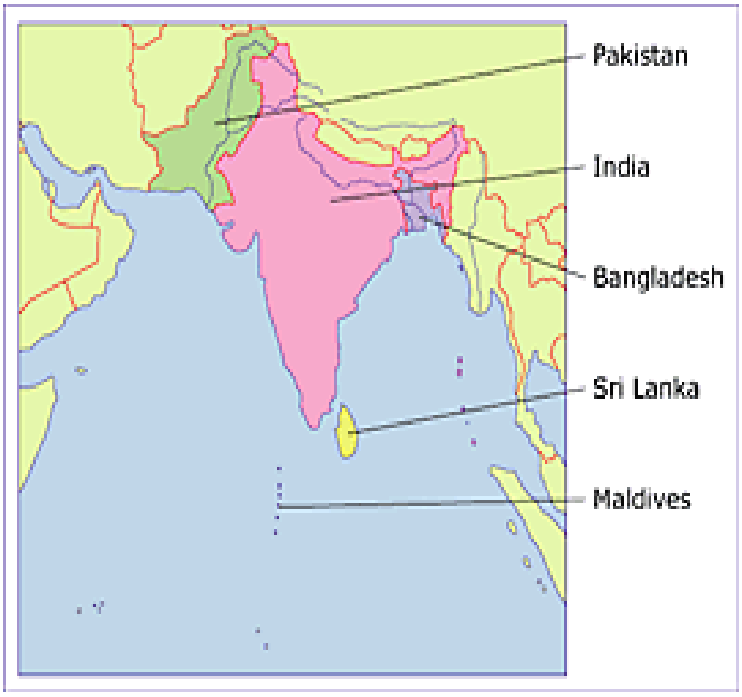
REPORT OF THE SOUTH ASIA REGIONAL CONSULTATION WORKSHOP FOR THE PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES



28 – 30 April 2003, Colombo, Sri Lanka

UNEP GPA IWMI SACEP

ACKNOWLEDGEMENTS

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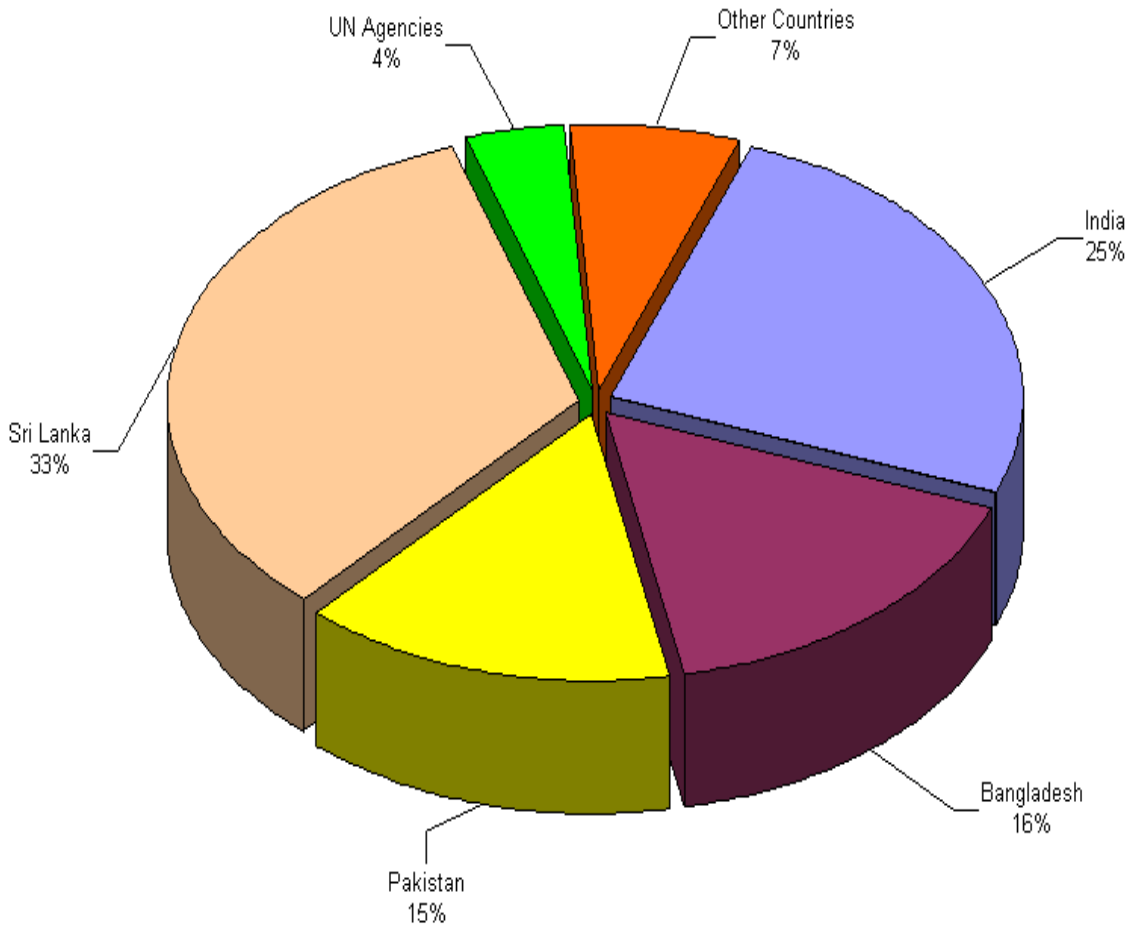
INTRODUCTION

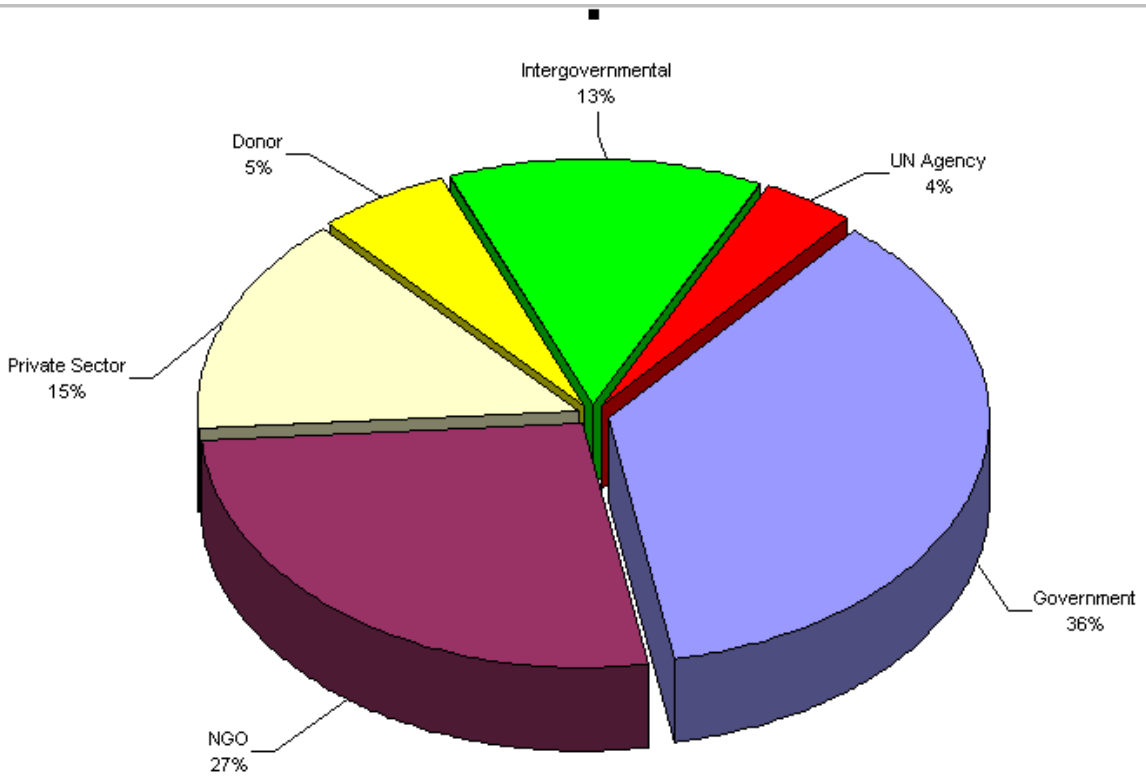
The three day South Asia Regional Consultation Workshop for the Protection of the Marine Environment from Land-based Activities was held in Colombo, Sri Lanka during 28 – 30 April 2003. The GPA Coordination Office in association with the International Water Management Institute (IWMI) and South Asia Cooperative Environment Programme (SACEP) organised the workshop. A total of 75 participants consisting of Government officials, Parliamentarians, Representatives from Research Institutes, NGOs, Private Sector, Donor agencies and UN bodies participated (see List of participants *Annexure* 1).[1]

Summary of Country /Agency Representation



[1] Several government and non-governmental officials from Maldives though enrolled for the workshop could not finally attend due to the need for their presence at state functions.

Summary of Stakeholders' Representation



Day I (April 28 2003)
Inaugural Session

The inaugural session was addressed by **Honourable Rukman Senanayake**, the Minister for Environment and Natural Resources, Government of Sri Lanka, **Dr. Veerle Vandeweerd**, Coordinator of GPA Coordination Office, **Dr. Vladimir Smakhtin**, Principle Scientist of IWMI, and **Mr. Mahaboob Elahi,** Director General of SACEP.

The Honorable Rukman Senanayake, the Minister for Environment and Natural Resources, Government of Sri Lanka, inaugurated the workshop. The Minister, in his speech, emphasised on the need for proper understanding of the dynamic and complex interrelationships among ecosystems and human activities. He noted that escalation of coastal problems and considerable degradation of the coastal and marine environment is the result of reckless land-based activities of people. He stated that there are numerous forms of land-based activities, which affect the marine environment. These vary from agricultural to industrial. Therefore, it is of paramount importance that we take all precautionary measures to reduce the impact of such activities.

The Minister said that in 1999, his Ministry, the Ministry of Environment and Natural Resources, with support from a team of experts from the government, research institutes and universities prepared a report titled "National Action Plan for the Protection of Marine Environment from Land-based Activities in Sri Lanka".

Based on this preliminary report, the MoENR with financial support from UNEP GPA is now preparing a more specific National Plan of Action with participation of the relevant stakeholders and this is due for finalisation in September 2003. This National Plan of Action the Minister reiterated will be on par with the Government policy document "Regaining Sri Lanka".

The Minister concluded his speech by thanking the UNEP GPA Coordination Office for selecting Sri Lanka to host the regional consultation workshop and IWMI and SACEP for making all necessary arrangements for holding it. He also extended his thanks and warm welcome to all the participants, and extended a special invitation to the foreign delegates to find some time to enjoy the warmth and hospitality of the Sri Lankan people and the rich cultural heritage of the country during their stay.

Dr. Veerle Vandeweerd, Coordinator of the GPA Coordination Office, The Hague, The Netherlands in her speech thanked the Minister for his presence and encouraging words. Dr. Vandeweerd stated that choice of Sri Lanka as a venue for the regional workshop is due to Sri Lanka‟s geographical position and the government‟s commitment to address the coastal and marine environmental issues. She referred to Sri Lanka‟s Coastal Zone Management Plan which was formulated more than two decades ago. Sri Lanka was the first tropical country to develop a Coastal Zone Management Plan. In reference to the theme of the workshop she pointed that development is necessary for people, cities, farmers, and children to enjoy a bright and productive future, but the goose that lays should not be killed in the process. The coastline and the marine environment, is a rich and wonderful heritage that must be treated with respect, ensuring that it remains productive and beautiful for future generations. Outlining the objectives of the regional workshop she urged the participants to discuss and agree on a programme of work for the region, building on the achievements of the national level programmes. She emphasised on building partnership for expediting the process of programme implementation, and sought advice in designing strategies to move from planning to action.

Dr. Vladimir Smakhtin welcomed the participants on behalf of the International Water Management Institute (IWMI). Referring to his discussions with many South Asian stakeholders he stated that degradation of coastal ecosystems is a well-acknowledged concern in the region. The problem relates to reduced freshwater inflow to the coastal zone mainly due to withdrawal of water from rivers and wetlands without due consideration to their environmental requirements. Assessment and maintenance of environmental water demands therefore need a major attention. It has a direct relevance to Physical Alterations and Destruction of Habitats (PADH) and Integrated Coastal Area and River Basin Management (ICARM) programme components of the GPA Coordination Office. These programmes have direct relevance to IWMI‟s work in the field of environmental flow requirements. He reiterated that the GPA as a major programme, has the potential to bring different communities dealing with water together.

He also noted that the workshop was an important event for South Asia and expressed hope that it would be a success and noted that it should be: "as the intentions are noble, goals are pragmatic, and the workshop is very well represented regionally and supported internationally".

Mr. Mahaboob Elahi on behalf of SACEP, as one of the co-sponsors of this workshop, welcomed the professionals, decision-makers, representatives of the government agencies, civic society organisations, academia and the private sector of the South Asian countries and thanked them for agreeing to deliberate on the implementation of GPA in the region. With reference to the initial meeting held in New Delhi, India in February 2002, followed by the announcement of Strategic Action Plan on Municipal Waste Water (SAP) by GPA in the backdrop of their continuing Programme on Preparation of National/Regional Plan of Actions for the countries of South Asia, he briefly reiterated the objectives of this consultation. The objectives being to have a common understanding of GPA in South Asia, finalization of a Plan of Work on the subject for the region for the period 2003-2006 and working out details of its implementation mechanisms, especially by building on synergy with other programmes and forging new and innovative partnerships.

Day 1 (April 28, 2003): Technical Session I
Chaired by Dr. Ainun Nishat
Country Representative, IUCN Bangladesh Country Office.

The agenda and structure of the workshop was introduced by Dr. Anjan Datta of GPA Coordination Office, for comments and endorsement by the participants. Upon adoption of the agenda (see *Annexure 2*), Dr. Veerle Vandeweerd, Coordinator of the GPA Coordination Office briefly presented the background and genesis of the GPA, the mandate and work approach of the GPA Coordination office. She then presented the GPA related and broader environmental issues and concerns of the region that were voiced by the South Asian actors to a two members mission fielded by the GPA Coordination Office during January 2003 (Dr. Veerle Vandeweerd's detailed presentation is enclosed as *Annexure 3*).

This was followed by the comments of the designated speakers from various stakeholder groups of the participating countries (i.e., Bangladesh, India, Pakistan and Sri Lanka). Comments made by the various commentators are briefly noted below:

Mr. Arumugam Senthil Vel, Joint Director, Ministry of Environment and Forestry (MoEF), Government of India

Mr. Senthil Vel said that India has one of the longest coastlines and advanced level of environmental legislation, implemented by 13 coastal zones management authorities. All development activities are restricted and have to go through the comprehensive environmental impact assessment (EIA). Municipal sewage is one of the major issues in India. In 1985, the MoEF started implementation of the Ganga Action Plan targeting primarily municipal sewage. This yielded very good results.

The same principles are now being adopted and applied within the national River Action Plan (funded by JICA), which cover all rivers in India. Mr. Senthil Vel provided information on India‟s on going work on several technical issues including treatment and/or disposal of pollutants, including sewage transfer deep into the sea. It was mentioned that with assistance from International Bank for Reconstruction and Development (IBRD) and Asian Development Bank (ADB) in three selected areas (no specific reference was made) sewage is being transferred into the deep sea through installation of pipes below the sea. He however mentioned that these are very costly endeavour and have become possible due to availability of donor funding. However, for addressing much of the current problems flow of funds is a major constraint. Notwithstanding the above, India has embarked on several activities to protect coastal areas. ICZM plan is being implemented in several States. Part of it is to cope with pressure on coastal zone from population and fisheries.

Dr. Atiq Rahman, Executive Director, Bangladesh Centre for Advanced Studies

Dr. Atiq Rahman in his remarks pointed out that the major area of concern in South Asia, is the lack of understanding of the critical linkage between people and ecosystem. This has direct impact on all activities related to poverty alleviation in the region and should be included into the focus of programs for the GPA. Dr. Rahman further advocated pursuing the link between different stakeholders in water resources management. He categorically stated that in the name of development often "funds flow from bottom to top, instead of flowing down to reach the poor" and South Asia is no exception. This trend needs to be changed and he emphasised that focus should be on the pro-poor ecosystem management. He supported the GPA proposal of stakeholder partnerships, and stressed that to develop effective partnerships in the region, it is necessary to cultivate a sense of equity, not just "donor – recipient" relationships. Capacity building in ecosystem management and learning from good lessons (as well as bad ones) is imperative.

Ms. Perween Rahman, Director, Research & Training Institute, Orangi Pilot Project, Karachi, Pakistan

Ms. Perween Rahman focused on several issues including partnership building avoiding dependence upon donors and up-scaling of solutions. She stated that the governments in South Asia find it difficult to develop partnership with communities. This is mainly due to lack of trust. In such a situation it is not easy to have a community buy-in.

She also said that the poor people are mostly not part of the mainstream development process due to barriers such as language. Further in large-scale donor funding and involvement of consultants often kills community initiative even where it exists, due to the wrong design of the process. For her this would call for building on existing small-scale community based initiatives and should be supported by the existing government resources. This should be approached as a process rather than a project. However, to materialise such initiatives lot would depend on political commitment as large part of the national budget is placed into defense and debt services, rather than community development. In the context of Pakistan she argued for mobilization of local resources to avoid the debt cycle.

She also stated that poverty alleviation programs should not be considered in isolation. Sewage treatment, transport etc., are all activities relevant to poverty alleviation. Ms. Rahman suggested several key points for addressing municipal sewage problem:

- People and governments should map the sources of pollution and community areas;
- Community initiatives should be documented;
- It is important to recognise that there are problem as to the acceptance of professionals (there is a need to train professionals to communicate with communities to break psychological barriers). Professionals working with communities should be conversant with the ways of building their trust and acceptance;
- Transparency of the process is important. Public hearing should be undertaken at various stages of community oriented projects to ensure transparency.

Mr. A N R Amarathunga. Additional Secretary, Minister of Fisheries & Ocean Resources, Government of Sri Lanka

Mr. Amarathunga in his opening remarks stated that "pollution must stop before it begins". Pollution has origins in both inland and coastal sources. The extent and scale of pollution is diverse however, the important sources are discharges from upstream basins, soil erosion, coral mining, increase of salinity in rivers and coastal farming among others. To address these often large projects are designed, but there are very few good examples of implementation. In projects lot of money is pumped into advisory services but not much is left for action. In future program should be designed which aim at people whose first concern is to survive. If peoples" concerns are not addressed they tend to forget the project after it has been finished.

Investments in arresting pollution are minimal. There is a lack of understanding and awareness of pollution problems. Sri Lanka (including countries of the region and other developing countries) is struggling to ensure food and environmental security at the same time. The „First World" solutions of environmental problems would not work in developing countries. In the developing world the challenge is to deal with the demand for "development" and the protection of the environment at the same time. The private sector normally goes for low cost production but does not address environmental problems.

Mr. Amarathunga focused also on the acute problem of coral mining activities. He emphasized the need for alternatives. In his opinion toxic and chemical wastes are not a problem in Sri Lanka, at least for the moment. But they may become a problem in the future and the country if not prepared and equipped to deal with these problems. The critical questions in this regard are who will address these problems (government, fisher communities, private sector) and how to put the communities into action. Education and awareness raising can help to prevent the problem, participation of children is very important. Programs should be designed for school children and for teachers to enlarge and enhance the social capital base.

Mr. Krishna Kumar. Senior Programme Officer, WWF-India

According to Mr. Kumar WWF and GPA have points of convergence. They are natural allies (WWF is a partner Non-Governmental Organization of GPA) and WWF participated in intergovernmental conference that adopted the GPA in Washington, D.C. November 1995.

WWF India initiated the planning of a global representative system of marine protected areas (MPAs) in 1995 including the Central Indian Ocean (including the Maldives and the Chagos Archipelago), Western Indian Ocean along the Indian Coastline, Eastern Indian Ocean, Northern Bay of Bengal, East Bay of Bengal

The GPA priorities dovetail with WWF on two thematic areas of work namely, MPAs and sustainable fisheries, which are part of its target driven programme world over, since 2000. MPA targets: extractive industries, industries and markets, sustainable fisheries.

Mr. Kumar also listed several areas that the WWF India could play in the GPA process. They include education, information exchange, technical assistance, promoting public participation and monitoring the implementation process. Also WWF is keen to get involved in community based projects, capacity building programs, fund raising, monitoring public access, enhancement of legislation and regulatory action, media links and private sector mobilization.

Mr. Omar Faruque. Dhaka Chamber of Commerce and Industry, Bangladesh

Mr. Faruque highlighted the country attributes: long coastline of 700,000 km, high biodiversity including the largest mangrove forest in the world - designated as the World Heritage site by UNESCO, delicate balance in the ecosystem; highly dynamic environment and dense population.

The rich natural resources, according to him are now under pressure from oil spills, water pollution, increased inadequacy of freshwater inflow, water borne diseases, unregulated use of mangroves, excessive use of pesticides and ship breaking industry which is a threat to the marine ecosystems.

Mr. Faruque agreed with the findings of the GPA Coordination Office as presented in the background document, and extended his support to the concept of innovative partnership e.g., by involving the private sector. He also suggested that for the success of the GPA, capacity need to be developed at all levels to develop perspectives for integrated resource management.

Mr. Muhammad Tariq Sardar. Chairman, Global Water Partnership South Asia Technical Advisory Committee (GWP-SASTAC) and Pakistan Water Partnership (PWP).

Mr. Tariq Sardar stated that pollution is increasing in Pakistan. He gave examples of the new structural developments, which have adverse impacts on the freshwater and coastal habitats (i.e., the main drain, which goes along the Indus – one of the largest and longest drains in the world).

To address the increasing problems he emphasised the need for developing wider partnership. He mentioned that the Pakistan Water Partnership has been successful in developing partnership between private and public sectors. The private sector produced a framework of action fully accepted by the Government of Pakistan. Mr Sardar suggested that a concept like ICZM should be introduced at the grass root level, and even in schools.

Mr. Sardar gave a detailed description of the National Drainage Program (NDP) and its primary GPA-relevant component: the Environmental Management Program (EMP). The details of the NDP and EMP are recorded in the supplement to the GPA Regional Background document; *Overview of the GPA related issues and activities in South Asia* (circulated among the participants of the workshop).

Ms. Hasna J. Moudud. President, Coastal Area Resources Development and Management Association, Bangladesh

Ms. Hasna Moudud began her comments by stating that coastal and marine environments were part of the Kyoto agenda and many other international gatherings. She emphasised the importance and role of women in the program such as the GPA. The role of women should be highlighted, and needs to be supported to empower women. She brought the examples of China, Japan, Korea where coastal areas have been successfully developed with inclusion of women. She suggested that the best of these experiences have to be assessed for replication in South Asia. She then stressed that poor people have very few livelihood alternatives. They are very vulnerable to both natural disasters and development that does not consider their basic needs and dependencies on the resources.

Transboundary watersheds were also mentioned and she urged countries to open dialogue on water resources sharing, information sharing and arresting pollution. She stated that the GPA may serve as a medium for such dialogue. Water abstraction in the upstream is another concern. Its adverse impacts on the ecosystems are well known in South Asia. Most of the major rivers in South Asia are over-exploited.

Ms. Moudud also raised the issues of climate change and sea level rise, the problem of providing freshwater inflow to coastal zone to sustain marine resources, the need for a program of action for the Bay of Bengal, the issue of networking with other civil societies and the need for free information flow.

Mr. Niranjan Khatri. General Manager, Welcome Environment Initiative, ITC Hotels, India.

Mr. Khatri made a point that environmental problems should be internalized. It is necessary to join old experience with new opportunities. He informed the participants that his education on environment is from his work experiences, while dealing with problems of managing a hotel during a severe drought on a small island called Andaman in India.

He advocated the "3 R-Principle": "Reduce - Reuse – Recycle" and appealed for reduction of resource consumption, reuse of water from bathrooms and toilets, paper recycling, etc. which he has successfully used in his hotel management practice.

Mr. Omar Faruque Khan. Director General, Department of Environment, Ministry of Environment and Forest, Government of Bangladesh

Mr. Khan told delegates that Bangladesh has developed a National Plan of Action (NPA) against pollution of the marine and coastal zone and it was time to implement it. However, for implementation of NPA there were multiple constraints, including financial and cultural ones. He questioned the capacity of South Asian countries to address these problems on their own, without regional cooperation and support of international programmes such as the GPA.

Mr. Hammad Naqi Khan. Director Environmental Pollution Unit, WWF Pakistan

Mr. Hammad Khan stated that GPA produced regional background paper is a comprehensive one, although some of the on-going activities and issues are missing. He urged the participants to focus on actions that are to be perused. In his opinion what needs to be done has been studied a lot, but it is necessary to apply existing experiences. Many international agreements exist, but they are not working. Often rush assignments are being undertaken with no tangible output. Mr. Khan however, expressed his hope that this will not be the case with the GPA.

He mentioned Pakistan Poverty Reduction Paper, which has 200 pages but only one small paragraph on the environment. He suggested that the links between poverty and environment are clear and should be reflected in every relevant document and go through all sectors and activities.

For the implementation of programs like GPA, there is a need for financial and technical assistance. Implementation may be done even with the existing levels of legislation with further enhancements of environmental legislation in the process. Most line agencies need to build capacity as they don't have the means to enforce environmental rules. It is necessary to educate representatives from civil societies, research institutions, etc., and to establish accountability to check and assess progress, provide measurable indicators to assess implementation of programmes within the framework of GPA.

Dr. Jayampathy Samarakoon. Team Leader, Integrated Resources Management Programme, Central Environmental Authority, Government of Sri Lanka

Dr. Jayampathy Samarakoon focused on three main points for the GPA implementation in South Asia.

- Strategic zoning based on ecosystem functioning, backed up by political authority at both local and national levels.
- People-centered approach. Governments are often extremely distant from people although they need communities participating to provide local solutions. Community mobilisation is imperative.
- Financing – must mainly come from domestic sources. To ensure this government commitment and political commitment are necessary. Need for allocation of budget for social up-liftment along with environment as social development process influences environment and often they are inter-linked.

Before breaking for lunch an intervention was made by Dr. Vandeweerd. She requested the participants to focus their deliberations on issues related to GPA. Dr. Vandeweerd mentioned that issue such as education are of crucial important but this was primarily the mandate of UNESCO, the UNEP, however, has an Environmental Education Programme. Similarly fisheries fall under FAO but when some activities of fisheries impact upon the destruction of habitats (e.g., shrimp aquaculture) GPA takes that as an area of action.

Day 1 (April 28, 2003): Technical Session II
Chaired by Professor Raghavachari Rajagopalan
Director, International Ocean Institute India.

The session started with the summary presentation of the morning session and this was done by former session Chair Dr Ainun Nishat (details of his summary are enclosed as (*Annexure 4*). Observations were structured under different sub-headings.

Firstly, the *framework of action* which argued for;

- linking marine environment with river basin management
- action to be taken by source category (sewage, heavy metals, etc)
- reliance should be on use of domestic resources and local technology
- need for a strategic action plan for implementation and outreach through GPA Coordination Office
-

Secondly, the *main focus areas and principles should include;*

- treatment of pollution at the source ("Pollution must stop before it starts")
- action at the upstream level to avoid pollution downstream
- establishing linkages between people and their ecosystem-dependent livelihoods
- establishing links with Millennium Development Goals
- maximizing available local capacity
- developing government- NGO-private sector partnership
- strategic zoning.

Dr Nishat further outlined the *typical elements*, which are or should be *present in each NPA* and they include;

- excessive withdrawal of water posing threat to the aquatic ecosystem
- environmental flow requirement of inland and coastal ecosystems
- restoration of habitats and ecosystems, deterioration of mangroves
- sewage and industrial effluents
- impact of agricultural pesticides
- shrimp farming in coastal areas
- oil spills
- ship breaking
- innovative partnerships development
- institutional aspects relevant to the implementation of the plans
- environmental legislation

Among *crosscutting issues* such as capacity building, research, knowledge networking and knowledge management were also mentioned.

The Chairperson then called for a Panel discussions.

Mr. K.M. Khan. Member of Parliament India, and President GLOBE India

Mr. Khan emphasised the need for better understanding among the various actors (institutions and individuals) to address the problem of marine environment. He recognised the need and importance of formulating NPAs, but pointed out that mere formulation of NPAs would not solve the problem, specific programme of actions needed to be designed and acted upon. Referring to the objectives of GLOBE he extended his support and expressed his strong desire to work in partnership with all to materialise the GPA mandate. He praised the initiatives of GPA Coordination Office on the review of legislations titled *"A Comparative Review of Coastal Legislation in South Asia"* and informed the participants that in the upcoming GLOBE meeting scheduled for July 2003 in New Delhi, India he would present the outcomes of the review for assessment and future actions in collaboration with others.

Mr. Quamrul Islam Siddique. Chairperson Global Water Partnership, South Asia

Mr. Siddiqui recognised the complementarities of the GPA activities and the activities carried out by GWP. He endorsed the idea of designing and implementing projects at local level within a framework of national plan. In his opinion GWP would welcome GPA identified issues to be addressed through its initiative of implementing local level water-resources management projects for ensuring integrated water resources management. He urged the participants to use "WATER for PEACE" rather than waging war for water.

Mr. Wang Zhijia. Former Director General, State Environmental Protection Administration of the People's Republic of China.

He noted that after WSSD, UNEP was trying very hard to focus on sub-regional delivery of global priorities and for designing concrete action programme for implementation of the GPA plan. Referring to the statements made by the participants "reversing the resource flow from bottom-up to top-down" he said it was not realistic to assume that the general flow of funds from bottom-to top will be reversed at the end of one workshop. He however, expressed his satisfaction and appreciation that the meeting was addressing the issue and said that such a trend should be arrested.

Referring to experiences of China, he informed participants that an NPA exists for the Bohai sea. The NPA is implemented through a Coordination Committee and the stakeholders concerned are in the coordination committee to deal with land-based pollution. GPA has close contact with China and good outcomes were derived from the above it in the field of awareness raising, bridging knowledge gaps and enhancing technical capacity.

Mr. M.H. Siddiqi. Adviser, Bangladesh Unnayan Parishad (BUP a research and policy advocacy centre)

Mr. Siddiqi"s presentation emphasised the importance and need for integrating freshwater community and coastal community. With reference to Bangladesh he pointed out that, the country has realised the ill impacts of isolated developments and presently embarked on developing an integrated coastal zone management (ICZM) plan.

He also mentioned that a lot of energy and resources are being diverted by talking in international seminars with little or no concrete action on the ground. The GPA should take up small-scale pilot/demonstration schemes implementable with more reliance on domestic resources rather than massive donor funding. Policy makers should be convinced that massive assistance by donors is often aimed at achieving donor‟s agenda not the recipient‟s.

Dr. Shahid Ahmad. Director (Water), Pakistan Agricultural Research Council, Government of Pakistan

Dr Ahmad said that most of the environmentally relevant projects in South Asia are not sustainable. Groundwater contamination from sewage has reached dangerous levels and has become an economically detrimental factor. Transboundary issues in the region relating to sharing of water resources and information are far from adequate. Further, while addressing pollution or any other environmental issues for instance, related to water, the focus should not just be the quantity or quality of water, but also when and where it is found and what preventive approaches should be taken to stop pollution in future.

Information dissemination was a major area of concern at the national level. Data was simply not available when needed although it exists. This reflects lack of coordination and harmonization among and between various institutes within a national structure. Shallow groundwater is not safe anymore. There are no cost effective solutions to pollution in the region.

Legislation is of utmost importance but in relation to many of the pertinent environmental issues country lacks legislation. Any action will be will have limited effects and may even be obstructed without legislation in place. The initiative of GPA Coordination office to review legislation and identify gaps is a timely and commendable effort. The region will certainly be benefited from this review. We also need to change approach to environmental planning and management and consider such factors as climate change.

Dr. Veerle Vandeweerd. Coordinator UNEP GPA Coordination Office.

In her summary remarks, Dr. Vandeweerd thanked the Panel members for their constructive suggestions and support. She stated that to implement a region-wide GPA programme it was necessary to have coherent GPA activities reflected in all NPAs and to ensure realistic financial arrangements. She however, also recognised, as most panel members stated, the need for awareness raising, education, training and information sharing, sharing of experience, technology, best practices, the development of indicators for assessment and the need for addressing gender questions. She urged the participants to discuss them in the context of various thematic issues on the following day.

Given the emphasis on finance and financial allocation strategies as an important considerations in implementation of the NPAs, Dr. Vandeweerd requested the Chairperson to allow Mr. Ulrik Weuder to share OECD‟s experience on the subject.

Mr. Ulrik Dan Weuder. Environment Economist, Environment Department, Organisation for Economic Cooperation and Development (OECD), Paris.

Mr. Weuder stated that OECD works with planners including the ones who draft environmental action plans. Based on his work experiences he stated that often in plan documents there are long list of environmental problems without proper prioritization and lack of identified consistent financing. The same appears to be happening in South Asia. Apparently a lot of work has been done in identifying problems, but they are still weak on priorities and identifying finances. Based on the OECD work experiences in other regions (see Annexure 5 for details) he suggested the following to translate NPA into a feasible plan for implementation.

- Identify existing resources allocated to environment sector
- Prioritize financing strategy based on affordability, with knowledge of financing rules and flows.
- Strengthening environmental funding institutions
- Multi-year planning program at municipal levels

The Chairperson, **Professor Rajagopalan**, summarized the outcome of the session in the following points:

- Make legislators listen to you! GLOBE will help.
- Make peace with water, not war!
- Go to China to learn, when SARS subsides!
- Don‟t keep your local, appropriate technology a secret, share it in the region
- Integrate mainland and coastal projects
- Don‟t ask for alms, depend on domestic resources!
- Small is still beautiful: Start with small, feasible demo projects!
- Integrate GPA into national planning and existing regional programmes
- Enabling framework first, legislation later
- Don‟t forget the fish!
- Have milestones to monitor progress.

This session was followed by a press conference. Dr. Anjan Datta made a brief presentation highlighting the GPA, its activities in general and the specific objectives of the Regional workshop. He then introduced the members of the Panel to the Press. The members were Dr. Veerle Vandeweerd from GPA Coordination Office, Mr. K.M.Khan, MP from India, Dr. Ainun Nishat from Bangladesh, Dr. Jayampathy Samarakoon from Sri Lanka and Dr. Shahid Ahmed from Pakistan, Dr. Vladimir Smakhtin from IWMI and Mr. Mahaboob Elahi from SACEP. The members of the Press raised several issues pertaining to Sri Lanka and Coastal laws and problems in general, and they were responded by the Panel members. The dialogue between the press and the panel members continued for an hour. Detailed of the press coverage are annexed A*nnexure 6).*

Day 2 (29 April 2003)
Thematic Group Sessions

Following the decision of the previous day, during the pre-lunch period the participants divided themselves into four thematic groups and discussed various contents of the programmes and the outcome was reported to the plenary during post-lunch session. Below outcome of thematic group exercise is presented.

THEME: NATIONAL PROGRAMMES OF ACTION (NPA)

Chairperson: **Dr Shahid Ahmad (PARC, Pakistan),**
Rapporteur: **Ms Rebecca Tharme (IWMI, Colombo)**

The focus of discussion at the session included NPA objectives, analysis of current activities, identification of gaps and priorities for action.

Mr. Senthil Vel from India presented The Indian NPA as part of experience sharing with the rest of the group. The presenter listed relevant acts of legislation for protecting coastal & marine environment, gave the definitions of area categories in the coastal zone, discussed prohibited activities in the coastal zone and responsibilities of coastal zone management authorities. He further outlined major coastal issues, which included most of the GPA pollutant source categories and habitat destruction activities.

He then discussed in detail the major sources of pollutant and briefed the session on the major relevant national programs, which deal with each. They included the National River Conservation Programme (Ganga Action Plan 1985) and the National River Conservation Plan, ICZMP. He mentioned that the implementation of all these plans is not at the desired level due to non-availability of financial resources.

The delegates then discussed the **NPA objectives** in more detail. They indicated that there were two categories of objectives.

- Activities - program of interventions (that will differ by country and over time)
- Policy - framework/constitution for national action at broad policy level – i.e., how ministries interact etc. Once the framework is in place, it is possible to elaborate on specific programs of interventions. However, this framework does not always exist in South Asian countries.

The seven general objectives of the NPA as outlined, include:

- Design a series of national, flexible mechanisms to identify and address priority problems
- Implement actions to address specific causes of environment degradation
- Strengthen public sector
- Ensure sustainability of projects and actions
- Mobilise resources and partners
- Increase awareness and understanding of value, benefits, vulnerability
- Promote good governance

NPAs of various countries were reviewed to identify the key activities that each country has proposed or has implemented with regard to impact of Land Based Activities (LBAs) on the marine environment.

Pakistan: There are preparations of programs with donor funds e.g. Environmental Management Plans. Ministry of Environment is leading this process. Members of other related ministries (e.g., Agriculture) are grouped together as a Task Force for this exercise. Through this process a background paper was produced and a 10-year perspective environmental plan with all sectoral plans was outlined. But no interdependencies were defined between sectors to date.

Bangladesh: During the last 3 years, the Integrated Coastal Zone Management Plan is being developed. Previously there were no coordination efforts, presently 19 agencies and 6 line ministries are involved in the ICZM process, headed by the Water Ministry (which has most data on coastal zone). The ICZM process in Bangladesh is in its infancy. Participatory process with input from grassroots level is still weak.

Sri Lanka: Stakeholder workshops were held, issues were identified, drafted the comprehensive national and circulated among the relevant ministries comments. Issues include marine pollution, aquaculture, degradation of sites of special significance etc. Identified performance indicators and proposed specific actions. Now looking at gaps in existing programmes. Area-specific wetland management plans, integrated catchment management activities are developing.

In the course of the discussion a question was raised as to the approval of NPA – meaning who approves the NPA? Answer was the National Government. For example, in Sri Lanka, the Cabinet under Coastal Conservation Act gives the approval, in other countries it may vary. Upon approval a copy of NPA is sent to UNEP. UNEP is not involved in approval process but tries to facilitate the government approval and implementation of NPA.

Participants also deliberated on several other related issues and they were monitoring the impact of sewage on freshwater and identification of hotspots. In this context the Indian delegates mentioned that the Ministry of Environment and Forest (MoEF), Department of Ocean Development (DOD) have identified hot-spots of sewage input. Other countries have similar concerns, but are not as advanced in monitoring sewage impact.

Referring to sewage treatment and safe disposal it was mentioned that treatment plants even where they exist are not operational or not working in full capacity (e.g. in Pakistan, Bangladesh).

As to chemical pollutants (industrial and agriculture, tanneries: toxics, agrochemicals, it was stated that this issue is being addressed only through formulation of legislation, but not through enforcement. It is necessary to check compliance with existing standards set through legislation in large to small-scale industries. Some activities (development of legislation and capacity building for enforcement) are underway in the region, as was mentioned in the supplement to the Background paper (organic pollution abatement in Pakistan textiles, Bangladesh relocation of tannery industry, etc)

In the context of agriculture, the delegates recognised the need for a shift from pesticide and fertilizer-based to organic farming to minimize the use of chemicals.

The chairman then suggested to focus on the framework of the NPAs and to place the activities in the context of this framework, if possible. It was noted that workshops in individual countries are needed for those people that are at ministry level to make them accept the GPA approach. It was also pointed out that at the national level the inter-ministerial co-ordination is not happening at optimal levels. Programs should be initiated to develop this co-ordination.

Participants identified several gaps in the implementation of the NPA, which are listed below.

- In general responsible Ministries (e.g. Ministry of Environment) for the implementation of GPA in South Asia have weak links to grassroots level and to other major players such as Ministries of Water Resources, Agriculture, Fishery, Industry and so forth. Due to these weak links the ownership of NPAs by others at times are missing. Many plans are isolated efforts of different sectors. It is necessary to involve both the people and relevant ministry officials in the planning process.
- Lack of enforcement of regulations/legislation. Planning process is weak, timeframe and targets for action are not always clear and difficult to define/foresee.
- Coastal zone management is not linked with river basin management approach.
- Priorities are not always clearly identified. Often focus is not on high problem areas.
- Dissemination of information is not effective and there is a need for creation of awareness, education and networking
- Approval process is Government focused. Cabinet approval is understood as the key to the success. But we also need grassroots support for the NPA – people"s participation in process at the local level.
- Partnership building is new to the region in general. Need to strengthen links between provincial and local government and grassroots, private sector, profit organizations, CBOs, NGOs, etc.
- Appropriate technologies are not always available. Alternatives should be developed/identified to high technology solutions (locally innovative technologies, cost effective, user friendly). Move towards simpler, locally appropriate technologies. Changes in attitude need to take place in parallel.
- Full-cost programs of intervention as opposed to wish lists at planning level are rare.

- Several areas of concern with regard to data have been listed. Absence of critical quality data required for planning and management. Absence of management structures for acquiring and processing required data. Data sharing and collation across sectors to ensure access to data through individual sectors is needed.
- Need for institutional change and/or integration of institutions, not just sectors. GPA is a canopy under which programmes can be brought in and monitored with up front target. Implementation is often at local levels. Major problem is integrating local governance structures into the programme. Needs institutional change that is based on existing structures, not creation of even more structures.
- Transfer of national objectives to the local level and vice versa.

Suggested Actions for Effective Implementation of NPA

General Actions:

- It was suggested that a matrix of problems and probably solutions be developed (based on the existing knowledge e.g., the Island experience in Port Blair Welcome Hotels).
- It is necessary to design cost-effective strategies and simple approaches at multiple scales. Successful local solutions may be scaled up to national level. No donor input required, but the involvement of traditional religious leaders. Propagation of the existing best practice models and capitalization on the cascading effect.
- Innovative technology development and transfer, through pilot demonstrations of adopted practices with the focus on cost effectiveness and relevance.
- Linking interventions (including management) with livelihoods (identify the interventions that work at national level, e.g. use of waste for generating energy e.g., biogas as done in China, utilization of effluents; e.g., Bangladesh. Using water hyacinth to absorb nutrients/ toxins, for sewage treatment etc., rainwater harvesting, root zone treatment).
- Improve services from existing actors (e.g. upgrading of sanitation, septic tanks, solar cookers and lighting, private toilets etc.)
- Focused clientele – in a phased manner, approaching the most receptive groups first.
- Valuing the different qualities of water (including adapting use according to quality of water).

Specific Actions

- Mapping of environmentally sensitive areas, developing databases and regional networks.
- Public awareness, education and training
- Initiating pilot demonstration of innovative technologies
- Empowerment of local people including women (gender mainstreaming) who inhabit or depend on environmentally sensitive areas
- Developing guidelines based on best practice from case studies
- A mix of "bottom up" and "top-down" approach may be followed to avoid conflicts
- Many regional programmes exist but not being mobilized. It is important to document them in individual countries and to exchange regularly. Get strong national level actions going first.

Regional Actions to Facilitate Implementation of GPA

- Build from the existing linkages with institutions dealing with transboundary/interstate legislative and technical issues in the region and other regional programmes (e.g. Regional Seas Programme, Regional Environmentally Sensitive Areas in South Asia Programme). Integration of plans should happen under appropriate international fora. Transboundary shared ecosystems with co-operation in information sharing would be Sunderbans mangrove ecosystem, major rivers, GEMS initiative. Environmental water allocations in river basins should receive more focus in river basin management.
- Formalization of regional exchange of scientific and education initiatives including exchange through joint projects, given the large number of technical institutions in the region (e.g. existing APN projects, climate change impacts on water resources and mountains). Sharing of information (e.g. flood forecasting system of India-Pakistan)
- National programs to be coordinated and developed in a regionally integrated fashion i.e. not in isolation. One possible approach: meetings in 6 months time for each country to share their ideas for taking NPAs forward. Regional level and GPA should provide support to national level. Lower conflict issues may be tackled first.
- Identify commonalities among national NPAs. This will create more incentives for regional cooperation.
- Review and evaluate existing institutions (vertically and horizontally), policies and legislation in each country in terms of GPA, including specific notifications for specific objectives. Very little linkages currently exist between pieces of legislation. Share across countries in the region (e.g. regional coastal greenbelt). Identify which legislation is counter-productive and which is useful. Assess how comprehensive the overall legislative framework is (e.g. India has considerable legislations but few linkages, due to incremental process. Sri Lanka has more methodological approach to development of legislation).
- Evaluate the planning process, including EIA/SIA process, from project formulation through to sustainable implementation. Extend process to include potential impacts on coastal zone – this is not being done at present in South Asia. Establish national level review of the planning process and requirements. Then conduct a formal exchange of notes across the region, facilitated by the GPA.
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THEME: STRATEGIC ACTION PLAN ON MUNICIPAL WASTE WATER (SAP)

Chairperson: Ms. Parween Rahmen of Orangi Pilot Project, Pakistan
Rapporteur: Ms. Sanjini de Silva Dias (IWMI, Colombo)

The session reviewed the issues and current activities in the region with regard to SAP and developed a draft plan for action.

Issues and Activities in Countries

Pakistan:

- Combination of municipal and industrial waste
- Government and community action BOTH should be considered
- *A plan to ascertain current infrastructure*: e.g., the present issue in Karachi – the government is not aware of the current status of infrastructure. Therefore no integrated approach to implementation of projects exists. It was recently found that 60% of the city sewers did not belong to the government. The recommendation is therefore to have a strategic action plan to change this by mapping and documenting the sewers. Sewage should be considered (once recycled) and classified as an *economic resource*.
- Lack of policy to enable community participation and therefore there is a lack of all the initiatives that are currently ongoing. More awareness needs to be created within government and communities of ongoing initiatives.

Sri Lanka:

- Local authorities have been identified as the key agency to manage SAP
- Government of Sri Lanka has adopted a "cleaner production" approach. A "National Cleaner production Center" has also been established in Colombo. All establishments private and public are included within this approach. Using wastewater as a resource is also documented and has been initiated.
- Community participation – forums and public hearings to ensure participation and good information exchange has also been established
- In the NPA, sewage has been identified as a big problem. Cost is an issue in implementing projects. In the rural areas it is therefore being recommended to do smaller, „do-able" projects.
- Community water supply projects. One such project may cater for about 200 families. The communities actually contribute 20% of the cost and therefore there is an ownership by the communities.
- With big projects an EIA would be conducted. This gives the communities a possibility to be involved in the process and air their views, as community participation is an integral part of the EIA.

Bangladesh:

- Dhaka (population of 15 million) and Chittagong. A great deal of pollution of wetland areas as much of the wastewater is released into these ecosystems. There is a lack of activity in terms of wastewater management.
- Many industries are based in and around rivers and therefore pollution is very high.
- Industries need to be classified according to their pollution levels
- Treatment options need to be explored
- Low cost biological options based on local expertise need to be done.

India:

- It is accepted that sewage is an important ecological issue
- Since 1994 there are many case studies in India on industrial pollution that are documented which could be used as a learning example for others
- A specific study of anthropogenic pressures on the coastal zone is required

Proposed Actions for Developing a Strategic Action Plan on Municipal Waste Water (SAP) for the South Asian Region

Preventative Planning

a. Study the potential of ecological sanitation

b. Promote responsible disposal of sewerage

c. Amend/draft new regulations to address the issue of wastewater management.

d. Use of dangerous and strong chemicals that are widely available in the south Asian countries although banned in Northern countries needs to be addressed through trade instruments such Life Cycle Assessment (LCA)

e. Encourage the use of non-biological cleaning agents

f. Methods of water conservation such as rainwater harvesting need to be promoted and implemented. This will reduce the amount of wastewater created.

Low cost, appropriate technology

There is a vast technological gap within the region. This gap needs to be bridged by sharing the various technologies used, especially in the case of low cost locally usable technologies. Best practices would also need to be shared in the same manner.

Communication, education and awareness

a. Consumers and communities need to be made more aware of their rights, legislation and ability to create and change.

b. To ensure that consumers are more aware, education and awareness needs to be created across schools, higher education institutes and private and public organizations. Cleaner production, sewage management and environmental protection should all be included in education curriculum.

c. Also more emphasis is needed on action and plans at a local level and they should be explored.

d. Emphasis should be on education, awareness and training: The learning process should be interactive and more innovative to create awareness.

e. Media campaigns to highlight responsible use of chemicals and cleaning products.

f. „Life cycle Assessment approach" (e.g., ISO 14000)

g. "Learning by doing" needs to be used as the main method of teaching.

h. Skills development to suit regional needs

Mapping and documentation of ground realities

There is a major lack of documented information of existing infrastructure and ongoing projects. This causes duplication; therefore there is need for mapping and documentation of what exists, so that one can build on it. To ensure monitoring of non-point sources of pollution (e.g. unregulated small restaurants, garages, mobile shops of pollutions) there is a need to strengthen municipality"s ability to monitor their surrounding areas.

Create a monitoring and evaluation system or mechanism based on performance, which is incentive driven (e.g., green rating of local authorities)

Finance: Generation of local resources and use of local technologies

a. Partnerships with private sector and ensure „ethical private sector investments".

b. Community based enterprises or cooperatives to work towards private sector involvement in municipal waster water management.

c. Water pricing mechanism for rational use of water. This should be implemented based on a tariff system to ensure that an appropriate charge is made depending on the status of the user as water use is related to waste water generation.

Partnerships

a. A planned collaborative approach is needed to enable and develop partnership between the municipality and community
- Component sharing programs initiated by the community and complimented by the municipality
- Community revolving fund as a partnership between community and municipality
- Empowerment of communities to enforce better waste water management..

b. Benefit to the partners (communities, government and professionals) needs to be highlighted so that they are motivated to take action. A multilateral, multidisciplinary process driven approach would be essential for long-term benefit.

c. IWMI and other similar organizations could facilitate to integrate the regional efforts in wastewater management through research and networks, which would also include technology transfer. This would create a resource and information base.

d. Enable a process of communication and awareness creation at a common level. Public hearing process to be internalised within local government planning from conceptual stage through to inclusion within Consumer Protection Act.

e. Modesty and humility in order to deal with issues when seeking solutions

f. Regional partnerships (e.g. due to extensive coastline within the region we need a plan or joint activities to prevent coastal zone degradation).

THEME: PHYSICAL ALTERNATIONS AND DESTRUCTION OF HABITATS (PADH)

Chairperson: Mr. Muklesuz Zaman, DG, Bangladesh Water Development Board
Rapporteur: Ms. Sophie Nguyen Khoa (IWMI, Colombo)

In the introductory presentation Dr. Anjan Datta of UNEP GPA highlighted the rationale and main focus of the programme. It was noted that the major threats to the health, productivity and biodiversity of the marine environment result from human activities on land – in coastal areas and further inland. Some 80% of the pollution load in the oceans originate from land-based activities. The marine environment is particularly threatened by the physical alterations of the coastal zone, including destruction of habitats of vital importance to maintain ecosystem health. Estimates show that almost 50% of the world‟s coasts are threatened by development-related activities. For example, mining (such as sand and aggregate extraction), the building of ports and harbour, coastal hotels, other activities linked to tourism and urban expansion are giving rise to alterations of coral reefs, shores, beachfronts and the seafloor.

One critical habitat directly affected by the physical alteration of coastal zones is coral reefs. Around 58% of the world‟s reefs are threatened by human activities, including those that increase sediment mobilization-ranging from coastal development, to re-suspension by dredging in ports, to elimination of mangroves for aquaculture. In addition to the destruction of coral reefs, physical alterations and habitats destruction can enhance establishment of alien species in new marine environments, seriously affect spawning grounds, and destroy important wetlands.

The intense pressures placed on coastal systems require serious commitment and preventive action at all levels: local, national, regional and global. The responses will require the involvement of all stakeholders, in particular the private sector. This GPA component aims to support the efforts of stakeholders in protecting coastal and marine habitats against physical alterations and destruction. It focuses on sediment mobilization effects by 4 economic sectors that pose a threat to such habitats. The sectors include tourism; ports, aquaculture; and mining (sand and aggregate extraction).

The program attempts to assist these sectors through, among other things:

- development of checklists and guidance for each sector, undertaking case studies to illustrate the environmental, social and economic benefits of positive actions.
- documentation and dissemination of good practice through the GPA clearing-house mechanism,
- organizing regional stakeholder meetings to develop regional and sector specific checklists and initiate actions (i.e. implementing pilot projects)

- initiate dialogues for changes in the legislations and specific sectoral policies based on the results of special studies and knowledge from other sources.

Summary of the Group Discussion

General points

- The PADH issues should be addressed on a priority basis through the projects already funded with clearly established partnership.
- Draw from the many good examples and best practices existing in the region of South Asia. Take the lessons from the countries" best practices considering the need to adapt to each specific context (e.g., Bay of Bengal Programme experience with common effluent treatment facilities for shrimp aquaculture).
- Share information and knowledge, particularly databases and good experiences. Document the successful programs with the identification of the constraints, key factors of success and conditions of sustainability. GPA could disseminate these lessons as well as provide additional feed-back and generic ideas based on its experiences in other regions. In addressing scientific questions research organizations (e.g. IWMI) can help.
- There is a need for improving the enforcement of legislation as well new legislation for the protection of the environment (including environmental flows) and the reduction of pollution by the different sectors identified.

Institutional arrangements and legislation

- Need for new institutional arrangements to address PADH issues, coastal zone management and river basin management institution. In South Asia there are already large number of institutions so the need is not to create a new one but to develop mechanisms for harmonisation and coordination of activities done by various institutions often under the same legislative framework.
- Concerns on transboundary effects of upstream activities. Need to consider transboundary linkages in the management of large rivers.
- Creation of water partnerships at sub-basin level to undertake the concept of integrated water resources management within smaller units.
- Issue of the identification of river/coast boundaries - where does the river basin authority stops and coastal authority starts and how to share between them.
- Need to update legislation and enhance the capacities of the institutions dealing with issues related to PADH and coastal zone management.
- Water policy and related legislation currently do not address the issue of minimum environmental flow. Maintenance of environmental flow is crucial for habitat management.

Research and Studies

- Suggested assessment and management steps:
    - Spatial studies
    - Sectoral environment
    - Planning and implementation (action plan)

- Identification of factors that destroy habitats then focus on them individually
- Environmental Flow Requirements (EFR). Promote research focusing on estimation of Environmental Flow Requirements. International Water Management Institute‟s (IWMI) current activities include the estimation of EFR. Environmental flows can be maintained at different levels (e.g. from A = pristine up to D = very degraded implying a requirement from 100% to 20% or so of the available total flow, for example).
- Policy issue in putting EFR into the legislation (do not one exist in South Asia). Maintenance of EFR is both an engineering and political challenge.
- Pilot studies. Initiate a pilot study on River Basin Management (India), perhaps, Krishna River or another.
- Pollution free safe and sustainable production of aquaculture, standards to be set and be piloted to demonstrate examples of excellence. GPA could facilitate creation of few models.

Information and knowledge

- Share information including data
- Establish relevant databases
- Establish a baseline, pulling existing sources together; share data (e.g., Link to existing databases e.g. IWMI Challenge Program database (including 2 River Basins in SA: Indus and Ganges), BOBP CD-ROM, UNESCO initiative, IUCN Marine Coastal Project CD-ROM.
- Use of satellite images and remote sensing available information for systematic and strategic mapping, particularly for protected and vulnerable areas

Constraints and comments

Satellite images are very expensive. However, in the region a lot of them are available and much of them are also processed. Existing information (documents, reports, maps, etc) is not exploited enough. We need to move on to action with existing knowledge while identifying and filling the knowledge gaps.

Legislation

- Provide legal mechanisms.
- Need for specific laws e.g. establish standard codes for environmental flows.
- Enforce legislation

Key issues per sector

- **Aquaculture:** Pollution from this is a major concern, look for best practice examples if they exist (e.g., BOBP common effluent treatment concept). There is a need for setting code of conduct (in the light of the study outcomes and GPA Briefing Note) and effective enforcement mechanism

- **Tourism:** Pollution from tourism is usually not controlled. Need for an adequate legislation and zoning, specially to prohibit habitat destruction during construction or siting of facilities. Management of the Protected Areas - concerns on carrying capacity, on the distribution of benefits, on the management of the natural resources. The operation and management of the facilities needs to be addressed say under SAP, example given by the ITC Hotel in Andaman is a good model to replicate where feasible, but such initiative needs to be disseminated widely.
  In the region religious tourism is also important and often this does not take into account the carrying capacity.
- **Mining:** Sri Lanka has recognized that river mining is no longer a sustainable option, explore the possibility of sea sand use for construction and off-shore mining.
- **Ports:** Problems of ship breaking and port pollution exist almost everywhere in South Asia, but are more pronounced in Bangladesh, Pakistan and India

Other suggestions

➔ Country should try to get access to resources through Community Carbon Funds. Prepare the communities to access these funds.
➔ Human and gender issues.
➔ Voluntary initiatives to be supported

List of Good Examples and Best Practices

Fishing harbors

Concept of clean fishing harbours used by Bay of Bengal Program including good construction practices and maintenance (for small landing jetties).

Aquaculture treatment system

Common effluent plans for small-scale shrimp farms in India. Treatment facilities provided on a cluster basis (for each group of small farms).

Eco-tourism

Example of Polupea National Park in Malaysia. Concerns addressed by the stakeholders themselves (fishers, local government, tourism operators, etc). Identification and implementation of measures to control and share the activities (limited number of boats, restricted access for fisheries, etc). Principle of acting locally (e.g. green benches) and thinking globally.

Mangrove restoration

In Pakistan a major problem has been the decrease of freshwater flows (about 80% of reduction) affecting the fisheries and the mangrove ecosystem. Most stakeholders are increasingly realising the need for better resource management and resource enhancement through community participation. The IUCN experimentation of mangrove trees plantation for environmental purpose (heavy metals taken by mangroves „green recycling plants") may be worth reviewing/visiting by other countries of the region.

Enhancement of fisheries production through introduction of prawn seeds in the ecosystem. Combine the decrease destruction of mangroves and enhancement of fish products. Control of effluents into wetlands

Funding options

Example of private funds used to help introducing a treatment system in the tannery industry (Pakistan).

Other good examples

Natural river conservation program in India, Environmental water sector program in Pakistan, River basin program in Sri Lanka

Identification of gaps

- Lack of data; not enough study on impact assessment (e.g. identify who is the main polluter).
- Tension in the time scale between knowledge acquisition and action, thus concentrate effort to find options for action with the existing knowledge, knowing that the knowledge will improve all along the road of actions. The current gaps in knowledge must not stop action and we can adopt a precautionary approach to problem solving.
- Not enough coordination among stakeholders
- Need for environment awareness programs
- Question on how to increase environmental flows
- Lack of mechanisms on environment monitoring and evaluation

Other issues for attention

- Linkages between people"s livelihoods and the ecosystem, particularly the poor. Need to consider livelihoods alternatives and diversification strategies.

- Linkages between coastal and river basin management.
- Question on how to tackle environmental concerns in a context where poverty is dominant
- Distribution of benefits/negative impacts
- Addressing resource use by various users with conflicting interests
- Enforcement and implementation of the suggested legislation.

THEME: INNOVATIVE FINANCIAL ARRANGEMENTS (IFA)

Chairperson Dr. Atiq Rahman, ED, BCAS
Rapporteur: Mr. Marco Blixt, IWMI, Sri Lanka

The Session started with the presentation of the background IFA paper by Mr Ulrik Weuder, OECD. This was followed by discussions and a summary of their deliberations is provided below.

- Integration of development and environment is essential
- Role of stakeholders and amounts involved to be contained for the particular region
- Ownership in regard to land and water to be established and separated
- Financial strategies and institutional arrangements to be linked to development activities
- Review by stakeholders is essential
- Need for benchmarking for assessments of results
- Important issues are water supply and sewage/industrial/social development/floods and droughts and agricultural water use
- Investments to be demand driven
- Return on investment to be complied in all financial activities
- Introduction of clean technologies
- Initiate environmental funding information systems as pilot programmes
- Transparency is lacking in funding programs
- Committee of stakeholders to supervise operations
- Private sector funds must be channelled
- Legislation, organization and implementation structures to be in place
- Environmental benefits to be linked to tangible results to explain to funding agencies
- Categorise private and public support activities
- Tax incentives with accompanying legislation's to be made mandatory

For effective operationalisation and implementation of IFA the participants proposed a 4 year work programme with delineation of roles and responsibilities as under.

Schedule of Programmes for Innovative Financial Arrangements

No.	Programme	1st year	2nd year	3rd year	4th year
1	**Review and establish regional legislative framework** for financial arrangements relating to environmental concerns: Implementation mechanisms to enable financial assessment of implications and responsibilities. a. Review b. Establishment of framework and guidelines for good government in respect of environmental concerns c. Operationalization *Action:* GPA / countries d. modification and development of management systems - which enables financial assessment of implications and responsibilities Action: National	** **	** **	** **	** **
2.	**Establishment of environmental expenditure information systems** a. review and adaptation of guidelines (GPA) b. case studies (GPA/case country c. application to national scenarios and operationalization (countries) *Action:* GPA/Countries	**	**	**	**
3.	**Development of realistic financial strategies for implementation of NPA** (selected priority sector) Existing financing mechanisms to be considered: (private allocation/user contribution charges/private sector/donor grants/loans/self-generations systems based on Important elements: (ownership/transparency/outputs/cost effectiveness/equity and fairness) Participatory involvement of public/private/civil society – a. review and evaluation of existing guidelines and methodologies (GPA/countries) b. development of implementation mechanisms with country-wide case studies (GPA/case country) c. country-level operationalization and policy enactments (Countries)	** **	** **	** **	** **
4.	**Dissemination of success stories**/ transparency endeavors/limitations and failures of practices in using innovative financing mechanisms and management options a. review of existing programs – historical country international inputs b. listing of current exercises – country and international inputs Action GPA	** **	** **	** **	** **

Day 2 (29 April, 2003): Technical Session II
Report on the Thematic Group Sessions to the Plenary
Chaired by Ms. Manel Jayamanna
Director General (Designated)
Marine Pollution Prevention Authority, Government of Sri Lanka

During the session summary of thematic group discussions were presented. The designated Panel members: Mr. K.M. Khan, Mr. M.N.R.Cooray and Mr. R. Kher gave their comments on the various issues presented to the plenary and this was followed by a general discussion. First, on invitation of the Chairperson the thematic group leaders made their presentation and they are reported below.

NATIONAL PROGRAMME OF ACTION (NPA)

The summary of the NPA group discussion was presented by Shahid Ahmed, PARC, Pakistan.

On the issues of current activities it was pointed out that some activities are ongoing in all countries to reduce impact of sewage. But impact monitoring is generally weak.

Gaps and weakness:

1) Need to mainstream the GPA into the policy process. Weak link at the grass root level, between sectors. Need to develop linkages

2) Lack of ownership of the plans, many made in isolation.

3) Lack of coherent legislation to address environmental concerns, and where they exist lack enforcement

4) Need to have an improved legislative framework and integration of planning processes

5) Link coastal zone management with the river basin management

6) Prioritization of issues

7) Transparent approval process for land-based projects

8) Identification of right and focal partners often weak

Specific actions needed

1) Public awareness and training

2) Need to initiate pilot innovation, new technologies

3) Gender mainstreaming

4) More practical guidelines

Regional action

1) Build on existing legislation. Develop network and links to ensure that it is known in the region who is doing what and draw from each others experiences

2) Information sharing, education initiatives through regional approaches

3) Identify common features of the NPAs.

4) Change to bottom-up approach

5) Evaluate institutions and share across countries: which legislation is counter-productive or useful. Sri Lanka has a more methodological approach to legislation draw from their experiences.

6) Evaluation of total planning process including implementation of EIA (e.g. for projects with clear impacts on coastal zones) through the GPA.

Response from the Panel members, Mr. K.M. Khan, MP and GLOBE India President. [2]

Honourable Khan made some very important observations on the NPA presentation. He stated that:

- Just preparing a national plan of action is not enough. The national governments should set up implementation mechanisms to execute the NPA.
- NPA should take care of fishing, tourism and ship-breaking and mining activities to ensure the protection of the marine environment.
- NPA should define priorities for areas like municipal wastewater by setting up treatment plants. NPA should cover the drainage facilities to medium and small towns with covered drains. To implement this there is a need for funding from donor countries, international agencies and banks like ADB.
- NPA should take care of the development of the coastal areas and prevention of losses from cyclones and storms.
- Sources of water pollution are to be identified in NPA.

[2] Mr. Khan had to leave the session early as the Indian Parliament session was on. Consequently in the Plenary he gave his observations only on NPA.

STRATEGIC ACTION PLAN (SAP)

The summary of discussions was presented as a Power Point presentation "Guidelines for developing a Strategic Action Plan on Municipal Waste Water (SAP) for the South Asian Region".This Presentation is available as a separate document and is supplied in the *Annexure 7.*

PHYSICAL ALTERATIONS AND DESTRUCTION OF HABITATS (PADH)

Review of current activities was presented as identified in the minutes of the group Session.

Gaps:

- exchange of knowledge and experiences between different countries
- need for legislations to protect the habitats and their enforcement
- need guidelines for restoration of habitats
- lack of awareness among the stakeholders
- environmental standards for different habitats are not available
- need to ensure environmental flows of water

Actions:

- There are several ongoing programs in each country. GPA in association with Partners should be involved in listing of ongoing programs and to identify programs to incorporate the concerns of LBAs.
- To develop specific guidelines and carry out studies (IWMI, IUCN, WWF etc) could take a lead role
- Program to enhance eco-tourism – share experiences through GPA Coordination Office.
- A clear monitoring system be in place to assess impacts of various programs
- Fish harbors experiences of BOBP to be shared.
- Zoning of areas for development related activities such as Sand Mining, Aquaculture, Hotel construction etc.
- Pilot projects and "pollution free" zones to demonstrate to others and replicate in other areas.
- Coastal zone and River basin management should be integrated. Need for appropriate institutional arrangements
- Cooperation between countries, to exchange experiences, including exchange of information through websites.

INNOVATIVE FINANCIAL ARRANGEMENTS (IFA)

The Chairperson reported that the group had almost an optimal number for discussion (11 participants) with a good representation of various stakeholders: 3 from governments, 3 from private sectors, 3 from research organizations, 2 from NGOs. He stated that environmental concerns are now policy agenda but financial problems and issues are still to be addressed. In the future it may not be anticipated that more money will be available. So we need to be innovative.

The summary of the discussion in the Group was presented by Dr. Atiq Rahman and Prof. R.V. Rama Rao). This summary is available as a separate document (*Annexure 8).*

Questions/comments from the floor

Discussion that followed the presentations was of a general nature. Participants generally agreed that designing a framework for the implementation of the GPA in the region is necessary. The pollution related issues are similar in all South Asian countries, and that there is not enough integration of the environmental issues. It was emphasised that the GPA may offer an umbrella to achieve that. There is a need to address the environmental issues much faster than at present. This calls for framing of policy actions and choice of technology for each sector at national scale with some attention to the regional need. The legislation framework reviewed by the GPA Coordination Office, suggests that in spite of laws enforcement is largely weak. There are also areas, which are not covered under the present legal system. Existing linkages between different actors on different levels and the budget allocation system need to reviewed (and if needed recasted) to enforce GPA activities. Polluter pays principle may not be enough on its own, we must start taking action to stop pollution at source. The environmental flows should be set and maintained in the years to come.

Comments of Mr Muthuthanthrige Nihal Ranjan Cooray

It is important to disseminate/share information, success stories and to build-up networks of various actors in the region. In Sri Lanka for some activities there are very good examples and models, which could be replicated, setting up of National Cleaner Production Centre could be cited as an example..

The need for river basin management in Sri Lanka is recognised but good approaches still need to be worked out. A bottom-up approach and implementation mechanism is still in its infancy. Legislations on (wastewater) exist but not adequate to address the growing nature of the problem. Partnership with industries needs to be built-up to address SAP in general.

Mr Rajeev Kher made a presentation of his ongoing work on Comprehensive Legislative and Policy Framework at Regional Level for the Protection of Marine Environment from Pollution Due To Land based Activities. He outlined the main threats to ocean resources. He observed that apart from physical and ecological factors, high population growth, fast rate of urbanisation, rapid industrial development are among others a direct threat to bio-mass, ecological balance and direct physical damage to coastal ecosystems.

Among the various anthropogenic influences he highlighted poverty and livelihood, lifestyles and consumption pattern, physical alterations in the watersheds due to change in hydrology (as a result of diversion and damming of water streams), discharge of industrial effluents such as hazardous chemicals, discharge of municipal wastewater and sewage, agricultural runoffs, oil spills, deforestation, over exploitation of marine resources and aquaculture due to expansion of global trade, land conversions for ports and hotels etc.

He outlined the responses and tools applied so far, and these being Integrated Coastal Zone Planning, EIA, Economic Instruments, Conservation Programmes, Pollution standards and prevention programmes, Legislation.

Notwithstanding the above in the region, in his opinion there are several lacking namely; lack of significant integration, comprehensive (Himalaya to Kanyakumari) approach, research and development for scientific approach, affordable and friendly technology, data and information, institutional profile with horizontal and vertical linkages, comprehensive legislation, enforcement, use of economics, participation and stakeholder involvement, skills and capacities at all levels, linkages among conventions, dedicated financing- national budgets and their compartments, education and awareness, joint programmes, international and regional response, comprehensive monitoring, a vision for binding commitment.

In this backdrop he proposed the following as the Foundations of a Regional Strategy

- Poverty alleviation and livelihood security
- Sustainable utilisation of natural resources to support food security and economic development
- Region specific approach
- National commitment
- Desire to cooperate and share
- Desire to learn from others
- Indigenous capacity-institutional and human
- Innovation

After tea the Chairperson, invited comments and questions. Through discussions consensus was reached on several basic points and they were:

- For effective management of river-basin and coastal area institutional integration is a pre-requisite
- Environment and development should not be approached separately but in an integrated manner
- A holistic people-ecosystem management approach has to be put in place to address environmental question
- Environmental investment must be focused to enhance community‟s capacity building in eco-system management
- Clear definition and identification of stakeholder is important when we talk of eco-system management.
- Strategic financing would be a key element in initiating activities to translate GPA into action.

- Comprehensive approach would be essential for effective actions, and GPA Coordination Office should play a facilitating role

This was followed by a brief presentation on the importance of "Mangroves". Dr. Batagoda presented main conclusions of his research "The Economic Valuation of Alternative Uses of Mangrove Forest in Sri Lanka". He elaborated on values of mangrove in terms of direct use, indirect use, option use and non-use. Market and non-market as well as local and global benefits of mangroves were also highlighted. Based on financial, economic and environmental analysis of alternative use options of mangroves he questioned the justification of converting mangroves into commercial shrimp farms, and advocated for mandatory extended benefit cost analysis for projects that directly or indirectly convert mangroves of the world.

To contextualise the rationale of mangrove preservation and to demonstrate the value and uniqueness of mangrove eco-system a short video was shown. Mr. Bijoy Kumar Nanda a participant from Orissa, India and the main architect of the video gave the background when, where and why the particular video was made and the ongoing work he and his colleagues are involved in with respect to mangrove preservation in coastal Orissa of India. It is worth noting that the quality of photography and content of the video is very rich and all the participants highly appreciated this endeavour of Mr. Nanda and his fellow colleagues. A copy of the video was presented to the GPA Coordination Office for possible dissemination through the clearing-house mechanism.

Day 3 (April 30, 2003)
Drafting Programme of Work by Country

The final day of the workshop Chaired by Dr. Zahid Hussain, was devoted to draft country programme of work for 2003, and 2004-2006. The Chairperson in his opening remarks noted the objectives of the exercise and requested the participants to finalise the programme of work before lunch in order to have adequate time for discussion and finalisation of the programme during the post-lunch session.

The draft programme of work per country, as presented for discussion during post-lunch session are reported below.

COUNTRY PROGRAMME OF WORK: INDIA

Objective	To ensure sustainable development in coastal marine areas through systematic control of land-based activities arising from waste disposal and adoption of concept of integrated approach for management of coastal critical habitats
Activities	➢ Creation of a solid waste and litter-free environment in at least metro cities and major towns. Consider banning of use of avoidable plastics ➢ At present sewage generated in towns and cities alone estimated – 5560 mld .Only 78% is collected. Need for complete collection of sewage generated in coastal metros and towns ➢ Development of programmes for collection of sewage in remaining villages, towns and cities ➢ Minimize sewage generation through innovative methods and practices such as eco-sanitation and demonstrate in pilot scale. Out of 5560 of sewage generated treatment capacity exists/planned only for 1400/2170 mld. ➢ Complete sewage treatment in planned areas ➢ Devise steps to decentralize sewage treatment and promote use of treated sewage for industrial and farming purposes ➢ Introduce user pay principle in solid waste and waste water management ➢ Develop programmes for checking of compliance of waste disposal standards set for large industries ➢ Strengthen impact monitoring programme for both sewage and industrial effluents for all parameters with people‟s participation. Demonstrate in at least 5 areas ➢ Undertake water quality assessment programme as a benchmark of quality of natural water ➢ Evaluate performance of Common Effluent Treatment Plants (CETP) established for treatment of hetero/homogenous wastes from small and medium scale industries, to improve their efficiency. Bring another 30% of industries under CETP. ➢ Develop elaborate location based Ambient Seawater Quality Standards ➢ Basic information is available for 32 coastal critical habitats. Develop programmes for assessment of problems arising due to land-based activities, development of management plans and their implementation, in 10 habitats ➢ Promote adoption of ecosystem based management with multi-stakeholder approach including adoption of concept of River-coast management. Demonstrate it in 3 sites ➢ Devise programmes to keep open tidal inlets to ensure seawater inflow into coastal habitats ➢ Create awareness among policy makers and planners the need to assign priorities for solid and waste water management, rehabilitation of degraded habitats and prevention of degradation of habitats that are intact/facing threat of degradation/human intervention in immediate future. Convince the advantages of a clean environment ➢ Raise at least 30% of financial resources to deal with above aspects from domestic resources rather than awaiting/depending

	on external resources ➢ Develop Community based awareness programmes to handle solid and waste water problems, managing critical habitats, resource management etc. involving all stakeholders, NGOs, etc. Device and develop appropriate participatory effluent treatment programmes at village, panchayat level. Demonstrate at least in 10 villages ➢ Strengthen institutions through capacity building programmes to aid government machineries in coastal environmental monitoring and management ➢ Development of Environmental Expenditure Information System
Outputs/Results	➢ Enhanced sewage treatment and solid waste management capacity in metro cities and towns ➢ Compliance mechanism developed for checking of adoption of disposal standards for large industries ➢ Water quality assessment in rivers with respect to bench marks ➢ Ambient Seawater Quality Standard developed ➢ Model developed for community based monitoring on functioning and impact of CETPs ➢ Ecosystem based management methods demonstrated for critical habitats ➢ Mechanisms to keep open tidal inlets developed ➢ Capacity enhanced in institutions and NGOs to deal with environmental management issues ➢ Environmental Expenditure Information System developed ➢ Performance Indicators ➢ Improved coastal water quality in sea off Metro cities and major towns ➢ Plans for collection of sewage in villages ➢ Increased stakeholder participation ➢ Restoration/enhanced bio-resources and biodiversity in Critical Habitats
Budget	➢ Estimated = US $ 700 million ➢ Catalytic funds from GPA = US $ 10 million
Implementing agencies	
Supporting departments/ Institutions/NGOs	➢ Department of Ocean Development ➢ Ministry of Water Resources & Central Water Commission ➢ Central Pollution Control Board ➢ R & D Institutions like NIO, NIOT, IOM, CESS, IITs, NEERI, NSDRC, CWPRS ➢ NGOs: TERI, MSSRF, WWF and major Coastal NGOs
Time schedule	➢ Planning and Development Programmes 2003-2004 ➢ Implementation of planned activities: 2004-2006

COUNTRY PROGRAMME OF WORK: BANGLADESH

The Programmes considered important are:

- Restoration of the mangroves in Sunderbans and Chakuria Sunderbans
- Environment flow assessment
- Sustainable shrimp aquaculture
- Promotion of alternative livelihoods and gender mainstreaming
- Industrial and municipal waste management

Programme: Restoration of the mangroves: Sunderban; Chakuria Sunderbans

Objective	Restoration of the mangroves in the Sunderban and Chakuria Sunderbans
Activities	➢ Assess current status SWOT ➢ Restoration methodology options ➢ Prioritize specific actions ➢ Sustainable management practices ➢ Implementation ➢ Set indicators and monitor
Outputs	➢ Data on current position ➢ Option analysis ➢ Action plan ➢ Sustainable management practice in action ➢ Implementation program ➢ 2 pilot projects implemented
Performance indicators	➢ Health of the major species ➢ Livelihood opportunities of the poor ➢ Operational management system ➢ Leverating fund
Budget	➢ Step 1-4 Developing action plan for restoration $350.000 ➢ Step 5 Implementation $ 1 million ➢ Step 6 Monitoring system $500.000 ➢ Pilot project: 500 acres afforestation, sustainable practice community mobilization, small scale regional plans $300.000
Implementing agencies: delineation of roles and responsibilities	➢ Government of Bangladesh (Ministry of Environment and Forests, Department of Environment, Department of Forest, Ministry of Water Resources, Bangladesh Water Development Board, Local Government Engineering Department) ➢ Local Government bodies ➢ NGOs ➢ Private sectors ➢ Community
Time schedule	Step 1: 2003 Step 2: 2003-2004 Step 3: 2004 Step 4: 2005 Step 6: 2005-2006

Programme: Environment flow assessment

Activities	➢ Background information ➢ Estimation of fresh water flow ➢ Assessment of water demand for environment and major fish species ➢ Assessment of dynamics of hydro-morphology ➢ Optimal flow analysis and modeling
Output	➢ Report ➢ Report on estimated flow ➢ Demand analysis ➢ Environmental flow analysis
Performance indicators	➢ Peer reviewed report ➢ Input into national policy
Budget	➢ $ 500.000
Implementing agencies	MOWR, MOEF, BWDB, BUET, DOE, DOF, CEGIS, IWM, SPARRSO, Forest Department
Timeline	Step 1: 2003 Step 2: 2004 Step 3: 2005 Step 4: 2005 Step 5: 2006

Programme: Sustainable Shrimp Industry and Coastal Aquaculture $ 1.5 million Time 2003-6

Objective and Activities:	➢ To assess the chain of activities, actors and problems from larvae to expert ➢ Identify key actors and their problems ➢ Identify specific actions at each step ➢ Mobilize local government and civil society support from livelihoods of the poor ➢ Ensure sustainable production process ➢ Assist in evaluating and integrating to global market
Outputs	➢ Chain assessed ➢ Participatory stakeholder involvement ➢ Develop a service delivery system ➢ Organized poor communities ➢ Sustainable development practices and quality control established ➢ Reduced risks and wider market
Result	➢ Better welfare for the poor ➢ Increase country‟s product and quality ➢ Establishment of processes and reduced risks
Performance indicators	➢ Enhanced income for the poor, women empowerment, organizational capability build-up ➢ Increased national income ➢ Better quality products ➢ Risks reduced
Pilot project: Sustainable Shrimp Farming	➢ High salinity: Satkhira 10 fields (40 ha) ➢ Medium salinity: Lower Noakhali, Patuakhali 10 fields (40 ha)

	➢ Involvement of 10 local NGOs for poor groups ➢ 2003: $250.000 ➢ 2004-2006: $ 1.5 million

Programme: Alternative Livelihoods and Gender Mainstreaming in Coastal Areas $ 5 million Time 4 years

Activities	➢ Assess social ranking (ownership of land, household head, income ➢ Identify livelihood practices and resources, vulnerability ➢ Organize poor groups, women, vulnerable communities ➢ Deliver appropriate services and institutions ➢ Evaluate and monitor
Outputs	➢ Improved quality of life ➢ Livelihood options enhanced ➢ More empowered communities ➢ Sustainable use of coastal resources
Result	➢ Improved quality of life ➢ More livelihood options ➢ Empowered communities ➢ Better practices
Indicators	➢ Enhanced income, education and health, nutrition ➢ Institutional mechanisms organized groups, local institutions development, empowered women ➢ Utilization of services
Pilot projects	3000 HH (6 persons per HH) (30 villages) in two regions high salinity, low salinity
Time line	2003: Initiation and mobilization $250.000*2; 2004-6: $ 4.5 million

Programme: Industrial and municipal waste management
Details to be worked out by the country team

COUNTRY PROGRAMME OF WORK: PAKISTAN

For implementation of GPA would require active collaboration of various stakeholders representing the Public Sector, NGOs, Private sector and the International Institutions. Involvement of Legal Experts as partners is considered essential and the name of the PELA – Pakistan‟s Environment Lawyers (Association as partners) has been mentioned specifically.

Four priority thrusts selected as projects:

- Agriculture Pollutants
- Urban Pollutants
- Integrated River Basin Management
- Mangrove Ecosystem and Wetlands

Programme: Agriculture and Rural Pollutants

Objectives	➢ Measurable reduction of pollutants load ➢ Enhanced capacity of local and national institutions ➢ Sustained health of industry based irrigated agriculture
Activities	➢ Monitoring of pollutants – fresh groundwater, rural sewage, draining water etc. ➢ Reducing the surplus of agricultural effluents ➢ Managing effluents and solid wastes ➢ Identify and test innovative practices ➢ Dissemination of results
Outputs	➢ Database of agricultural pollutants ➢ Guidelines for best practices ➢ Pilot demonstrations ➢ Dissemination materials
Results	➢ Reduction in pollutants at pilot sites ➢ Awareness at policy, institutional and grass-root level
Performance indicators	➢ Adoption of best practices ➢ Reports ➢ Dissemination materials
Budget	US $ 0.75 million
Implementing agencies	➢ IWMI ➢ PARC ➢ APDA ➢ Fos ➢ PELA
Time schedule	2004-2006

Programme: Urban Pollutants

Objectives	➢ Measured reduction of pollutant load ➢ Enhanced capacity of local and national institutions
Activities	➢ Monitoring of pollutants – quantity, sources, etc. ➢ Reducing consumption of freshwater ➢ Management of effluents and solid wastes and treatment ➢ Identity and test treatment practices ➢ Dissemination of results
Outputs	➢ Database of urban pollutants ➢ Guidelines for best treatment ➢ Pilot demonstration ➢ Dissemination materials
Results	➢ 30% reduction in industrial pollutant load at source ➢ Conservation of 40% of freshwater consumption ➢ Awareness of policy, institution and grass-root level ➢ 50% reduction in pollutant load of municipal wastes
Performance indicators	➢ Adoption of best practices by partners (industry and municipalities ➢ Reports ➢ Awareness raising materials
Budget	US $ 0.65 million
Implementing agencies	➢ IWMI ➢ Local government

	➢ KATI ➢ PELA
Time schedule	2004 - 2006

Programme: Integrated River Basin Management

Objectives	➢ Restoration of mountainous, sub-mountainous and flood plains ➢ Ensuring minimum required flow to delta ➢ Enhanced capacity of local and national institutions
Activities	➢ Monitoring of freshwater (quantity/quality) ➢ Assessment of freshwater requirement by various users (agriculture, domestic, industry, ecosystem and mainstream requirement to maintain river morphology) ➢ Formulation of scenarios for assessment of water availability in terms of climate change and extreme events ➢ Managing requirement of different users and ecosystems needs and development of strategies
Outputs	➢ Database of freshwater ➢ Scenarios and strategies ➢ Dissemination materials
Results	➢ Demand based ecological releases (optimal demands) ➢ Strategies to manage freshwater flows for various users and to meet ecosystem required
Performance indicators	➢ Enhanced health of ecosystem
Budget	US $ 1.0 million
Implementing agencies	➢ IWMI ➢ WAPDA ➢ PARC ➢ IUCN ➢ WWF ➢ PELA
Time schedule	2004 - 2006

Programme: Mangrove Ecosystem and Rehabilitation of Wetlands

Objectives	➢ Restoration of mangroves and wetlands ➢ Enhanced capacity of local and national institutions ➢ Social well-being of local communities
Activities	➢ Assessment of priority contaminants ➢ Identification of key policy, regulatory, economic and institutional interventions ➢ Rehabilitation of 500 ha of mangrove forests ➢ Advocacy and public awareness
Outputs	➢ Database ➢ Reports ➢ Pilot demonstrations ➢ Dissemination materials
Results	➢ Improved health of mangroves ➢ Improved livelihood of rural communities and poverty alleviation ➢ Improved state of wetlands

Performance indicators	➢ 500ha of restored mangrove area ➢ Improved livelihood of 1000 families
Budget	US $ 0.8 million
Implementing agencies	➢ IWMI ➢ Sindh Wildlife and Forests Department ➢ IUCN ➢ PELA ➢ WWF
Time schedule	2004 - 2006

COUNTRY PROGRAMME OF WORK: SRI LANKA

Programme: Integrated Sold Waste Management Programme for Wattala PS

Objective	To minimize accumulation of municipal solid waste in the coastal belt
Activities	➢ Assess the current situation and identify gaps ➢ Introduce the three Rs (reduce, reuse, recycle) principles in the solid waste management ➢ Construct semi-engineered land fill ➢ Awareness creation and community partnership building ➢ Introduction of innovative technologies – bio gas
Outputs	➢ Solid waste free coastal belt
Results	➢ Improved community health through reduced vector borne diseases ➢ Improved aesthetic values
Performance indicators	➢ Number of cases of vector borne diseases ➢ Number of tourist arrivals ➢ Quantity of solid waste collected ➢ Water quality
Budget	US $ 500,000.00
Implementing agencies: delineation of roles and responsibilities	➢ Wattala PS – Project ex ➢ Provincial Council – policy directives ➢ CEA, CCD – Monitoring ➢ NERD – Technical assistance ➢ MEN – National policy
Time schedule	January 2004 – December 2006

Programme: Introduction of Cleaner Production Technology Concept to Industries in Attanagalu Oya, Dadugam Oya (Negambo Lagoon Watershed)

Objectives	➢ Reduction of pollutants at source through cp ➢ Development of spatially referenced data base
Activities	➢ Identification of industries discharging pollutants ➢ Conducting input-output audits ➢ Quantification of pollutants by each industry ➢ Cause analysis and generation of solutions ➢ Implementation of selected options ➢ Monitoring measurements
Output	Reduced industrial pollutants in the rivers and lagoon
Results	➢ Improved water quality ➢ Improved resource utilization ➢ Improved coastal community livelihoods ➢ Improved aesthetic value
Performance indicators	➢ Number of industries compiled with Sri Lankan standards

	➢ Increased factor productivity ➢ Number of tourist arrivals ➢ Reduced waste management cost ➢ Water quality – COD, BOD ➢ Increased fish productivity and quality
Budget	US $ 300,000.00
Implementing agencies: delineation of roles and responsibilities	➢ NCPC – Project ex ➢ Industrial association – implementation ➢ MI – national policy directives ➢ CEA, CCD – monitoring ➢ MEN – national policy
Time schedule	January 2004 – December 2006

Programme: Establishment of Sewage Disposal System for the Low Income (Under Serviced) Communities around the Lunawa Lagoon

Objective	Minimize faecal pollution in the Lunawa Lagoon
Activities	➢ Assessment of the present sanitary situation ➢ Designing suitable sewage disposal system (e.g. Ecological Sanitation) for the 250 families to be relocated ➢ Implementation ➢ Monitoring measurements
Output	Faecal pollution free lagoon system
Results	➢ Establishment of an enervative sewerage system ➢ Improved water quality (e-coli, BOD) ➢ Improved community health ➢ Improved esthetic values
Performance indicators	➢ Number of acceptable sanitary units ➢ Water Quality – e-coli ➢ Number of occurrence of water-born diseases
Budget	US 4 100,000.00
Implementing agencies: delineation of roles and responsibilities	➢ NHDA – Project ex ➢ Moratuwa Urban Council – implementation ➢ MH – national policy directives ➢ CEA, CCD – monitoring ➢ MEN – national policy
Time schedule	January 2004 – December 2006

Programme: Protection of mangrove ecosystems through promotion of non-consumptive users of mangroves

Objective	Covert the non-market benefits of mangroves to real money in order to increase the community participation in mangrove conservation
Activities	➢ Assessment of marketable benefits of mangroves ➢ Product development (Kirala drinks, jams, bee honey, handicrafts, crab fattening, etc.) ➢ Promotion of ecotourism in the mangrove ecosystem (crocodile/bird watching etc.) ➢ Establishment of a revolving community fund ➢ Awareness creation
Output	Healthy mangrove ecosystem
Results	➢ Poverty alleviation ➢ Living standards improvement ➢ Reduction of destruction of mangroves

Performance indicators	➢ No of income generating activities ➢ No of mangrove associated offences
Budget	US 4 100,000.00
Implementing agencies: delineation of roles and responsibilities	➢ Community – for project execution ➢ Ministry of Environment and Natural resources (MoENR), NGOs, Coast Conservation Department, Ministry of Tourism (MoT) – implementation ➢ Forest Department (FD) – monitoring ➢ MoENR – national policy
Time schedule	2003 – December 2006

Programme: Introduction of Sustainable Mining in Daduru Oya River Sytem

Objective	Reduction of habitat destruction and salt water intrusion through addressing unregulated sand mining
Activities	➢ Assessment of illegal mining ➢ Development of an acceptable alternative source for river sand (off-shore sea sand) ➢ Awareness creation
Output	Healthy coastal system
Results	➢ Production and promotion of alternative ➢ Reduce damage to river morphology and coastal erosion ➢ Increased drinking water quality ➢ Production of coral-based lime as a by-product from off-shore sand
Performance indicators	➢ Amount of alternative sand produced ➢ No of sand and coral mining offences
Budget	US $ 10 million
Implementing agencies: delineation of roles and responsibilities	➢ CCD, GSMB and private sector – Project ex ➢ GSMB – implementation ➢ CCD – monitoring ➢ MEN – national policy
Time schedule	December 2003 – January 2006

Programme: Zonation for Aquaculture Development in the Southern Province

Objectives	➢ Promote sustainable aquaculture ➢ Prevent marine water pollution from un-authorized aquaculture
Activities	➢ Selection of a suitable area ➢ Study of present land-used patterns using GIS ➢ Development of the zoning plan ➢ Getting the legitimacy for the zoning plan ➢ Demarcation of the boundaries ➢ Development of management plan for the areas identified for aquaculture development ➢ Implementation in the ground with community and private sector participation
Output	Sustainable aquaculture development and increased foreign exchange
Results	➢ Poverty alleviation through income generation ➢ Living standards improvement ➢ Reduction of destruction of coastal habitats ➢ Sensible resource utilization ➢ Performance resource utilization

	➢ Performance indicators developed ➢ No of income generating activities initiated ➢ Amount foreign exchange
Budget	US $ 300,000.00
Implementing agencies: delineation of roles and responsibilities	➢ NAQDA – Project ex ➢ MEN, MFA, NGOs, NARA, CCD, DEA, SDA – implementation ➢ NARA, CCD, CEA, Community group – monitoring ➢ MEN – national policy
Time schedule	January 2004 – December 2006

SYNTHESIS OF THE PROGRAMME OF WORK

General Observations

Programme of Work drafted by each country indicated several objectives to achieve. There are programmes, directed to one specific objective, while a number of programmes have been presented with multiple objectives, and in some cases the number of objectives mentioned are as high as six.

The programme implementations would require involvement of several Institutions. No programme could be implemented with any single institution. Again involvement of number of institutions in the programme implementation varies. The minimum number indicated is three while some programmes would call for participation of eight institutions. All country programmes recognized the need and importance of multi-stakeholders involvement. Participation of NGOs and private sector is considered pivotal for successful implementation of programmes.

Budget for implementation of country driven programmes as suggested would vary. Projected provisional figures are in the range of 3-10 million. Cost of specific programme however, has been indicated as low as 10,000. It has been recognized that adequate attentions needs to be paid to workout the actual need of resources and eventual quantification of the sum.

Approach

In terms of approach India proposed to follow a Programmatic approach, while the other three countries (Bangladesh, Sri Lanka and Pakistan) opted for a project based approach.

From the overall review of the POW as presented by the country team a few ***Common Thrust Areas/Projects*** could be identified, and they are;

- Restoration of critical habitats – mangroves
- Managing agricultural/rural pollutants – solid and liquid wastes
- Managing/treating urban pollutants – solid and liquid, industrial/municipal wastes
- Integrated River Basin Management – environmental flow assessment etc.

There are however, several *Country Specific Thrust Areas/Projects. For example,* Sustainable shrimp industry and coastal aquaculture (Bangladesh and Sri Lanka), Alternative livelihood and gender mainstreaming (Bangladesh), Introduction of sustainable sand mining (Sri Lanka), Zoning for aquaculture development (Sri Lanka).

In the above backdrop, the logical question that the participants raised is h*ow to Prioritize? Through discussions a number of suggestions were put forwarded and they are;*

- Modest start during the 2003 or full start during 2004
- First option (i.e., modest start during 2003) more feasible, and leave the process to evolve gradually rather than going for revolution over night
- Beginning with 1 to 2 common thrust areas in year 2003

Following the above a number Things that can be initiated under each priority thrust and they would include

- Synthesis of available information
- Review
- Analysis
- Strategy for programme development and implementation

Initiation of such a process would require money and provisional indicative *budget* is UD 0.25 million per country for the year 2003

In terms of implementation modalities two options were discussed. Either to designate a country for specific activity as the *Lead country or* to designate an *International Institution as a Leader.*

When floor was opened for additional comments and quarries, a number of suggestions were made and they are;

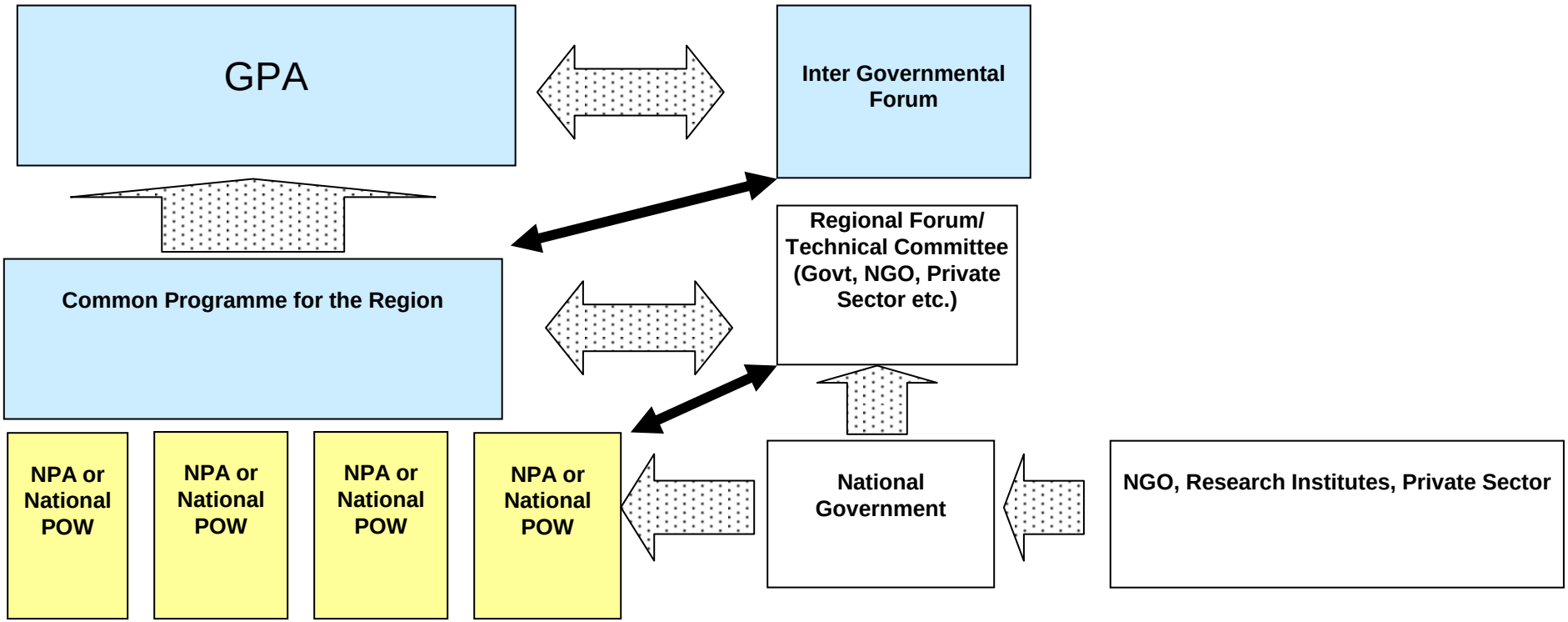
- The national authority in consultation with wider civil society and other stakeholders must define programme of actions and that has to be acted upon nationally.

- Regional framework is important for sharing of information and experiences specially on best management practices for addressing GPA concerns

- The GPA Coordination office could facilitate number of priority actions areas by providing small amount of "seed-money". National agency should remain responsible for mobilization of resources from domestic and external sources and allocation of this resources for addressing priorities identified in the NPA.

- For planning, monitoring and coordination of the GPA activities following institutional flow chart could be a staring point but to be reviewed after a defined time period.

Institutional Framework for Implementation of GPA in the South Asian Region



ANNEXURE 1

LIST OF PARTICIPANTS

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NGO	4	8	4	3	-	1	**20**
Private Sector	4	2	2	2	-	1	**11**
Donor	-	-	-	2		2	**4**
Intergovernmental	2	-	-	8	-	-	**10**
UN Agency	-	-	-	-	3	-	**3**
Total	**19**	**12**	**11**	**25**	**3**	**5**	**75**

[3] Other countries: Nepal, Malaysia, China, France and United Kingdom

ANNEXURE 2

AGENDA AND STRUCTURE OF THE MEETING

DAY 1 28 APRIL 2003

Objectives of Day 1:	Clarity on GPA and building a common understanding GPA and on-going projects/programmes in the region Synergies of programmes Identification of partners and defining the future
08:30 – 09:00	*REGISTRATION*
09:00-10:30	*INAUGURATION*
CHIEF GUEST	Hon. Rukman Senanayke Minister of Environment and Natural Resources Government of Sri Lanka
SPEAKERS	Mr. Mahaboob Elahi (SACEP) Dr. Vladimir Smakhtin (IWMI) Dr. Veerle Vandeweerd (UNEP/GPA)
10:30-11:00	***Coffee***
TECHNICAL SESSION I:	**11:00 – 13:30**
CHAIRPERSON:	Dr. Ainun Nishat, Country Representative IUCN, Bangladesh
	Structure and Methodology of the workshop (AD) Presentation of the Background Paper: Issues, Questions and Role of GPA (Dr.Veerle Vandeweerd) Comments by the designated speakers on the paper from each country (Government, NGO, Private Sector Representatives) Synthesis by the Chair
13:30-14:30	***Lunch***

TECHNICAL SESSION II:	**14:30 – 18:00**
CHAIRPERSON:	Prof. R. Raghavachari Rajagopalan, Director, International Ocean Institute, India
14:30 – 18:00	Plenary
	Members: Dr. Veerle Vandeweerd (UNEP/GPA) Mr. K.M. Khan, MP, India Mr. Q.I. Siddique, GWP Mr. M.H. Siddiqi, BUP Dr. S. Ahemd, GoP Mr. A.N.R. Amarathunga (GoSL) Mr. W. Zhijia, GoC
	Deliberations on Implementation of GPA in SAS Region and Responses
16:30 – 17:00	***Tea***
17:00 – 17:30	Synthesis by the Chairperson Formation of the Thematic Groups (NPA, SAP, PADH/ICARM and IFA)
18:00 – 19:00	*Meeting with the PRESS*
19:00 – 22:30	*Dinner hosted by the GPA, IWMI and SACEP*

DAY 2 28 APRIL 2003

Objectives Of Day 2:	Review of current activities Identification of gaps Designing Programme of Work Provisional Budgeting Partners for Action (2003-2006) Implementation Schedule
09:00 – 11:00	*WORKING GROUPS PER THEME*
FOCUS OF DISCUSSION:	Objectives Current Activities Gaps Partnership for action (Present and Future 2004-2006)

HEMATIC GROUPS (With introduction of the theme by designated facilitator):

THEMATIC GROUP	**CHAIRPERSON**
NPA	Dr. Shahid Ahmed
SAP	Ms. Parween Rahman
PADH/ICARM	Mr. Mukles Uz Zaman
IFA	Dr. Atiq Rahman
11:00 – 11:30	**Coffee**
11:00 – 13:00	Continuation of Group Sessions and Preparation for Presentation in Plenary
13:00 – 14:00	***Lunch***
14:00 – 17:00	Penary
Chairperson :	Ms. Manel Jayamanna, Director General (Designated) Marine Pollution Prevention Authority Government of Sri Lanka
Panel Membrs:	Mr. M.P. Khan Mr. D.K. Abdullah Mr. M.N.R. Cooray Mr. Rajeev Kher

PRESENTATION OF GROUP REPORTS and COMMENTS BY THE PANEL MEMBERS

16:00 – 16:20	***Tea***
16:20 – 17:00	Comments From Floor Synthesis By The Chairperson
17:00 – 18:00	Video Presentation On Mangrove Introduction By Dr. B.M.S. Batagoda Director Global Affairs Ministry of Environment and Natural Resources Government of Sri Lanka

Day 3 30 April 2003

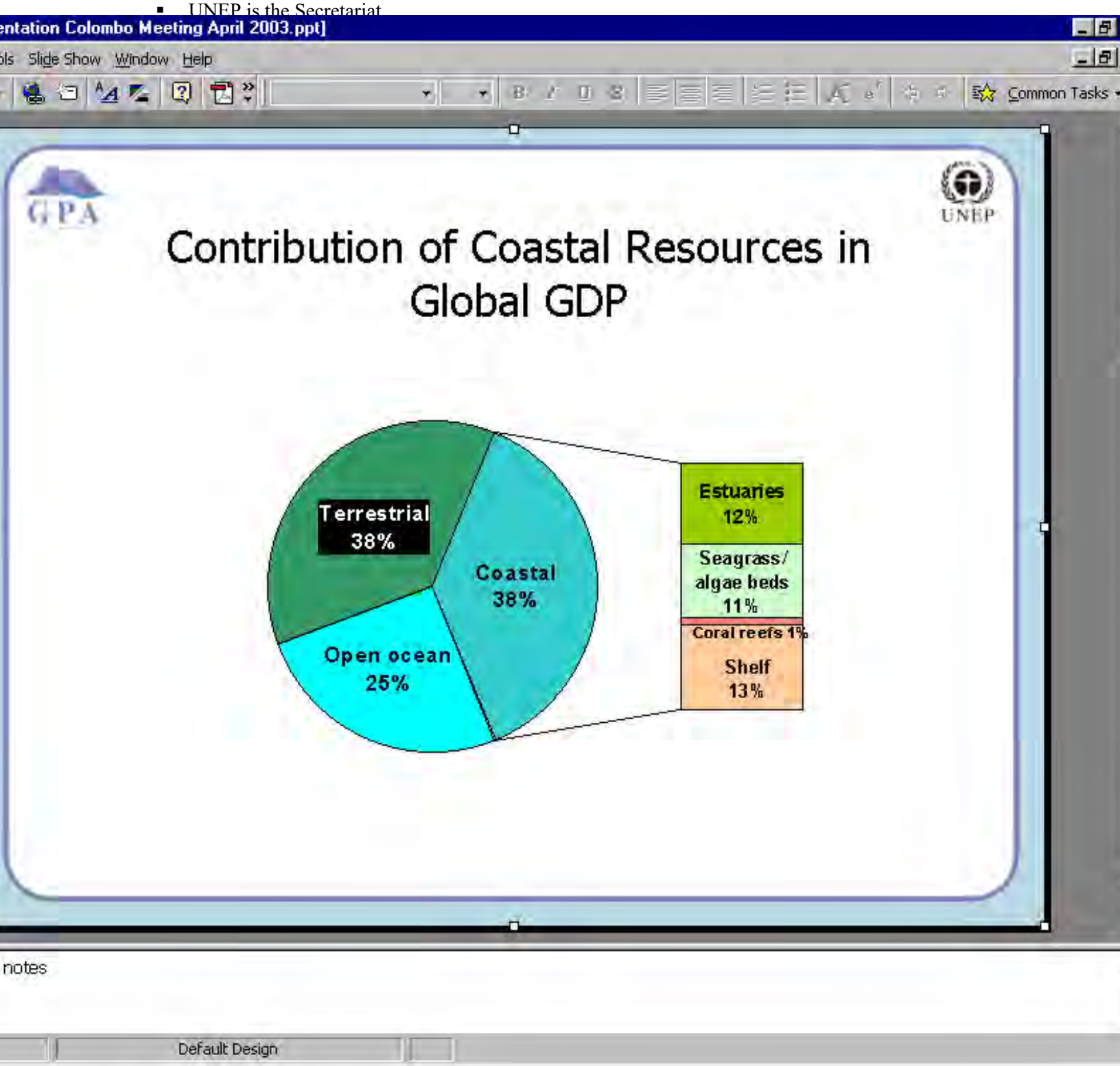
Objectives of Day 3	Restructuring The Programme Of Work Per Country Budgeting Partners For Action (2003, 2004-2006) Implementation Schedule
Chairperson:	Dr. Zahid Hussain, Senior Director, Water Resources Institute, Pakistan
09:00 – 11:00	Country-Wise Discussion on Programme of Work and Drafting Work Plan (2003, 2004-2006)
11:00 – 11:30	***Coffee***
11:30 – 13:00	Presentation Of Country Programme Sri Lanka, Pakistan and Bangladesh
13:00 – 14:00	***Lunch***
14:00 – 17:00	Continuation of Country Programme: India
	Finalisation Of Programme Of Work For South Asia 2003, 2004-2006
	Synthesis By The Chair

Closing Remarks By
Dr. Veerle Vandeweerd, UNEP/GPA
“Partners and Next Steps)

PRESENTATION BY DR. VEERLE VANDEWEERD, UNEP/GPA

The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA)

- Non binding global action programme;
- Adopted in 1995 in Washington by 108 states and the EC
- UNEP is the Secretariat



Why Focus on Marine and Coastal Areas?

The sustainable use of coastal and ocean resources is linked to public health, food security, and economic and social benefits, including cultural values and traditional livelihoods.

Why a GPA?

Approximately 80% of marine pollution stems from land-based activities.

What is the GPA?

- A Source of conceptual and practical guidance
- Specifies action required at national level; and regional and international cooperation;
- Recommended approaches by source category

Pollutant Source Categories

- Sewage
- Physical Alteration and Destruction of Habitats
- Nutrients
- Sediment Mobilisation
- Oils
- Litter
- Heavy Metals
- Persistent Organic Pollutants
- Radioactive Substances

About the GPA

- GPA is an action oriented programme not only to identify problems but to find solutions
- Emphasis is not on priority setting but addressing priorities through appropriate technology and budgeting

GPA Implementation Requires

- Innovative ways to address known problems
- New partnershipsAppropriate technology
- Better use of domestic resourcesNew and additional financing

GPA Programmes

- National Programmes of Action (NPA)
- Strategic Action Plan on Municipal Wastewater (SAP)
- Physical Alterations and Destruction of Habitats (PADH)
- Integrated Coastal Area and River Basin Management (ICARM)
- Public Awareness and Outreach including the GPA Clearing-house Mechanism

Tools for Implementation

- Innovative Financial Arrangements
- Voluntary Initiatives

GPA Implementation Approach

- Regionally integrated national action
- Integration of river-basin and coastal zone management

- New partnerships, involving the private sector
- Sharing of experience and expertise
- Business as usual no longer an option

Issues and Concerns of South Asia

- Excessive withdrawals of water from rivers and wetlands threatening acquatic ecosystems
- Sewage and industrial effluent causing health problems and increasing incidence of water-borne diseases
- Inadequate industrial effluent control and waste recycling regimes
- Inappropriate siting of shrimp farms
- Waste disposal from shrimp farms causing hazardous pollutionAgricultural pesticides leaching into groundwater
- Ship breaking
- Oil spills
- Institutional weakness – policy and enforcement

Commitment of the Governments (IGR November 2001)

"We commit ourselves to improve and accelerate the implementation of the Global Programme of Action by:

Incorporating the aims, objectives and guidance of the Global Programme of Action into new and existing activities, action programmes, strategies and plans at the local, national, regional and global levels and into sectoral policies within our respective jurisdictions; …"***ANNEXURE 4***

NISHAT'S SUMMARY OF TECHNICAL SESSION I

BRIEF SUMMARY OF TECHNICAL SESSION – I

Objectives of the Session

- What are the key issues/problems/concerns
- What are the priority areas for GPA
- What will be the major elements of a National Program of Action (NPA)
- Synergy is to created among NPAs for Regional Integrated Action Program
- What are the Institutional, technical, legal and enforcement issues
- Suggest innovative approaches in implementation

National and Regional Program of Actions

- Overall framework of Action Programs Pollution must be controlled at source. (alternatively, polluter pays principle be enforced)
- Action is needed at upstream reaches of river basins to protect the coastal and marine environment
- People-ecosystem-livelihood linkages be effectively established
- National and regional plans need to linkup with MDG and PRSP goals, and WSSD recommendations
- Available local and regional capacity be effectively utilised
- GO-NGO-Private sector partnership be developed
- Strategic zoning in planning process be adopted

Elements of NPA – I : Protection of Coastal Ecosystem

- Excessive withdrawal of water from rivers and wetlands threatening aquatic ecosystem
- Environmental flow requirement for aquatic and coastal ecosystems
- Restoration of habitats and ecosystems
- Halting deterioration of mangroves

Elements of NPA – II : Control of land-based Industrial pollution

- Sewage and industrial effluents causing health problems
- Inadequate industrial effluent control
- Recycling of wastes

Elements of NPA – III : Control of non-industrial pollution

- Impact of agricultural pesticides
- Shrimp farms and waste disposal

Elements of NPA – IV : Control of oil spillage

- Oil spillage
- Ship breaking industry

Elements of NPA – V: Innovation in implementation

- Development of innovative partnership with private sector
- Development of mechanisms for collaboration among regional countries

Elements of NPA – VI: Implementation issues

- Inter and intra-institutional coordination
- Updating of legal provisions and legislations
- Bench marking of environmental parameters
- Enforcement and regulatory measures
- Monitoring and evaluation of activities

Cross Cutting Issues : Common activities for all programmes

- Capacity building
- Awareness and advocacy
- Research
- Knowledge networking
- Knowledge management

ANNEXURE 5

ENVIRONMENTAL FINANCING[4] (FIRST – DRAFT)

Background paper from OECD

Most countries in the developing world face serious financial difficulties in achieving national environmental objectives. Some countries are allocating a proportion of their national income for these purpose that seems comparable (as a share of GDP) with that in western European countries, though the absolute levels are much lower. In meeting these objectives, countries must make difficult decisions about priorities within the limits of what households, firms and public budgets can afford. They also need to use available public resources more efficiently and more creatively, so as to better leverage additional finance from donors, IFIs and the private sector. Environmental departments need to improve their performance in investment planning, investment programming and financial management in order to be recognized as reliable partners by Ministries of Economy and Finance. More skills and incentives are needed at national and local levels to mobilize additional financing for environmental purposes.

Environmental Expenditure Information Systems:

To tackle the problems mentioned above, effectively, it is important that policy makers and decision makers have reliable and timely environmental expenditure information. Establishing a baseline and following up with regular reporting of how much is spent, for what specific purpose and how this compares with international benchmarks are necessities in designing effective and efficient environmental policy for implementing and financing national environmental objectives. Knowledge of trends in investments and current expenditures made by enterprises, municipalities and state budgets, as well as their sources of funding, among other helps:

- to evaluate whether enough resources are devoted to environmental problems considered as priorities in the national strategies for environmental protection;
- to identify possible financing gaps and opportunities to increase the efficiency of the environmental expenditure;
- to identify trade-offs between different priorities

Several case studies from developing and transition countries has proven that such information is essential in supporting policy discussions of how existing resources could be used most efficiently and ultimately in developing their policies to match needed financing for the environmental objectives.

[4] The Purpose of this paper is to support the discussions under the thematic group Innovative Financial Arrangements at the UNEP GPA – South Asia Regional Workshop 28-30 April 2003 in Colombo Sri Lanka. The paper is not a comprehensive discussion on Environmental Financing but a selection of ongoing international discussions that may be relevant for the IFA discussions.

Improving Management of Public Environmental Expenditures:

Environmental authorities should ensure that all public environmental expenditure programmes and institutions managing such programmes contribute to achieving priority environmental objectives that would not be achieved without public financial support. Institutions for managing public environmental expenditures should be shielded from undue political interference and;

- ensure cost-effective use of resources;
- comply with high standards of management efficiency,
- ensure accountability,
- ensure transparency and fiscal prudence.

Good Practices of Public Environmental Expenditure Management, developed within the OECD/EAP Task Force framework, could be used as a framework for reforming institutional framework for managing public environmental expenditures. Strong emphasis should be placed on such principles for Environmental and Water Funds, among others, because of their visibility in the policy debates and to ensure effective allocations of their resources.

National and Regional Environmental Financing Strategies:

Most developing and transition countries have developed strategies and programmes to address needed actions for environmental problems. Most countries have developed National Environmental (and Health) Action Programmes (NEAPs or NEHAPs) and in our case through the UNEP GPA programme developed National Programmes of Action for the implementation of the GPA. Most such programmes and strategies list the existing problems that have been identified and define by which standards the problems need to be addressed in order to implement the needed actions. However, most such programmes do not discuss or identify the priorities by which the programme should be implemented or the financial resources arrangements needed to implement them. This has in many countries lead to inaction because of lack of prioritisation of available few resources or at worst wrong prioritisation leaving unwanted solutions which may have drained the needed resources for actual priority areas.

Existing programs should be checked for their financial viability and revised if appropriate. Clear, strategic programmatic frameworks should help focus scarce public sector resources on priority environmental sectors, mainly environmental infrastructure, where public financial support is essential. This does not require governments to develop and manage long project pipelines. Rather governments should establish realistic targets and schedules for infrastructure development, apply robust economic and social analytical tools to calculate the time profile of all expenditure needs (capital and O&M) to achieve the targets, and link these targets to available sources of public and private finance. An important element will be to identify and implement specific policy measures that will provide incentives for the sources of financing to deliver needed resources on time and in the form that match projects‟ financing needs. Affordability constraints, both at a household and national level, should be explicitly analysed and mitigated. Such activities should be publicly reviewed and widely agreed by all relevant stakeholders.

Strengthening Decentralisation and Resource Allocation at a Local Level:

Most developing and transition countries are still in the process of delineation of governmental responsibilities, for example for environmental safety and infrastructure. Local budgets in a vast majority of developing country municipalities are very small compared to the tasks of maintaining and developing services of environmental infrastructure. Responsibility for environmental infrastructure and municipal services has been transferred to cities, towns or regional authorities and delivered mostly through local enterprises. In many countries current legislation assigns expenditure responsibilities to lower budgets without any guarantee of autonomy in the determination and execution of these expenditures. This current system offers weak incentives to sub-national levels of government for responsible, long-term environmental management and the development of new infrastructure for the environment. In many countries revenues and expenditures are allocated annually through year-long financial plans. Neither a long-term vision of investment needs nor a forecast of the municipality‟s future financial situation exists.

It is thus suggested - in the medium to long term - to establish **a clear framework for inter-budgetary fiscal relations** where responsibilities are matched by access to resources to fulfil them. The current system of fiscal relations should be replaced by a clear assignment of every tax to one particular budget. In addition, sub-national administrations should be given more flexibility in the choice of taxes and their respective rates. Only under such conditions can regional and local officials reasonably be held responsible for the state of their budgets and economies. Developing transparent fiscal relations between various government levels is not a responsibility of environmental ministers but executive authorities. However, ministers of environment should support such reforms as they could contribute to the sustainable development of their countries and stronger capacity of the public sector to support infrastructure investments, including environmental infrastructure.

Introduce **multi-year budget framework** at all levels of government and medium term investment programs in local governments. Gradually introduce elements of task-based budgeting at municipal level. At a sub-national level, through a reform of financial management systems, municipalities could provide better and more extensive services to their citizens with the same amount of money in the budget. Improving budget preparation and monitoring processes may result in significant savings through subsidy reform and better prioritisation.

Better investment planning and budget management could enhance creditworthiness of municipalities. It helps control municipal debt and makes it easier for municipalities to raise external finance from domestic and foreign financing sources, where they have rights to do so. A sound financial management system facilitates the communication of financial information to interested parties, enhancing access to credit and other outside resources through its demonstrated conformity with the principles of accountability and transparency.

Finance Team – OECD/EAP Task Force

ANNEXURE 6

SAP PRESENTATION

GUIDELINES FOR DEVELOPING A STRATEGIC ACTION PLAN ON MUNICIPAL WASTE WATER (SAP FOR THE ASIAN REGION

Preventive Planning

- Study the potential of Ecological Sanitation
- Responsible disposal of sewage
- Amending building regulations to address the issue of wastewater management
- The use of dangerous and strong chemicals that are widely available in South Asian Countries although banned in Northern countries needs to be addressed through trade instruments such as Life Cycle Assessment (LCA)
- Encourage the use of non-biological cleaning agents
- Methods of water conservation such as rainwater harvesting need to be implemented to reduce the amount of wastewater created

Low Cost, Local friendly Technology

There is a vast technological gap within the region. This gap needs to be bridged by sharing the various technologies used, especially in the case of low cost locally usable technologies.

Communication, Education and Awareness

- Consumers and communities need to be made more aware of their rights, legislation and ability to create change
- To ensure that consumers are more aware, education and awareness needs to be created across the board – schools, higher education institutes and private and public organization. Cleaner production, sewage management and environmental protection should all be included in education curriculum
- Also more emphasis on action and plans at a local level should be explored
- Education, awareness and training: The learning process should be interactive, more innovative method to create awareness. Create and target specific methods and activities
- Media campaigns to highlight responsible use of chemicals and cleaning products
- "Life Cycle Assessment Approach" (e.g. ISO 14000)
- "Learning by doing" needs to be used as the main method of teaching
- Skills development to suit regional needs

Mapping and Documentation of Ground Realities

There is a major lack of documented information of existing infrastructure and ongoing projects. This causes duplication; therefore there is need for mapping and documentation of what exists.

Non-point sources (e.g. unregulated small restaurants, garages, mobile shops). To ensure that there is monitoring of non-point sources there is a need to strengthen municipality‟s ability to monitor their surrounding areas.

Create a monitoring and evaluation system or mechanism based on performance, which is incentive driven (e.g. green rating of local authorities)

Finance: Generation of local resources and use of local technologies

- Partnerships with private sector and ensure „ethical private sector investments"
- Community based enterprises or cooperatives to work towards private sector involvement in municipal wastewater management
- Waste pricing mechanism for rational use of water. This should be implemented based on a tariff system to ensure that an appropriate charge is made depending on the status of the user as water use is related to waste water generation

Partnerships

- Financing in partnership between the municipality and community e.g.
  a) component sharing programs initiated by the community and complimented by the municipality
  b) community revolving fund as a partnership between community and municipality
  c) empowerment of community to enforce better waste water management
- Benefit to the partners that is, communities, government and professionals needs to be highlighted so that they are motivated to take action. A multilateral, multidisciplinary approach needs to be taken, ensuring that they are not time limited process ensuring that there is a long-term benefit through a process driven approach
- IWMI and other similar organisations could facilitate to integrate the regional efforts in wastewater management through research and networks, which would also include technology transfer. This would create a resource and information base.

ANNEXURE 7

IFA PRESENTATION

Innovative Financial Arrangements

GPA - Regional Workshop,
28- 30 April, Sri Lanka

Ulrik Dan Weuder
OECD – ENV/NMCD

Innovative Financial Arrangements

- **IFA – in the recognition that innovative ways to meet the financial shortfall have become critical to the effectiveness of the GPA**
  - ➢Better use of domestic resources
    - ➢Tax reforms and multi year planning
  - ➢Integrating environmental considerations
    - ➢Stakeholders and sector integration
  - ➢Establish Water Funds and Tradable Pollution Permits

Innovative Financial Arrangements

Reforming and strengthening environmental public institutions financing	Multi-year financial planning for environmental infrastructure

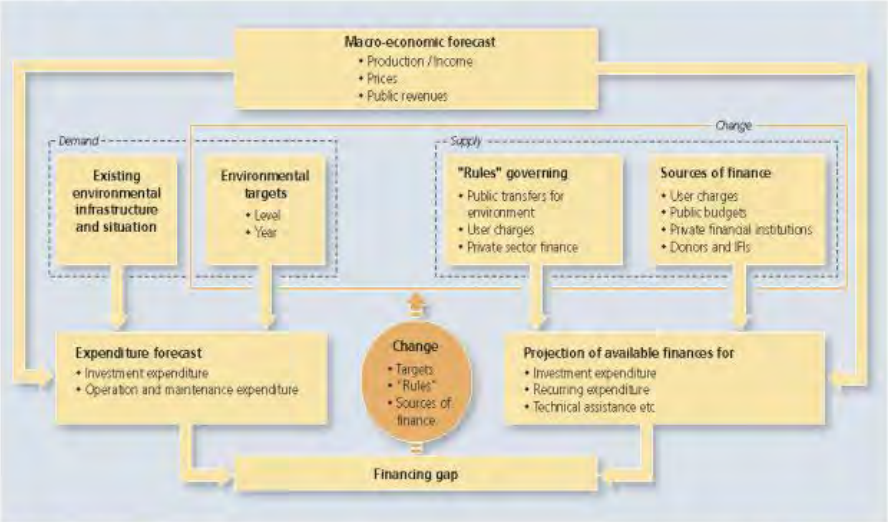
National/regional financing strategy for urban water sector

Analysis of environmental and water expenditure

Environmental Expenditure Information Systems

- **Effective policies are based on credible environmental expenditure information a baseline should be establishing and follow-up with regular reporting**
  - Evaluating whether enough resources are devoted to environmental problems
  - Identify possible financing gaps and opportunities to increase environmental expenditure
  - Identify who is providing resources for the environment and who is not
  - Identify trade-offs between different priorities

National and Regional Environmental Financing Strategies



Improving Management of Public Environmental Expenditures

- **Environmental authorities and institutions should used their resources efficiently and for priority environmental objectives**

  - **Ensure political independency in administration and allocation**
  - **Ensure cost-effective use of resources**
  - **Ensure high standards of management efficiency**
  - **Ensure accountability and fiscal prudence**

Strengthening Decentralization and Resource Allocation at a Local Level

- **In strengthening decentralization - expenditure responsibility should be followed with guaranties of autonomy in the determination and execution of these expenditures**
  - **A clear framework for inter-budgetary fiscal relations should be established**
  - **Introduction of a multi-year budget framework at all levels of government and medium term investment budgeting**
  - **Introduction of tasked based budgeting at municipality level**

ANNEXURE 8

MEDIA COVERAGE OF THE GPA SOUTH ASIA REGIONAL MEETING

FEJB - SEMP
Sustainable Development News Clip

The Financial Express

☑ Newspaper ☐ Magazine ☐ Newsletter ☐ Weekly

7 | 4 | 2003
Date

Page 8 ☑ Report ☐ Environment Page ☐ Photo ☐ Editorial ☐ Commentary

Protection of marine environment

Regional action plan in the offing

A South Asia regional plan of action for the protection of the marine environment from land-based activities for 2003-2006 is in the offing, reports BSS.

The coastal and marine environment in the South Asian countries is threatened by physical alterations and destruction of coastal eco-systems, including destruction of habitats of vital importance to maintain eco-system health, said a study of the United Nations Environment Programme (UNEP) adding that almost 50 per cent of the coasts are threatened by development-related activities.

The South Asia regional plan of action is expected to raise awareness and build capacities within governments of the coastal countries of the region to address problems which pose as the urgent threats to coastal zones, amongst other through strengthening their legislation and regulatory capacity and facilitating multi-stakeholder partnership.

Under the regional plan of action to be formulated and finalised after the South Asia workshop at the end of this month in Colombo at the initiative of the UNEP under its Global Plan of Action (GPA) programme is expected to raise awareness for the interactions between river basin and coastal and marine environment and promote on global, international, national and local scales the integrated management of river and coast.

The proposed plan of action is to create an information base on

~~See Page 2 Col. 1~~

significant cases of river-coast interactions and lessons learned with integrated management approaches.

The primary reason for the degradation in Bangladesh, India, Pakistan, Sri Lanka and Maldives, the UNEP study said, appears to be water pollution and increasing inadequacy of freshwater inflow to the coastal zone.

The study also voiced concerns for unregulated felling and clearing of mangroves for firewood, shrimp farming and flood protection. Apparently, the UNEP study pointed out, very little emphasis is placed on conservation and protection of the mangrove habitats.

The study also listed associated environmental problems because of withdrawal of water from rivers and wetlands without due consideration to the environmental requirements of aquatic ecosystems in South Asia.

Many rivers in South Asia are presently nothing more than industrial and urban sewers, the study pointed out adding that coastal ecosystems are being increasingly threatened by natural gas exploration activity and shrimp cultivation.

Agricultural activities carried out in the upstream eventually affect the downstream users.

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Sustainable Development News Clip

The News Today

☑ Newspaper ☐ Magazine ☐ Newsletter ☐ Weekly

25 | 04 | 2003
Date

Page 3 ☑ Report ☐ Environment Page ☐ Photo ☐ Editorial ☐ Commentary

South Asia regional plan to protect marine environment

A South Asia regional plan of action to protect the marine environment from land-based activities for 2003-2006 will be finalised at a three-day regional meeting beginning on April 28 in Colombo, reports BSS.

The coastal and marine environment in South Asian countries is threatened by physical alterations and destruction of coastal eco-systems, including destruction of habitats of vital importance to maintain ecosystem health, said a study of the United Nations Environment Programme (UNEP) to be placed at the forthcoming meeting.

The UNEP study pointed out that almost 50 per cent of the coasts are threatened by development- related activities.

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Agricultural activities carried out in the upstream eventually affect the downstream users, the UNEP study mentioned adding that indiscriminate use of pesticides is a threat to both marine and riverine aquatic life.

Ship-breaking and oil spills are other major pollution sources that have regional relevance, it added.

The UNEP-GPA programme emphasised the need for launching a major awareness campaign in the region about the existing scale of problems and measures to prevent and alleviate further pollution of fresh and coastal water environment.

At the workshop Bangladesh will be represented by Director General of the Department of Environment Dr. Omar Faruque.

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The Daily Star

☑ Newspaper ☐ Magazine ☐ Newsletter ☐ Weekly

25 | 04 | 2003
Date

Page 19 ☑ Report ☐ Environment Page ☐ Photo ☐ Editorial ☐ Commentary

Colombo meet on marine environment begins Apr 28

South Asia regional plan of action to be finalised

BSS, *Dhaka*

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The News Today

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Page 3

☑ Report ☐ Environment Page ☐ Photo ☐ Editorial ☐ Commentary

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25 | 4
Date

Page 12 ☑ Report ☐ Environment Page ☐ Photo ☐ Editorial ☐ Commentary

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26 | 04 | 03
Date

Page 3 ☑ Report ☐ Environment Page ☐ Photo ☐ Editorial ☐ Commentary

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MEDIA ANNOUNCEMENT

For Immediate Release

28th April 2003-07-25

For information please contact:
Dawn Rodriguez, Tel: 787 404
Email: d.Rodriguez@cgiar.org

SRI LANKA'S GREATEST TREASURE FACES CRISIS

Sri Lanka‟s greatest natural treasure, its coast line with its abundant beauty and marine resources, face a crisis as population numbers increase, cities grow, and development accelerates across the region. The coastal zones and ocean waters of South Asia have become a dumping ground for municipal sewage, toxic factory discharges, herbicides, pesticides, fertilizers, oils and household garbage, threatening their health, productivity and biodiversity.

In response, over 100 Senior Government, NGO and Private Sector Officials, from the South Asia region and the United Nations Environment Programme will meet this Monday to Wednesday (28-30 April) in Colombo, Sri Lanka, to address the growing crisis.

Led by Hon. Rukman Senanayake, Minister for the Environment and Natural Resources, Government of Sri Lanka, delegates will seek cooperative, realistic and proactive solutions to the environmental problems caused by the double-edged swords of urban development and tourism, agricultural expansion and industrial growth. The Hon. Rukman Senanayake, will inaugurate the meeting and deliver the *Key Note Address* at 9 a.m.

“We all need development. Indeed, our people, our cities, our farmers, and our children are entitled to a bright and productive future. But we must not kill the goose that lays the golden egg. Our coastline, our marine environment, is a rich and wonderful heritage, and we must treat it with respect, ensuring that it remains productive and beautiful for future generations” said Dr. Veerle Vandeweerd, Coordinator UNEP/GPA Coordination Office. “This regional meeting is a major and positive step in providing a brighter future for all Sri Lankans, and the region.”

The conference will be held at the Galadari Hotel, Colombo, commencing at 9 a.m., Monday, 28 April. A press conference led by Dr. Veerle Vandeweerd, Coordinator of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities will be held at the Galadari Hotel at 18.00 hours.

FACTS AND FIGURES

- Goods and services provided by the ocean are estimated at over US$21 billion annually
- Some 1 billion people live in coastal urban centres
- Almost 50 per cent of the world‟s coasts are threatened by development-related activities
- Bathing in polluted water may cause 250 million cases of gastro-enteritis and respiratory disease every year
- 1 in20 people bathing in slightly contaminated, but still “acceptable” water become ill
- Eating infected shellfish is a common cause of infectious hepatitis and long-term liver damage – and may cause 50,000 to 100,000 deaths every year.

THE GLOBAL PROGRAMME OF ACTION

The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) is a non-binding intergovernmental programme adopted in 1995 by a conference of 108 governments in Washington, D.C. The United Nations Environment Programme (UNEP) provides the secretariat to the GPA. The function of the GPA Coordination Office, located in The Hague, is to facilitate and catalyse the implementation of the GPA by governments and regional organisations.

The 2003-2006 work programme for the GPA Coordination Office focuses on moving from planning to action. Activities are based on six principles:

1. To focus on action building on the achievement of national level programmes
2. To facilitate the mobilization of financial resources
3. Building partnership with the private sector and civil society
4. Linking marine and coastal issues with concerns of the freshwater management community
5. Cooperation and coordination with other international organizations
6. Replication and upscaling of best and innovative practices at local, national, regional and global levels.

Priority regions for the period 2003-2006 are South Asia, Eastern Africa, the Wider Caribbean and West Africa. In South Asia, the South Asian Seas Action Plan (SASAP) adopted by five countries in the region, namely Bangladesh, India, Maldives, Pakistan and Sri Lanka, provides the regional framework for the implementation of the GPA. The South Asia Cooperative Environment Programme (SACEP) is the secretariat of SASAP.

Some of the issues the GPA addresses are:

- Coastal legislation in South Asia
- Urban pollution including sewage
- Waste discharges from shrimp farms
- Problems arising from irrigated agriculture such as the use of chemical pesticides and fertilizers

Ship breaking and oil spills from shore facilities.

GLOBAL PROGRAMME OF ACTION (GPA) MEDIA CONFERENCE

A Media Conference was held on the 28th of April at the Galadari Hotel Colombo, Sri Lanka, to brief journalist and news reporters from local newspapers, TV and radio stations on the Global Programme of Action (GPA) which was conducting an international workshop on the impacts of land-based activities on coastal and marine environments. The International Water Management Institute, a partner in this initiative facilitated the media conference. Media present at this event were:

LOCAL NEWSPAPERS:

Daily News
Daily Mirror
Sunday Times
Sunday Island
The Business Standard
Economic Times
Lakbima
Divaina
Lankadipa
Thinakaran
Thinakurral

FOREIGN MEDIA:

Associated Press

TV STATIONS:

Rupavahini
MTV Networks (Sirasa)
Young Asia (YA) TV

RADIO STATIONS:

Sri Lanka Broadcasting Corporation (SLBC)
ABC Radio

SUMMARY OF MEDIA PUBLICITY
FOR UNEP/GPA REGIONAL WORKSHOP
COLOMBO, SRI LANKA
APRIL 2003

PRESS PUBLICITY

Name of Publication	Date of Appearance of article	Frequency Of Publication	Circulation (approximate figures)	Readership profile
The Daily Mirror	April 29th	Daily	15.000	General audiences public and private sector, government officials, NGOs
The Daily News	April 30th	Daily	88.000	General audiences business community, government officials, professionals in public and private sector, NGOs, diplomatic missions
The Business Standard News snippet	May 2nd	Weekly	12.000	Businessmen, trade analysts, private sector organizations

Name of publication	Date of appearance	Frequency of publication	Circulation (approximate)	Readership profile
The Sunday Island	May 4th	Weekly	64.000	Public and private sector organizations, professionals,government officials, general audiences, NGOs, diplomatic missions
The Business Standard (Media Interview	May 9th	Weekly	12.000	Businessmen, trade analysts,private and public sector organizations
The Economic Times (Sri Lanka)	June issue	Monthly	10.000	Business and trade sector, diplomatic missions

NOTE: The workshop was also covered by the following:

Associated Press (AP) (news dissemination service)

Lakbima News (news dissemination service)

These two agencies do not track which newspapers pick up stories except in the case of stories of national/global importance.

TNL Radio did not attend media conference but carried news item.

ELECTRONIC MEDIA PUBLICITY

TV PUBLICITY

STATION	BROADCAST DATE/DETAILS
Rupavahini Channel Eye	English News at 9 p.m. on 29th April, 2003
MTV - (SIRASA)	Sinhala hourly News – 29th April, From 8 p.m. to midnight
YA TV	"Mihisara" – Rupavahini 10 p.m. on 27th May

RADIO

STATION	BROADCAST DATE/DETAILS
TNL Radio	News Bulletin 9.30 p.m. on 28th April (English)
SRI LANKA Broadcasting Corporation	News bulletins, 12.45 p.m. and 6.00 p.m. on 29th April, in English, Sinhala and Tamil
ABC Radio	English hourly news, From 6 p.m. to midnight on 29th April Shah FM (Sinhala service) at 5.55 p.m. on 29th April Hiru FM (Tamil Service) at 6.55 p.m. on 29th April

Daily Mirror
www.dailymirror.lk Vol:04/267 TUESDAY APRIL 29, 2003 Late City Edition PRICE 15.00

Peer pressure among adults
Family ■ Page 12

Lady Ridgeway Hospital expands its services
SEE FINANCIAL TIMES

Millennium poetry with a punch
Features ■ Page 10

Environment degraded through lack of understanding: Rukman

ay April 29, 2003

The lack of understanding the dynamic nature and complex interrelationships among ecosystems and human activities have resulted in an escalation of coastal problems and considerable degradation of the coastal environment.

This was stated by Environment & Natural Resources Minister Rukman Senanayake inaugurating the three day South Asia Regional Consultation Workshop on the Global Programme of Action for the Protection of Marine Environment from land based activities held at Hotel Galadari yesterday.

In this connection he commended the UNEP/GP program for embarking on a regional action plan aiming in identifying the sources and initiating preventive measures to reduce its impact on the marine environment.

He said: "It is also important to note that land-based activities taking place in all countries in South Asia and even beyond this region will have some form of impact on the Indian Ocean. Therefore, any remedial efforts of one country may be negated by the negative response of another. Such a situation calls for a regional co-operation and it is hoped that events such as this Regional Consultation where major stakeholders of the South Asian region are participating will form the basis for such collective action for the betterment of the marine environment in the region as a whole."Clean and stable beaches are a prime natural resource on which important economic activities such as tourism depends. Further they are the best natural defence against the ravages of coastal erosion which is now becoming a major issue in this island. However, unplanned development, which is taking place even today, threatens the stability of the beaches in several coastal areas.

Minister Rukman Senanayake addressing the delegates at the workshop.

"Socio-economic importance of the coastal areas have imposed pressure on its natural resources, while the land based activities, particularly pollution within the coastal area have caused many an adverse impact on the marine and coastal aquatic environment."In 1999, the Ministry of Environment & Natural Resources prepared a preliminary report titled National Action Plan for the Protection of Marine Environment from Land based Activities in Sri Lanka. The report was prepared by a team of experts drawn from key goverment agencies such as, Central Environmental Coast Conservation Department, National Aquatic Resources Development and Research Agency and also the universities.

"Based on the this preliminary report UNEP/GPA Coordination office provided funds to Sri Lanka to prepare more specific National Action Plan with the participation of the relevant stakeholders.

"The National Programme of action for the Protection of the Marine Environment from Land-based Activities in Sri Lanka takey into account the past coastal management efforts. It introduces a methodological framework to design a sustainable programme geared to follow concepts and guidelines that integrate environment and actions."This National Action Plan which is now being prepared by my Ministry and is scheduled to be completed by the end of September includes few pilot projects in five priority areas as identified by the stakeholders. These areas are; sewage disposal, unplanned aquaculture, industrial pollution, sand mining and solid waste disposal.

He thanked the UNEP/GPA Co-ordination Office for selecting Sri Lanka to host this Regional workshop and the International Water Management Institute and the SACEP/Colombo Office for making the necessary arrangements to hold this workshop.

"I hope all our foreign delegates will find time to enjoy the warmth and hospitality of the Sri Lankan people, our cultural and religious heritage, beautiful beaches, and the rich natural ecosystems of forests and wildlife during your stay in Sri Lanka" he finally said.

Daily News
www.dailynews.lk

· 86 No · 102 Established - 3.1.1918 Wednesday April 30, 2003 Registered as a Newspaper in Sri Lanka Rs. 15.00 Late City ★

Parley on minimising danger to South Asia's marine and coastal environment

by Sarath Malalasekera and Bharatha Malawaraarachchi

A conference focusing to minimise the risks and dangers to South Asia's marine and coastal environment is currently in progress at the Hotel Galadarai, Colombo.

The conference which commenced on Monday ends today (30).

Participants included senior Government officials, NGO and private sector officials from the South Asia region, under the flagship of United Nations Environment Programme (UNEP).

One of the major threats to health, productivity and biodiversity of the world's oceans result from human activities on land in coastal areas and further inland which accounts for some 80 per cent of the population in the ocean.

In response to these problems, 108 Governments and the European Commission have come forward to address the issue of protecting and preserving the marine environment from adverse enviornmental impacts through the Global Programme of Action for the protection of the Marine Environment from Land-based Activities(GPA) which works in collaboration with the UNEP.

Addressing a press conference on the first day of the conference, Coordinator UNEP-GPA Dr Veerle Vandeweerd said under the 2002 - 2006 work programme, the GPA Coordination Office focuses on moving from planning to action.

Amongst the activities based for action will be to focus on action building on the achievement of national level programmes, facilitating the mobilisation of financial resources, building partnership with the private sector and civil society. Dr. Vandeweerd also noted that they would pay attention in linking marine and costal issues with concerns of the fresh water management community and cooperation and coordination with other international organisations.

The GPA also addresses issues such as coastal legislation in South Asia, urban pollution including sewerage, water discharge from shrimp farms, problems arising from irrigated agriculture such as the use of chemical pesticides and fertilisers, ship breaking and oil spills from shore facilities.

Navy detects boat transporting arms

Trincomalee group correspondent

Sri Lanka Navy took into custody a boat with six Tamils including a woman off Koneswaram Paul Point on Monday evening.

A 9 mm pistol, 15 live cartridges, two magazines and 8 detonators were detected from their possession.

It has been revealed under interrogation that the suspects had set out from Nampur.

Trincomalee police are conducting further investigations.

The Business Standard
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Friday, May 02 2003
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SA leaders to meet to conserve coasts

By Dilshani Samaraweera

Parliamentarians of the South Asian region, including Sri Lanka, will meet in New Delhi in July to review environmental legislation of the region in an attempt at address the escalating coastal degradation and pollution. The gathering will examine available legislation among neighbouring states in view of improvements, better enforcement and identifying the role of parliamentarians in environmental conservation efforts. This was disclosed at a press conference in Colombo earlier this week at the start of a regional workshop on the 'protection of marine environment from land based activities', by the Global Programme of Action (GPA) and hosted by the International Water Management Institute.

The GPA, of which Sri Lanka is a participant, is a global environmental conservation agreement under the United Nations Environment Programme (UNEP). Dr Veerle Vanderweerd, Coordinator of the UNEP-GPA, said that environmental issues were best addressed at a national level. "We know donor funding will not solve the problem. Only about 2% of environmental protection happens through donor funding. So countries need to finance and take action individually."

The regional workshop in Colombo, with its multi-sector representation of stakeholder groups, identified a few urgent issues for each participating country and set down action measures to address them.

'he Business Standard
Newspaper of the Corporate World
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Vesak greetings

Beached on the beach

By Dilshani Samaraweera

The root of Sri Lanka's tourism industry lies in the beaches surrounding the island. Decades after tourism became a standard, large scale contributor to the national GDP, the industry is still for the most part beach based.

The beaches and its environ are one of the country's primary sources of past, present and future income. So while more and more hotels, resorts, industries and settlements delve into this seemingly endless and more to the point, free, resource the burden on the coastal environment increased imperceptibly.

The danger of this lies in forgetting that the main source of input is still nature - whether its water, wood, fuel, food or just the ocean and the beaches. These resources are neither limitless nor limitlessly elastic.

Human settlements along the coast generate solid and domestic wastes. Industries too must relieve their more potent industrial waste and the ocean looks big enough to handle it. The fact is that the combination of raw sewage and industrial waste disgorged into the sea, with no treatment to reduce their toxicity, have made life a living hell to a huge variety of marine life. The problem can be traced back further inland. Large scale upstream diversion of fresh waters for power generation and irrigation increases salinity at deltas. Coupled with decreased water quality in general, entire eco systems are destabilised.

These developments were the subject under discussion at the regional gathering of the Global Programme of Action (GPA) in Colombo last week organized by the International Water Management Institute (IWMI). The GPA is a global mandate under the United Nation Environ-

While tourism delves into this seemingly endless resource the burden on the coastal environment increases imperceptibly

Sea needs fresh water too!

Dr Vladimir Smakhtin is the principle scientist, hydrology and water resources at IWMI. IWMI has been involved in examining traditional use of water in irrigation in Sri Lanka and means of increasing water productivity. Dr Smakhtin explained the need for an integrated water management policy in the future for coastal conservation.

Q: How does upstream development affect marine environments?

Dr Smakhtin: When you talk about coastal degradation its not just pollution and erosion. Reduced fresh water inflows make a huge difference but this starts upstream, inland. When people start developing water resources upstream, that is diverting it to generate electricity or for industries or collect water for agriculture, then there is less water in the river. So less fresh water comes to the sea. This changes antics habitats. There is this perception that freshwater should not go to the sea. That it is a waste. But the sea needs fresh water too for its life forms. Development activities change eco systems because of how much water is released or not released.

Bundala park is a good example. Because of Lunugamvehera too much fresh water was sent out to Bundala. Bundala was originally a brackish water system. Now it has become a freshwater system but this change hurt previous fish and shrimp stocks and biodiversity of the area.


Dr. Vladimir Smakhtin

Q: You spoke of adopting a system of Integrated water management?

Dr Smakhtin: Yes. Traditionally inland water management and coastal management have been separate. But now because of the connections between the two more experts think it is more suitable to develop policies taking both into account. Also because traditionally irrigation is what takes up most of the fresh water. Around 80% of diverted water in general is taken up by irrigation. Domestic and industrial consumption is very little in comparison.

ers obstruct the movement of sand. So while there is a build up of sand in some Bentota and this has had an impact.

Q: In what way has tourism affected

off. Now it is being brought under control. There is close monitoring by the Coast conservation Department.

We (GPA) are looking at municipal sewage management as well. Untreated sewage still goes into the sea. There are some urban areas where this discharge can be carried inland again through water systems. So we are looking at new ways of managing sewage.

In areas like Negombo there are very large amounts of industrial waste from Ekala (industrial zone) and surrounding factories. Much of this is a result of bad urban planning. We need some provision for the treatment of industrial waste. These factories were started a long time ago. At that point this aspect was not taken into account. Now they are expected to incorporate treatment facilities into the processes, which is not so easy because the factories are old.

Q: Given that the marine environment and the coast is the source of income of the tourism industry what is the level of awareness among hoteliers and the private sector in general about conservation?

Dr Samarakoon: The consciousness among hotels is very high now. Conservation has become a very prominent thing. Now a lot of hotels are looking at income generation through it.

Q: What incentive is there for the private sector to invest in eco friendly systems?

Dr Samarakoon: The GPA will not be looking at direct incentive schemes but there is room for many business opportunities within the frame work of the GPA. Eco-sanitation, less use of water in processing sewage, waste treatment for example. Then rainwater harvesting. From the point of view of industries the savings can be immense. With the roof