

## Interim phases are over

### Three year period of PDO-ICZM starts

The three-year consultancy services for the PDO-ICZM have started since February 01, 2002. Arcadis-Euroconsult has signed contract with the Netherlands Embassy. Associate company at the start was Mott Macdonald (UK). It was agreed that the Bangladesh Center for Environmental and Geographic Information Services (CEGIS) would join the consortium upon its establishment, expected later this year. Rob Koudstaal has joined as the Team Leader.

Interim phases of the PDO-ICZM starting from January 2000 have ended now. During this period, a number of start-up activities & studies were initiated & finalised which help smooth start of the 3 year period.

Staffing of the PDO is as follows .

- A core team of long-term experts is responsible for the final integration and should cover all main disciplines and working areas.

M. Rafiqul Islam	Land use planner and socio-agronomist
Mohiuddin Ahmad	Socio-economist
Abu M. Kamal Uddin	Environment and natural hazards specialist
A.M. Sadeque Ahmed	Water/coastal engineering expert

- A team of professionals from WARPO

Dhali Abdul Qaium	Principal Scientific Officer (Engineering)
Abdul Halim Miah	Principal Scientific Officer (Agriculture)
Md. Shahjahan	Principal Scientific Officer (Socioeconomic)
Md. Ekram Ullah	Senior Scientific Officer (Fisheries)

- A pool of short term experts of 60 person months.
- One Advisory Group will be established consisting of Dr. ATM Shamsul Huda (Chairman), Dr. Ainun Nishat and Dr. Q.K. Ahmad. Prof. John Soussan will also work with group as a member.

In line with the scope of work, the PDO activities will be guided by an open and holistic approach:

- dedicated efforts to install the counterpart GoB core team and the appointment of Focal Point from other key departments;
- establishment of Task Forces in pursuit of the major outputs;
- dedicated efforts to operationalize the Technical and Steering Committees;
- initial planning and conduct of a number of well-structured working sessions on approach, priorities, methods and allocation of tasks involving PDO-ICZM staff, GoB representatives and external experts;
- conduct of a series of "technical" workshops which will focus on GoB strategies towards management of the coastal resources, the approach of the PDO-ICZM, and the concerns of the other agencies; and
- building a common platform for discussion and communication among all parties involved through the introduction and building of consensus on the framework of indicators which represent the functions of the natural coastal resources system and relate them to the decision making issues.

The PDO-ICZM is financed by the Governments of Netherlands and Bangladesh. The DFID Bangladesh supports specific components.

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## Secretary MOWR briefed about PDO

A presentation was made to brief Mr. Faisal Ahmed Choudhury, Secretary Ministry of Water Resources on activities of the PDO-ICZM, at the WARPO Conference Room on February 03, 2002. This was the first presentation to Mr. Choudhury since his assumption as Secretary. Senior officials from the MOWR and WARPO were present. The Secretary expressed his satisfaction on the ICZM activities and assured his all out cooperation for the program.

## CDP carries further the work of inventorying coastal chars

Following the work of the inventory of coastal chars and islands initiated by the PDO-ICZM, it was found that limited information is available on char lands of the south-west coastal region. Coastal Development Partnership (CDP), with the help of 13 NGOs has carried out a survey in the area. An information sharing meeting was organised on January 23, 2002 where Dr. M Rafiqul Islam of the PDO participated. An analysis of survey information was presented.



## CARE organises Climate Change Workshop at Khulna

To discuss outputs and proposed activities for the Reducing Vulnerability to Climate Change (RVCC) Project, CARE organised a workshop on February 13, 2002 in Khulna. The project, supported from the Canadian Climate Change Development Fund, will try to build local capacities to understand, use and disseminate climate change information forecasts and build local capacity to anticipate and adapt to negative impacts stemming from climate change. Dr. M Rafiqul Islam of the PDO participated. This provided an opportunity to PDO-ICZM to contribute at an early stage of project design. A thorough discussion was held on 5 proposed outputs and activities related to those output.

## Prof. Lin from ITCZM, AIT visits Bangladesh

Prof. C. Kwei Lin, Co-ordinator, Integrated Tropical Coastal Zone Management Program (ITCZM) of the Asian Institute of Technology (AIT), Bangkok visited Bangladesh during March 25-30, 2002. During this visit, extensive discussions were held with the PDO-ICZM and WARPO. He also visited many organisations like Dept. of Fisheries, Surface Water Modelling Centre, ICLARM, Soil Resources Development Institute and Caritas. During



this trip, an opportunity was taken to visit the Institute of Marine Science, Chittagong and ship breaking yards at Kumira, Chittagong. This visit provided opportunity to meet his former and present students who are doing research studies on coastal issues. Prof Lin's visit strengthened closer ties with ITCZM

## The output of the PDO-ICZM

The main output of the 3-year PDO-ICZM is a **Coastal Development Strategy (CDS)**. This output is considered to be a program for coastal development, based on the evaluation of alternative courses of action, including concrete priority activities. The strategy is not meant to be a master plan, but is a preparatory document for the step-wise, learning-by-doing, establishment of a holistic ICZM approach. This implies that major attention will be given to the process of implementation of identified priority actions.

Table 1: Overview of outputs, activities and milestones			
	Outputs	Activities	Milestones/documents
1	Coastal Development Strategy (CDS)	1.1 Analysis of issues and problems 1.2 Analysis and integration of results outputs 2 to 6 1.3 Drafting CDS	- Paper on issues and problems - Draft CDS
2	Coastal Zone Policy (CZPo)	2.1 Review existing situation 2.2 Institutional and legal analysis 2.3 Drafting CZPo	- Results inst. and legal analysis - Design of harmonization procedures - Draft CZPo
3	Priority investment program	3.1 Inventory of projects 3.2 Screening 3.3 Elaborating details (appraisal level)	- Overview of projects - Plans and economic costing of priority projects
4	Community capacities to enhance livelihoods	4.1 Analysis coastal livelihoods 4.2 Case studies 4.3 Priority actions	- Analysis coastal livelihoods and vulnerabilities - Case studies - Priority actions livelihood development.
5	Enabling institutional environment	5.1 Analysis of coastal conditions 5.2 Consultation 5.3 Priority actions	- Analysis institutional environment - Results consultations - Priority actions creating enabling env.
6	Integrated knowledge base	6.1 Indicators (need assessment) 6.2 Inventory existing information 6.3 Identify gaps and sub-projects 6.4 Information strategy	- Overview of indicators and framework of data and models needed - Identified sub-projects - Information plan

Such a strategy would be based on, and would integrate the following five "building blocks", which form outputs in themselves.

**A Coastal Zone Policy (CZPo)**, which lays down GoB's vision and principles of ICZM. Such a policy would identify the intended beneficiaries of a CZPo, stress the harmonization of different sectoral policies and clear the ground for an enhanced interaction between different levels of government. GoB's aim to develop ICZM as a process to improve livelihood conditions of coastal communities will be clearly reflected in this policy. This would include the development of government capabilities for implementing the critical steps for subsidiarity and decentralization.

**A priority investment program** for infrastructure developments and improvements. Where possible, this program should draw from previous studies and project proposals. These will be screened and brought into comparable formats, specifying their contribution to the ICZM objectives of reducing vulnerabilities for different social groups and realizing development opportunities.

**Approaches and procedures for the improvement of community capacities to enhance their livelihood.** Activities will focus on encouraging economic development, reducing vulnerabilities and protecting the environment. Based on case studies, models of good practice will be developed, which consider, among other things, local power relations and the access of different social groups and gender to institutions, resources (natural and financial), and knowledge.

**Approaches and procedures for the development of an enabling institutional environment.** Focus is on the creation of an environment, which supports local communities in improving their livelihood conditions. Improving the accessibility of different social groups to the bureaucracy is an important aspect in reducing their vulnerability. Based on an analysis of coastal conditions and the consultation of stakeholders, mechanisms will be designed for enhanced coordination between civil society, private sector, local communities, local government and GoB agencies. Priority actions will be identified to create an enabling institutional and legal environment and improve civil society capabilities.

**An Integrated Coastal Resources Knowledge Base (ICRKB).** This crucial component in support of the planning and implementation processes aims: to make available and accessible existing knowledge; to define gaps based on a need assessment; and to coordinate activities for organizing the data and filling the knowledge gaps. The knowledge base will explicitly cover both the national and the community level ICZM activities and where possible will differentiate between the different social actors identified in other components. An "information strategy", including the institutional aspects of the ICRKB will be developed.

The above "packaging" of activities will facilitate PDO to structure and implement the holistic approach, which was an important aspect of GoB's initiative for ICZM. This approach will emphasize the integration between and among the following issues: coastal development and disaster management: planning and implementation at national and community levels: sec-

## Drainage congestion in coastal area: Beel Dakatia experience

People of Beel Dakatia, facing persistent drainage congestion from 1982 voiced their resentment in meetings, processions and demonstrations. They were not happy on the outcome of BWDB's planning process, in some instances, they resisted implementation of BWDB's physical interventions; rather they demanded to reinstate the natural phenomena of tidal inundation.



Beel Dakatia, having an area of about 18,000 ha, was open to tidal inundation by the Project Affected People (PAP) by cutting the polder at four locations defying all administration ban in September, 1990. These cuts were again closed by BWDB in May, 1994 as people demanded it.

During this period (1990-1994), tidal inundation gave localized benefit to the beel but overall situation of the beel was worse (Table-1); 12,000 ha during wet season and 10,000 ha during dry season remained permanently water logged.

**Table 1 : Experience of Reintroducing Tidal Inundation in Beel Dakatia (1990-1994)<sup>1</sup>**

Location of public cut	Flow intensity through the cut	Area specific siltation	Effect on river regime	Overall effect on the Beel
1 Sandhar Khal (connected to Hamkura river)	2 Very strong	3 Entire Shahpur mouza and part of Andulia mouza was raised by siltation	4 Hamkura river downstream of the cuts and Bhadra (outfall river of Hamkura river) revived; depth increased from 0.60 meter to about 9.00 meter.	5 Siltation of about 300 ha area with average depth of 0.50 meter for a length of 3.50 km around Sandhar Khal and Kacharir Bari Khal occurred during the period.
Kacharir Bari Khal (connected to Hamkura river)	Very strong	Entire Jhukra mouza and part of Ruprampur mouza was raised by siltation.	River regime downstream of cuts experienced no change.	Siltation on other parts of the Beel was not appreciable.
Amvita (connected to Hamkura river)	Very weak (located at the end point of Hamkura river)	no appreciable siltation occurred		Overall water logging of the Beel was intensified with higher water level.
Salna (connected to Solmari river)	Very weak (located at the end point of Solmari river)	no appreciable siltation occurred.		

### Evaluation of the process

- Beel Dakatia during 1990-1994 served as a practical demonstration field showing the complexity of the drainage congestion problem of the southwest region.
- Entire task is highly complex in respect of technical and managerial functions.
- It showed that reintroduction of tidal inundation is a solution to the problem but unplanned and un-coordinated management during implementation may give localized benefit causing harm to larger area.
- Knowledge gap is there in Tidal River Basin Management (TRM) approach<sup>2</sup>
- Size, location, peripheral embankment of the basin, condition of drainage river, guide channel are important factors in TRM approach.
- Active participation of all affected people at all stages of the process is necessary.
- TRM is still in 'learning by doing' stage<sup>2</sup>.

1. Swapan (2001), Water logging in Beel, Dakatia and Tidal Movement, Upakul Barta, 29th Edition, Khulna;

2. Ahmed, S.U. (2001), River Management by Tide in Khulna - Jessore Drainage Rehabilitation Project, KJDRP Barta, No-1, Water Management Directorate, BWDB, Jessore.

## Effect of salinity on vegetation of the southwestern coastal zone

In Bangladesh, total salt affected area of the coastal zone is 0.83 million hectares and soil salinity ranges from 2-16 ds/m. Technically, a saline soil is defined as the soil having conductivity of the saturation extract greater than 4 mmhos/cm and an exchangeable sodium percentage less than 15. The pH is usually less than 8.5. Land with saline soil occurs in the young Meghna estuary floodplain and in the southern part of the Ganges tidal floodplain. Over the past few decades, ecological damage due to salinity intrusion has been reported in the coastal zone particularly in the southwestern part.



So for this study, Shyamnagar upazilla of Satkhira, the southwestern most district of Bangladesh, has been selected as the study area because of abundance of shrimp enclosures (ghers) and proximity of the Bay of Bengal. The EC of the soil of upazilla is more than 4 ds/m and pH is less than 8.2. Information on the effect of salinity on vegetation growth has been collected from 22 sporadically distributed sites (villages) through a semi-structured questionnaire.

In the study, 54% ( $\pm 21\%$ ) respondents have confirmed that the salinity in the study area has been increased. The respondents have mentioned and ranked different reasons, like - shrimp enclosures (53%), sea vicinity (26%), saline water inundation (21%) and gradual tree cover reduction (15%). It is noteworthy that the total number of shrimp gher in the district has increased to 377 during the ten year period (1980-1990) and the area under shrimp gher is 13240 ha.

The increase in area can be correlated with gradual tree coverage reduction. It has been observed that during the

1985-2000 period tree coverage has reduced by 68%.

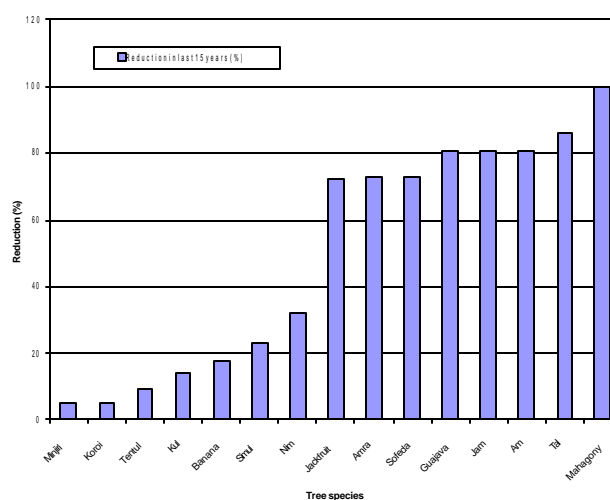
Guava, jackfruit, black plum, mango, palm tree, hog-plum (amra) and sapota are the main salt sensitive species and they are gradually disappearing (Fig.-2). The existing trees of the species are suffering from top - dying, root rot and leaf shedding.

The most salt tolerant species are babla, date palm, coconut, koroi, sissoo, eucalyptus, ipil-ipil, raintree etc. It is also observed that growth of agriculture crops is also reduced.

This study has shown that shrimp cultivation is causing ecological pollution to the local environment. But till now, effective steps have not been taken regarding this issue.

Different salt tolerant species, which shows better performance in different salinity level, can be planted in the salt affected areas. Thus land utilization proportion as well as living standard of the coastal people can be increased. This will also help in restoring ecological balance of the area.

Fig. 2: Vegetation reduction in last 15 years (%)



## A glimpse of Sundarban Biodiversity Conservation Project

The Sundarban Reserved Forest (SRF) covers 6017 sq km, including 3 sanctuaries. It has 20km marine zone. Its Impact Zone is 17 adjacent Upazillas (in Khulna, Satkhira, Bagerhat, Pirojpur, and Barguna Districts) having people dependent on products extracted from the SRF.

The Sundarban Biodiversity Conservation Project (SBCP) is undertaken to develop a management system and capacity for long-term sustainable conservation of biodiversity in the forest. This is a pioneer project in Bangladesh in bringing stakeholders together: forest dependent people, local governments, research institutes, NGOs, etc.

The Sundarban Management Unit (SMU), implements the Project in SRF through the Forest Department (Sundarban Circle; Khulna), and in the Impact Zone through its Jessore and Coastal Circles for social forestry, with participation by NGOs. The Sundarban Stewardship Committee of eminent concerned persons provides overall guidance, and the Steering Committee facilitates policy implementation. Upazilla Councils facilitate people's organization for activities supporting Forest Department management. Other agencies are also participating in the project such as LGED, ADAB, PKSF, SWMC, BPC, IUCN and NGOs.



Following capacity building activities of the Forest Department has been targeted for the project development:

- strengthening of planning and operational capacity;
- scientific studies of environment and wildlife management;
- establishment of sustainable levels of forest products extraction (where allowed);
- building up the capacity of the Forest Department to manage wildlife, especially endangered species, and aquatic resources within SRF;
- enhancing the capacity of the Forest Department in undertaking public relations and public information;
- promotion of both domestic and foreign tourism potential of SRF, along with needed infrastructure; and
- enrichment plantations will be established in SRF.



The main strategies in the Impact Zone are: 1) reduce demand and extraction of SRF products by social and economic development; and 2) promote environmental awareness and people to be organized support for SRF conservation.

The activities are:

- development of database on SRF user groups and other stakeholders;
- promotion of social forestry programs;
- building of rural infrastructures by LGED;
- reduction of consumption of wood products by a sub-project for Khulna Newsprint Mill; and
- motivate people to control illegal extractions.

The Project after 6 years will have defined a process for sustainable management of SRF, with a broader and stronger Forest Department, improved social and economic conditions in the Impact Zone, less demand for forest products, organized support of citizens, income from tourism, and protected SRF.

## Field visits to understand coastal island ecosystem

During January 6 - 21, Mr. Sayed Iftekhhar of the PDO visited coastal islands south and east of the Sunderbans. The visit enabled PDO to collect new socio-economic information on six islands. All these information are accommodated in the 'Inventory of Coastal Islands and Charlands' revised in March 2002.

During February 14-17, Dr. M. Rafiqul Islam visited St. Martin's Island, Teknaf and salt fields of Cox's Bazar.

St. Martin's is an important site for eco-tourism. In the



absence of systematic interventions, domestic tourism is expanding threatening ecology of this unique coral island of Bangladesh. The Government has recently initiated a number of activities to conserve ecosystem of St. Martins island.

Mangrove plantations around Teknaf are being destroyed but new plantations are going on newly accreted land around Shapuri island.

At Cox's Bazar, extensive discussions were held with Dr. Engr. Salahuddin Chowdhury, Project Director and Mr. Nizam Uddin, Extension Officer of the Salt

Project. Site visit to demonstration plots of 'improved salt farming' was made. Discussion with salt farmers revealed that improved method is gaining popularity.

## Coastal Livelihoods Analysis Planned

One major building block or element that will feed the Coastal Development Strategy (CDS) is an analysis of coastal livelihoods. The "sustainable livelihoods framework" (SLF) expounded by the DfID will be used to understand these processes and dynamics. This model focuses on the household as a decision-making unit and thus provides a workable concept to support an ICZM approach, which aims to enhance livelihood conditions of local people.

There are many ongoing projects and activities targeting livelihood enhancement of the communities. It is important to link all these endeavors. In this regard, the PDO will attempt to develop a common perspective and working methodology for a sustainable livelihood framework in partnership with other projects.

The direct aim of the Coastal Livelihoods Analysis (CLA) is to enable inhabitants of the area, particularly from the poorer households, to voice their understanding of coastal livelihoods, the key vulnerability issues and the opportunities for priority action.

The period available to complete the CLA is 5 months (May-September 2002).

## Website

The PDO-ICZM website is launched in November, 2001. The website contains an introduction of the PDO-ICZM, inventory of relevant projects, who is who, summary of all PDO-ICZM reports/publications, all copies of the Coast News, proceedings of all TC meetings and many other items.

Your comments on the website will be appreciated.

The address of the site is [www.iczmpbangladesh.com](http://www.iczmpbangladesh.com)

## Meeting of the Advisory Group held

A meeting of the Advisory Group was held on March 27, 2002. The meeting was attended by Dr. A T M Shamsul Huda (chairman), Dr. Ainun Nishat & Prof Join Soussan & Mr. Giasuddin Ahmed Chowdhury, DG, WARPO. Mr. Rob Koudstaal and Mr. Rafiqul Islam from the PDO-ICZM assisted the meeting as resource persons. The ToR of the Advisory Group was discussed. Initial discussions were held on Coastal Zone Policy, zonation and institutional aspects.

### About PDO-ICZM

The PDO-ICZM is constituted and guided under the mandate of Inter-Ministerial Steering Committee and Technical Committee. The Ministry of Water Resources is the lead Ministry.

*The objectives have been elaborated as to:*

- identify a policy and institutional framework and develop a strategy for coastal development;
- defining measures to reduce the risk of loss of life and damage of property due to cyclonic storms and tidal surges and enhancing the capacities of the coastal communities to cope with immediate natural shocks and recover from the losses with dignity;
- develop a strategy for the management of both risks and consequences of disaster, which would include prevention, emergency response and post-disaster recovery;
- initiate a process approach to coastal development that harmonises the policies, programmes, procedures and activities of different GoB institutions, NGOs and donor supported projects active in the coastal zone;
- develop a strategy for enhancing civil society (including the local communities) capabilities and participation in coastal development;
- identify strategies and activities to enhance livelihoods development and reduce vulnerabilities in the coastal zone; and
- develop the knowledge base, improve awareness and establish a monitoring and evaluation system for coastal development.

In the preparatory phase of ICZM, the PDO will operate till December 2004.

### COASTAL ZONE ASIA-PACIFIC CONFERENCE (CZAP2002) 12-16 May, 2002, Bangkok, Thailand

An international conference focusing on the coastal zones of the Asia-Pacific region is being organized to bring together regional and international researchers, policy-makers, interest groups and communities to address and discuss issues of common concern in those tropical coastal areas. Key themes are: i) sustainable coastal activities; ii) coastal ecosystem management; iii) community/resource interactions; iv) coastal resource economics; v) coastal area planning; and vi) integrated sciences & coastal policy,

A number of oral presentations and posters will be made. A group of participants from Bangladesh are also expected to attend the CZAP. During this conference action plan for 2002-2004 will be made.

The PDO-ICZM is one of the conference partners and is the local contact of this conference in Bangladesh. The website of the conference is <http://www.vims.edu/czap>.

***It is planned that from the next issue, a version in Bangla will also be made and circulated. Projects/Initiatives are encouraged to send news & information relevant for the coastal zone, preferably in English and Bangla, for the next issue of Coast News, to be published in July 2002.***

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