

Management link for freshwater and coasts-Progress in Local Actions
UNEP/NOAA/GFO/SEMARNAT
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Notes by Heather Allen, NOAA/OIA

Overview of Freshwater to Oceans Linkages
Biliana Cicin-Sain,
Co-Chair, Global Forum on Oceans, Coasts and Islands

The Global Forum on Oceans, Coasts and Islands (GFO) was mobilized in 2001 to put oceans, coasts, and SIDS on the WSSD agenda and formalized at the WSSD. The GOF is a multi-stakeholder forum for

- 1) cross-sectoral, multi-stakeholder policy dialogues
- 2) policy analyses
- 3) mobilization of knowledge and other resources to advance the global oceans agenda

The purpose of the GFO is to advance the global oceans agenda and promotes implementation of the international commitments related to oceans, coasts, and SIDS.

To date the GFO works to

- 1) set good targets and timetables on the challenges put forth at the WSSD
- 2) consider new emerging issues,
- 3) promote consensus building
- 4) promote advocacy for oceans

Both the oceans community and freshwater community recognize that freshwater, coasts, and oceans are an interconnected system in need of interconnected management.

We may create linkages through

- a. analysis,
- b. decision making
- c. linkages

This panel will explore general considerations and obstacles to the linkages

- 1) How do we make these linkages apparent to decision makers?
- 2) Why are these linkages often ignored?
- 3) Why is it imperative to link freshwater to oceans, and what happens if we don't?
- 4) What are the specific costs and benefits of linking freshwater to oceans?
- 5) How does Integrated Water Resource Management (IWRM) need to be linked to integrated coastal and ocean management (ICM) and to National Plans of Action (NPA) for the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA)?
- 6) Many countries are involved in these issues, but these efforts are being isolated.

This panel will also explore specific cases of freshwater to coast management linkages

- 2) Where and in what cases, has IWRM been effectively linked to ICM and to GPA NPAS?
- 3) The GPA functions as the main global program that explicitly links fresh water to oceans, perhaps new institutions are needed to make IWRM decisions?
- 4) Or do we need a system of nested governance that makes the links between the decision makes?

The conclusions of this panel will feed into the GPA to be held in Beijing on October 16-20 and the Global Water Partnership summit in Stockholm August 2006.

GPA-Beijing

www.gpa.unep.org/bin/php/igr/igr2/home.

GWP-Stockholm

www.worldwaterweek.org/

**Perspectives of Freshwater to Oceans by GEF International Waters Program,
Takehiro Nakamura,
Project Management Officer, IW-GEF UNEP**

GEF projects address the concerns linking freshwater to oceans. The goal of GEF IWA is to assist countries in using the full range of technical, economic, financial, regulatory, and institutional measures needed to operationalize sustainable development strategies for international waters. Notably, the GEF is also the major financial contributor to the GFO.

Several, GEF-IW projects demonstrate the land based activity impacts on the coastal and marine environment.

- 1) Sao Francisco River Basin, Brazil
 - a. Transboundary river basin
 - b. Affects coastal areas
 - c. Major basin-640,000sqkm
 - d. A highly regulated and impacted river.
 - i. Ag, mining, urban, and industrial activities, have contaminated the basin with persistent toxic substances, including persistent organic phosphates, heavy metals and nutrients
 - e. Strong national action to protect the basin
- 2) Wider Caribbean Region
 - a. Multi-country approach to Integrating Watershed and Coastal Area Management in the Small Island Developing States of the Caribbean (IWCAM)
 - b. Emphasis on groundwater and its role in terms of conveying chemicals and contaminants to the coastal areas
 - c. Thirteen states developed a national report on integrating watershed and coastal management

Challenges to UNEP GEF programs include:

- 1) Stakeholder participation and institutional mechanisms
- 2) Disseminating the project information

**Overview of the GPA National Programs of Action Process as a Tool for Integrated Freshwater to Oceans Management,
Clement Lewsey
Director, NOAA/NOS International Program Office**

In 1995, 108 countries came together and created the GPA. The UNEP GPA states that the objective of the NPA is to implement actions to address specific causes of env degradation or threats from land-based activities. During the WW2BW conference held 3 years ago, GPA Secretariat asked NOAA to provide technical assistance and advice to countries in the wider Caribbean to develop National Programs of Action (NPAs).

What is an NPA?

- 1) An integrated management and policy framework (which builds upon existing national policies and priorities)
- 2) A tool that can assist governments, industry, and local communities in the progressive prioritization, over a period of time, of their sustainable development goals and in the mobilization of political and financial support

Within the natural environment the upper reaches and the coastal marine env are naturally integrated. Yet governments and people remain NPA disconnected. The NPA is an attempt to create this type of integration can assist governments and local communities in progressive priorities over time. This is especial important where the culture has been in favor of sectoral decision making and planning.

The process of creating an NPA

- 1) Identify and assess, problems
- 2) Establish priorities
- 3) Set management objectives
- 4) Identify, evaluate and select strategies
- 5) Evaluate effectiveness of actions
- 6) Obtain Administrative Support for Program Elements
- 7) National Endorsement

NOAA developed a phased approach working with the countries in the wider Caribbean to assess the areas where the gaps in management existed.

Phase 1

Develop a policy assessment for managing coastal and watershed areas and establish priorities

Phase 2

Development of the NPA based on the specific needs for each country

NOAA is currently working with 12 countries and identified the major challenges:

- 1) A lack of integration among national institutions with mandate on natural resources
- 2) Institutional structure lack of political will, lack of framework etc

NOAA has also identified important initial steps each country must do for a NPA

- 1) Identify a lead gov't agency and authority to lead the process,
- 2) defining the need for an NPA,
- 3) creating with the aid of the leadership-interministerial committees, including the watershed and coastal ministries.
- 4) assess the legal framework,
- 5) developing a working document.
- 6) Organizing a stakeholder meeting to identify the goals and objectives-need people to support this or it is useless, need person to person meetings to demonstrate support-a major activity to develop a draft plan.

Preparations for IGR-2, Cees van de Guchte, UNEP-GPA

First a few questions for the audience:

- 1) In a session this morning an EU representative said “the ministry of health should do wastewater not the ministry of the environment.” Do you agree?
- 2) In the Netherlands there is an institute dealing with living in the delta, ecologists are not welcome to join the party. Do you agree with that?
- 3) Frequently groups who deal with freshwater to coasts do not allow environmentalists. Do you agree with that?

Seeing that the audience does not agree with these statements we can assume the members of the audience agree that freshwaters to coasts should be linked and their management should be inclusive and integrated. But why do others not think it is needed to link the two? I would like the discussion to work on this.

GPA seeks commitments on the highest political level through national programs of action. How can we proceed in strengthening the concerted efforts that already take place of linking?

Some links include, connections to poverty, overarching national planning and integrated coastal zone mgmt plans, but the question remains how to develop the link.

Report of the Mexico Workshop on Freshwater-Coastal Marine Management Interlinkages, Mexico, January 2006, Patricia Munoz, IPN/Porfirio Alvarez, SEMARNAT

In Mexico, we have been working with the sustainable development council after the Johannesburg meeting we have got involved with the Global Forum on Oceans Coasts and Islands. We held a workshop here last January-to integrate all players in this activity

the study of water. The goal of the workshop was to help us all speak the same language regarding the issue. We have to speak the same language, not only the academic world but all the people doing related work, the entrepreneurs, the NGOs etc.

We gathered together these experts, and we also found it interesting to have perspectives from around the world. We worked to discover if there is a common language to address the issues? What about a commonality of problems in Africa and Asia. We found all basin users and all countries face all problems. Our workshop explored case studies about experiences. The World Bank, and the GEF provided additional info, and financing.

Regarding strategies to address problems, everything that happens upstream will affect the coastal areas. And land based activity will affect the oceans and have impacts on ecosystems and resources. Ultimately it will have economic impacts. Once the concept of natural linkages is clearly understood, hydrologists working on the coast will be able to help us developed integrated plans. Water is water, no matter where it is.

We have set goals for the coming months and years. I have presented our goals in general terms, and they will also be presented in Paris at the World Wide Water conference. Other issue areas include: high sea or deep sea waters belong to everybody and nobody, who has rights? These are delicate subjects. Those of you who are interested should follow up with our colleagues. Thank you to everyone we want to encourage you on the future of coastal areas.

Case Studies

1) Dr. Jorge Euan. GPA implementation process experience in the Yucatan Peninsula, Mexico Towards the protection of the Marine Environment from Land-Based Activities

This presentation is a result of the regional action program carried out in the Yucatan peninsula, linked to the GPA, NPA process. This type of program tries to help governments to implement measures to protect the coast from land activities. Together with NOAA and other agencies we identified local players who could help us establish this program. The Yucatan Peninsula was invited to develop an Regional Program of Action (RPA) because it is a region with unique hydrologic characteristics and rapid population growth (and associated services) as a result of large tourism flows.

Yucatan NPA Project Goals and Objectives

- 1) Develop an integrated framework for watershed and coastal management
- 2) Promote institutional integration and collaboration
- 3) Generate and share regional databases for informed decision making
- 4) Generate a scenario for stakeholder participation

These objectives are clearly related to linking watershed and coastal management and ultimately the need to achieve

- 1) Sustainable coastal fisheries

- 2) Sustainable Tourism
- 3) Ecosystem services
- 4) Human health
- 5) Reduce conflicts

Specific Program Aspects of the Yucatan Peninsula RPA (PAR-Yucatan)

We worked with NOAA, SEMARNET, and VINVESTAV

In order to start with this process we agreed it would be useful to carry out a workshop with stakeholders

The Workshop Structure-A Three Day Process

- Day 1. Opening remarks by State authorities
Key presentation on seven topics (Part I)
- Day 2-3. Work groups developing our program (Part II)
- Day 3. Final agreements

70 participants with 15 local and national institutions

1. Governmental agencies: Watershed (CONAGUA) councils, federal and state secretariats, (ex: ministry of ag, ministry of natural resources), and UNEP
Federal and local and state authorities provided political endorsement demonstrating an interest and understanding of the issue
2. NGOs: Pronatura, Amigos de Sian Kaan
3. Research Centers and Universities: UAC, CINVESTAV, UADY, UQROO, CICY, IT

Prior to initiating the program we met with local people to identify the topics that would help build the program, addressing the particular features of the area, identifying at risk areas, and points of pollution, public involvement and information needs for shared data. Before working in the groups we started to provide information for building the programs. We provided info about the features of the programs, what are the principles important to consider in choosing these actions and what would be the general cycle for development of the program. The objectives set by the working groups supported establishing an ICZM program and improving public participation etc.

Objectives of the RPA Yucatan

1. Promote a Coastal Law and an ICZM program
2. Enhance governmental collaboration and coordination
3. Improve regulation and enforcement
4. Involve public participation
5. Identify Information Needs
6. Improve Monitoring
7. Involve the Private Sector
8. Identify and Introduce appropriate technology
9. Target Non-Point Sources
10. Access to Information Systems
11. Appropriate Information Diffusion and Education
12. Identify Financial Strategies

High Priority Results by Topic

Geohydrology

Problem:

Wastewater and solid waste are polluting the aquifers and they have a direct impact on coastal areas.

Selected Objectives:

To develop water treatment infrastructure with specific technologies for the Yucatan geological characteristics.

Selected Actions:

Evaluate the effects of the extreme weather events in recharging the aquifer and their impacts on water quality and hydrodynamics of the system.

Ecosystems and biodiversity at risk

Problem:

Lost of important coastal (buffer/habitats) ecosystems such as mangrove wetlands, seagrass, dunes and coral reefs.

Selected Objectives:

Enforce current regulation for land filling and land-use change for urban and tourism development

Selected Actions:

Review of the mangroves protection norm to establish the areas, water sources and fluxes to be protected.

Legal and Institutional aspects

Problem:

Lack of horizontal and vertical integration of public water management policies.

Selected Objectives:

Use the RAP Yucatan as guidelines to operationalize the work of the Yucatan Peninsula watershed council established under the national water law.

Selected actions

Give SEMARNAT/CONAGUA the mandate to follow up the RAP-Yucatan recommendations with in the watershed council.

Results from the Process

Positive Results

1. We found that there is goodwill from the local authorities to use the results of the workshop in local activities.
2. The program is coming at the right time to the region and there was significant enthusiastic stakeholder participation and attendance at the workshop.
3. The results from the RPA process in Yucatan (if properly publicized) could set the standard for other GPA processes.
4. Workshops conducted by local impartial groups or NGOs are successful because they are perceived as neutral.

Changes to be made

1. Some of the laws and policies must be changed for full and timely implementation.
2. We must find proper funding to enact these activities. (GPA step by step process)

Lessons from the process

1. Partnerships are essential to start the process

2. Someone should take the leadership within the government, whether or not it is mandatory.
3. If there are inter-institutional issues, a third party (e.g. research institution or NGO) can help to conduct the process.
4. Defining key topics or thematic areas before consultation will help to simplify the work with stakeholders (result of post-workshop survey)
5. "Do not leave for tomorrow what you can get at the stakeholder consultation"

Case Studies

2) Ms. Donner Spencer. Trinidad and Tobago's NPA, Progress and Lessons Learned, Donna Spencer, Chief Information Officer Institute of Marine Affairs

Much of the resources in T&T come from the sea—we are a SIDS with significant land-based sources of pollution. We were engaged by UNEP-CAR to implement the NPA. Our approach is unique because it was endorsed at 2004 at the national level. The government legitimized this process early and appointed a ministerial committee to conduct the NPA. The Institute of Marine Affairs leads the process, and at least 10 government agencies and ministries participate on the coordinating committee.

Trinidad and Tobago's goal:

To develop an NPA for Trinidad and Tobago which when implemented, will ensure the health and sustainable use of the coastal and marine resources.

Trinidad and Tobago's objectives:

To develop feasible responses to human impacts on the marine environment

Support existing efforts to develop and implement a comprehensive coastal zone policy.

Trinidad and Tobago's approach

- political approval and buy-in to the NPA process,
- committee appointed and by the cabinet
- committee guided by the GPA document,
- participatory process
- phased approach

Phase I

- National review is completed
- Existing policy framework and a State Of The Environment report, and Background Paper and Summary of Impacts has been circulated and submitted.
- Trinidad stakeholders consultation*
- Tobago stakeholders consultation*
- Development of the NPA

* We had to supplement these meetings—the committee will be reaching out to NGOs separately

Phase II

Trinidad and Tobago followed the GPA recommendation of creating demo projects which are financially viable, have high visibility, and clear demonstration value.

Completed

Identification of issues

An assessment of existing legal framework

Public consultation

Background paper has been completed

Reviews of the (1998 & 2005) national environmental policy demonstrate inclusion of ICZM zoning for the first time, and avoiding promotion of LBS activities, and encourage stakeholder participation in solving problems related to multi user conflicts in coastal areas.

Reviews of the Existing Policy Framework found that:

1. Current actions, policies and measures to protect the marine environment are inadequate.
2. The National Environmental Policy and the GPA favor the development of an integrated coastal management program.
3. A new agency need not be created: an existing agency can be given this function... (this is especially important in the Caribbean)

Stakeholder identification, and consultations were extensive and revealed several problems:

1. Needed to develop an institutional framework that would effectively treat the problems.
2. We have plenty of legislation but a real lack of enforcement, and absence of monitoring and surveillance.
3. The top down approach to decision-making results in a powerless public
4. There is a need to empower NGOs CBOs and the general public
5. Public education and awareness on the issues is inadequate

Collaboration areas with NOAA Node Office.

NOAA provides expertise and guidance, and funding and we give feedback and local knowledge and experiences.

Lessons Learned

Early endorsement has both advantages and disadvantages, it requires a slow process of consultations requires much time and effort and must be flexible to be both authentic and effective. Taking the consultations into consideration is time consuming if done properly. Public education, institutional sensitization of decision makers is key to successful development and implementation of NPA. It is also important that the NPA be developed with reference to other national plans being developed e.g. National Integrated Waste Management Plan; National Plan of Action to Address Land Degradation; National Wetland Policy.

Case Studies

3) Linking drainage basin to the coast for restoration and integrated management of Chilika lagoon; a coastal wetland of India. (Local action- LA-0469)

By: A.K.PATTNAIK, Ph.D.
Chief Executive
Chilika Development Authority

Chilika, the largest lagoon along the east coast of India, is a unique assemblage of marine, brackish and fresh water eco-system with estuarine characters. It is one of the hotspots of biodiversity and shelters a number of endangered species listed in the IUCN red list of threatened species, and also is a designated Ramsar site. This highly productive lagoon eco-system with its rich fishery resources sustains the livelihood of more than 0.2 million local communities who live in and around the lagoon. The ecological and the hydrological functions of the Chilika lagoon is influenced by the fresh water flow from drainage basin and the Bay of Bengal. Construction of major hydraulic structures and anthropogenic activities upstream has altered the flow pattern into Chilika. The long shore sediment transport along the coast of Bay of Bengal estimated to be 0.1 million metric tons annually tend to shift lagoon mouth opening to the sea every year thus adversely affecting the tidal exchange and flushing pattern. These changes have had significant biophysical impacts on the lagoon including drastic changes in the salinity and hydrological regime, and reduction of fishery resources. Degradation of the life support system, in the lagoon and the drainage basin had an adverse impact on the livelihood of the local communities. Included in the Montreux record (threatened list of Ramsar site) in the year 1993 due to change in ecological character.

From 1992, onward the Chilika Development Authority (CDA) in cooperation with several other institutions and the local communities implemented an assortment of interventions combining technology, institutions that demonstrated beneficial changes in a short period of time. The hydrological interventions undertaken to restore the lagoon have resulted in considerable improvement of its fishery resources, water quality and a positive impact on the biodiversity of the lagoon and the adjoining coastal ecosystem.

To facilitate this, strategy adopted by CDA is ;

- Key targeted studies to understand the complex ecosystem and to understand the intricate links between the drainage basin and the coastal processes that influence the lagoon ecosystem.
- Adaptive restoration plan with ecosystem approach
- Considering the magnitude of the problems and issues all goals were not attempted to be achieved in one run. After completion of one cycle a new one started with better and deeper understanding from the lesson learnt from the previous one.
- In the first phase included, the restoration of the lagoon by re-establishing the flow regime with the Bay of Bengal, pilot project for micro-watershed management (treatment of degraded forest and agricultural land, greening of the area, soil moisture conservation, capacity development etc.). In the next phase

successful pilot project micro-watershed management is up-scaled to some 13 more micro-watersheds in the drainage basin.

- Extensive out reach program to generate awareness about the values and functions of the wetland and the drainage basin.

Lessons learned

- The rehabilitation of Chilika Lagoon demonstrates that the interlinked freshwater-marine problems could be solved by an integrated management approach for lagoon and watershed (regulation of lagoon economic activities, optimisation of land use and watershed management, ensured freshwater flow, etc.) The participation of local communities is crucial for success and sustainability of restoration and management of wetland and its drainage basin as well as the coastal system. The adaptive successive restoration plans with ecosystem approach and its implementation with active support of the local community are key to the success.
- The Chilika lagoon case demonstrates that the rehabilitation runs through successive cycles and in each cycle a set of goals are being achieved.
- The local action demonstrates the mainstreaming of the notion of “ecosystems as legitimate users of water and the strong link between ecosystem and livelihoods”.
- It is an example of a paradigm shift from traditional sectoral approach of implementation to a more sustainable assortment of technology, institutions & social marketing implemented through local stakeholders.
The increase in the productivity level both in the wetland as well as the watershed, due to good environmental practices, facilitated the poverty alleviation of the fishers and watershed community.

Case Studies

4) Panama CATHALAC, Emil Cherrington, (Water Center for the Humid Tropics of Latin America and the Caribbean; Panama)

Background on CATHALAC

Cathalac is the regional center of excellence dedicated to the promotion of sustainable human development through integrated management of water and environmental resources. The CATHALAC center in can reach out to the rest of the region because Panama is a central location in Latin America and the humid tropics.

Framework for Implementation

WRI did a study in 2004 about reefs at risk, a model estimate of where the sediments loading. Panama has a significant portion of land in agricultural activities and land based activities affect the marine environment.

The GPA initiative is a program of the Panama National Committee for the International Hydrologic Programme (CONAPHI) of UNESCO and is advised by CATHALAC. The group implementing the GPA is composed of the national environmental authority Panama Maritime Authority, the University of Panama, The University of Technology of Panama, and the Ministry of Agricultural Development.

Our two phase approach
Panama is just beginning its implementation of the GPA.

Two national reviews and national consultative meetings

- assessment of the adequacy of relevant policies and action plans (both existing and planned) by the government, regional organizations and other stakeholders
- get stakeholder consensus as to their goals for the implementation process

National Program of Action Development

- identification / assessment of problems and areas of concern affected or vulnerable to effects of anthropogenic activities
- priority setting
- defining management objectives for priority problems
- identification, evaluation and selection of strategies and measures including long term management approaches

Coordination and work with the NOAA/GPA office we have worked to develop
-the national mandate, and technical expertise, and implementation expertise and other support to develop connections and link to the rest of the region.

Gonzalo Cid NOAA/GPA NODE Office

Lessons Learned

It is important to recognize the following: the need for institutional mechanisms, financial, leadership and choosing the right agencies, early support, and interagency communication, institutional framework, validating the process, through consultations, integrated ecosystem approach, desires of community and the community participation.

Neils IPSEN, UNEP

Closing remarks – The way forward

In 2002 the GPA and UNEP worked on promoting the link of freshwater and coasts. They collected case studies to determine the situation and find examples of good practices. Now we have 7500 now in the archives and what we really see from these cases are major problems due to lack of linkage in management, and there are very few cases of good management. The examples from this session are good-but these are rare.

Our intention to make a good library of good practices is not yet possible. Even within countries that implement ICZM and IWRM they are not integrated. The link does not happen automatically, because it is done through different agencies. Many countries have worked towards the goal that by 2005 all countries would have Integrated Water Resource Management plans. About 70% of the countries have some progress on IWRM plans, now we need to link to these plans, and the freshwater world is open to this and we have to look into water sharing. In our support of these IWRM plans we should look to these linkages today for example the global water partnership. IWRM can and should include links to the coasts. We decided to highlight the issue in IWRM, what we are doing now is to try to link to the energy and movement on IWRM process around the world.

A recent panel addressing projects in Latin America and the Caribbean reaffirmed earlier conclusions that there is significant Bias in the effort being undertaken, a noticeable bias about how to get funds, and the political situation in the countries. We need to develop strategies so that these local actions won't be biased by political situations, or specific interests.

A unified criterion for a coalition of entities for supply and water and features of integrated management and basic sanitation would be beneficial.

Two very brief comments, it is not fair to say we will look for money and legal justifications, funds of all the colors and types and shapes. Another issue is what a wonderful project in India I really want to congratulate you on that-these can't be negotiated we should not be limiting ourselves to talking about consensus. India's project worked because some things were just decided.

Sustainable development...I want to talk to you about a parallel effort to strengthen a specific instrument that would regulate ICZM and IWRM more than one year later the government of Mexico designed something to take better advantage of coastal resources in the case of mangroves-authority and wetlands in the areas of natural protected commissions.

Questions?

To Donna, how did you manage to get complete cabinet endorsement of the program, and was any effort made to connect to NGOs?

The minister at the time was receptive to a pilot project, at the end of the process it will have to go back to cabinet again. NGOs are a consideration that has been overlooked.

Clement-One technique that has been very effective was when the Institute of Marine Affairs and NOAA visited just about every government ministry to market the concept and develop the NPA and had a substantive session in January with the minister.