

Ref.:SCBD/STTM/JL/JG/73393

26 August 2010

## NOTIFICATION

Subject: **Submission of case studies on implementation of integrated marine and coastal area management**

Dear Madam/Sir,

In paragraph 7 of decision VIII/22, the Conference of the Parties to the Convention requested the Executive Secretary, in collaboration with Parties, relevant organizations and indigenous and local communities, to compile and analyze case studies on successful and unsuccessful implementation of integrated marine and coastal area management (IMCAM), and to provide lessons learned for the consideration of the Subsidiary Body on Scientific, Technical and Technological Advice before the tenth meeting of the Conference of the Parties.

Pursuant to this decision, the CBD Secretariat has collaborated with relevant organizations, including the Partnership in Environmental Management for the Seas of East Asia (PEMSEA), and compiled relevant case studies into a CBD database (available at: <http://www.cbd.int/case-studies>; enter “IMCAM” under “keyword search” and select “search”). Key lessons learned were synthesized from these case studies as well as the 3rd and 4th National Reports, and incorporated into the background document prepared for in-depth review of the programme of work on marine and coastal biological diversity, as contained in document UNEP/CBD/SBSTTA/14/INF/2.

Building upon these initial efforts, the CBD Secretariat is currently expanding the database of IMCAM case studies. I therefore invite Parties, other Governments, relevant organizations, and indigenous and local communities to submit case studies on successful and unsuccessful implementation of IMCAM as well as any relevant information relating to the lessons learned from the implementation of IMCAM, in accordance with the attached guidelines. A sample case study is also attached.

Kindly submit the requested information as an electronic file to [secretariat@cbd.int](mailto:secretariat@cbd.int) as soon as possible, but no later than 30 November 2010. Case studies may also be mailed to the Secretariat at the address indicated below.

Thank you for your support of the work of the Convention. Please accept, Madam/Sir, the assurances of my highest consideration.

Yours sincerely,

Ahmed Djoghlaf  
Executive Secretary

Attachments

To: CBD National Focal Points, SBSTTA Focal Points, other Governments, relevant organizations, ILCs

## **Guidelines for submission of IMCAM case studies**

Please submit to the Secretariat relevant IMCAM case studies, preferably electronically, ensuring that your report includes the following information:

### **I. GENERAL INFORMATION**

- **Title of project**
- **Summary**  
Please provide a concise summary of the case study by briefly describing what are the main issues/problems being addressed, the actions which have been taken and any results which have been achieved.
- **Background/Problem**  
Please provide some contextual information or description of the issue.
- **Methodology/ Implementation**  
Please describe the results (changes observed between the beginning and the end of the activities) and the impacts (changes of behaviour or well-being of the target groups or main stakeholders involved) which have been achieved with respect to the activities undertaken
- **Results/Impact**  
Please describe the results (changes observed between the beginning and the end of the activities) and the impacts (changes of behaviour or well-being of the target groups or main stakeholders involved) which have been achieved with respect to the activities undertaken
- **Lessons learned**  
Please describe any lessons which have emerged and their potential for replication and scaling –up as a result of the actions which have been taken

### **II. LOCATION AND TIMELINE**

- **Country**
- **Scale** (global, multi-country, national, subnational or regional)
- **Locality**  
Please indicate as precisely as possible the location at which actions related to this case study are occurring: municipality and region or sub-region and country.
- **Start Date**
- **End Date**
- **Status**

### **III. CONTACTS AND REFERENCES**

- **Lead Organization**
- **Contact Person**
- **E-mail Address**
- **Website**
- **References**  
Please provide any other relevant website addresses and/or one or more relevant documents that will be stored in the database
- **Related Projects**  
Please mention any projects which may be related to the case study and if possible provide a reference where additional information may be found.

**Sample Case Study, IMCAM Database**  
(<http://www.cbd.int/case-studies>)

**Title**

Xiamen's Transition to Orderly Seas and Sustainable Development

**Summary**

Xiamen has sustained one of the fastest rates of economic growth in China and has become one of the world's top 20 ports. However, this rapid growth and the increased intensity of sea use, coupled with the lack of adequate regulations, coordination and enforcement led large areas of natural habitat to be degraded, native species to decline and conflicts to arise among the various coastal uses. The legislation upon which local government bureaus based their operations was largely sector-oriented, and operational mechanisms to harmonize development across sectors were weak.

In 1994, the GEF/UNDP/IMO's Prevention and Management of Marine Pollution in the East Asian Sea (MPP-EAS) introduced integrated coastal management (ICM) to Xiamen. MPP-EAS advocated for the integration of various coastal-use sectors and coastal environmental management for holistic and sustainable development. The project supported the development of an interagency coordinating mechanism, a multi-disciplinary experts group, an integrated profile of the various coastal sectors and a strategic management plan for marine pollution prevention and management.

Among the results of the project are: reduced conflicts among different sea users and improved sustainability. Aquaculture, wastewater and silt pollution were reduced. Marine protected areas were better enforced; threatened species were helped to recover; and degraded habitats were rehabilitated.

[This case study was prepared by the CBD Secretariat with information provided by the lead organization]

**Background**

Xiamen has sustained one of the fastest rates of economic growth in China. Selected as one of China's first four experimental "special economic zones", the city became one of the world's top 20 ports. However, this rapid growth and the increased intensity of sea use, coupled with the lack of adequate regulations, coordination and enforcement led large areas of natural habitat to be degraded, native species to decline, and conflicts to arise among the various coastal uses. The legislation upon which local government bureaus based their operations was largely sector-oriented, and operational mechanisms to harmonize development across sectors were weak. Separate local government bureaus or committees managed each of the various coastal sectors in Xiamen: fisheries, transportation, ports, construction, tourism, defense and the environment. The bureaus managed interrelated mandates and sometimes conflicting activities with little regard for their effects on other sectors. Information was fragmented, and bureaus were not accustomed to consulting each other.

**Methodology/Implementation**

In 1994, the GEF/UNDP/IMO's Prevention and Management of Marine Pollution in the East Asian Sea (MPP-EAS) introduced integrated coastal management (ICM) to Xiamen. MPP-EAS advocated for the integration of various coastal-use sectors and coastal environmental management for holistic and sustainable development. The project supported the development of an interagency coordinating mechanism, a multi-disciplinary experts group, an integrated profile of the various coastal sectors and an integrated strategic plan.

- The Xiamen municipal government organized an interagency coordinating mechanism composed of 22 government agencies led by the executive vice-mayor.

An Integrated Coastal Profile was developed by a multidisciplinary group composed of environmental, economic and legal experts, as well as key government planners and managers. The integrated coastal

profile identified the major issues affecting the area. Based on this profile, the various sectoral bureaus forged a common Strategic Management Plan for Marine Pollution Prevention and Management. The strategy called for the following priority activities: (1) to establish an ICM system and to develop related legislation, regulations, capacity, financing mechanism, plan, information system, monitoring and evaluation for coordinated development and environmental management; (2) to increase public environmental awareness; and (3) to develop a "scientifically sound marine functional zonation scheme".

1- The ICM initiative precipitated the development of a marine environmental management regulation and a sea area use regulation that became the twin legal cornerstones of sea area management and sustainable development in Xiamen. An integrated law enforcement and a sea use permit and fee system were also established.

2- An education programme was also initiated. The programme included newspaper articles, television and radio inputs, incorporation of relevant information into school curricula, public seminars, quiz shows, celebration of ocean and environment days, and an environmental hotline (PEMSEA, 2006b).

3- Finally, a marine functional zoning scheme was developed recognizing and reconciling nine types of use zones. Based on available information and similarities of biophysical and socioeconomic (use) characteristics, Xiamen was divided into four subareas: West Sea, Tong'an Bay, East Sea, and Dadeng Sea. The natural characteristics and different current and potential sectoral uses of each sub-area were then considered in order to match each area with the use most likely to yield the greatest overall societal benefit. In formulating the options, the team considered both development needs and environmental conservation needs. As part of the zoning scheme, and despite the inconvenience to its top-earning shipping and tourism industries, Xiamen issued a Regulation for the Protection of Chinese White Dolphins limiting ship speeds to less than 8 knots, and prohibiting underwater explosions, recreational boating, and surfing in a large proportion of the West Sea, which was also white dolphin habitat. Recognizing that pollution is not compatible with any other sea use, Xiamen issued, in 1996, the "Regulation on the Protection and Management of the Marine Environment" directing the building of wastewater treatment plants, the treatment of marine pollution, and the rehabilitation of damaged marine ecosystems. After the zoning scheme was finalized, Xiamen directed all relevant government bureaus to follow the scheme in the conduct of their operations and development of projects. Compliance was fostered by orienting government officials of various bureaus in ICM and the zoning scheme.

## **Results**

The interagency interaction helped Xiamen's various government bureaus better understand the usefulness of interagency cooperation and the need for sectoral bureaus to support the objectives of other sectors for holistic development. In particular, ICM helped emphasize the importance of sustainability to Xiamen's drive for development. The ICM coordinating mechanism realized it needed holistic discussions on the desired direction of Xiamen's development in order to resolve the cross-sectoral conflicts that were hampering Xiamen's development.

### **Decreased Use Conflicts:**

- Conflicts between fisheries and shipping.

Delays in shipping, reported since 1998 due to fisheries obstructions, have been reduced from several hundred vessels being delayed 2-4 hours each to 0 delays. This is equivalent to cost savings of RMB1.74- 2.67 million/year (PEMSEA, 2006b).

- Conflicts between coastal engineering and conservation.

Reduction in silt accumulation due to reforestation, better environmental management of coastal construction and reclamation projects, and improved water flow from unblocking of causeways has reduced erosion and the need for dredging. Dredging costs have been reduced from RMB24.5 million/year to RMB17.2 million/year or cost savings of RMB7.3 million/year from 1998. The costs saved from not having to return sand to beaches and from not losing land to erosion are estimated to be worth RMB0.78 million/year.

- Conflicts between waste disposal and tourism.

Green area ratio rose from 27 percent in 1995 to 37 percent in 2007. Although ICM contributed to beautifying Xiamen, the increase in tourism cannot easily be said to be due to ICM. There may be many other factors responsible for tourism increase, including overall increase in tourism in China. Nonetheless, from 1992 to 1996, tourism revenue in Xiamen increased at an annual average rate of 8 percent/year compared to an annual average rate of 34 percent in China. After zoning, however, tourism revenue in Xiamen increased at an annual average rate of 17 percent/year from 1997 to 2001 compared to an annual average rate of 10 percent in China (Zhang, et al., 2005; PEMSEA, 2006b; China National Tourist Office, 2009).

- Conflicts between waste disposal and fisheries.

Treatment of industrial sewage rose from 20 percent in 1994 to nearly 100 percent in the 2000s while treatment of domestic sewage rose from 28 percent in 1995 to 85 percent in 2007. Fisheries losses due to pollution decreased from RMB5.9 million/year (1990-1994) to RMB0.1 million/year (1997-2001).

Overall, aquaculture production decreased as a result of zoning; however, the decrease in production was not as large as the decrease in aquaculture area, since by the time of the mass removal of aquaculture, production output per area was already low due to crowding and pollution. Moreover, large increases in shipping and tourism have more than made up for losses in fisheries production.

Improved Sustainability:

The twin Xiamen regulations on marine environmental management and sea area use not only reduced conflicts, but also improved sustainability. Aquaculture, wastewater and silt pollution were reduced. Marine protected areas were better enforced. Threatened species were helped to recover. Degraded habitats were rehabilitated. These even helped mitigate climate change: less oil was used due to reduction in ship waiting time; greening efforts increased carbon uptake and sequestration; and efforts to reduce wastewater discharge also resulted in decreased use of water, recycling of sewage for agriculture, and thus reduced fertilizer consumption.

Scaling Up of Integrated Coastal Management:

Together with the Provincial Government of Fujian and the adjacent cities of Zhangzhou, Longyan and Quanzhou, Xiamen is now extending the application of ICM to the sustainable development of the Jiulong River Basin area. The local governments in the alliance are coordinating not only the reduction of pollutants, which are the source of 75 percent of Xiamen's pollution from runoff, but also the planning of transportation, sea use, infrastructure, and tourism development (Zhou, 2007).

In recognition of the importance and broad relevance of zoning based on a review of Xiamen and other local government experiences in sea use zoning, the People's Congress passed in 2001 the Law of the People's Republic of China on the Administration of Sea Areas, which mandates coordinated allocation of sea areas for various sectoral uses. By 2008, all coastal provinces in China had developed and passed provincial sea area use ordinances, which designate areas for fisheries, environmental protection, shipping, tourism, mining, etc. Thousands of field inspections are conducted and over a thousand penalties for nonconformity are issued annually.

## **Lessons**

- Strong political will backed by a management and effective enforcement mechanism institutionalized within the government through legislation, broad public support fostered by high a level of public awareness, and sound scientific basis are all necessary if actions for overall societal benefits require that a significant sector must make major adjustments (in Xiamen's case, the relocation of fish farmers).

- Environmental management can precipitate cost reductions and habitat improvements that in turn rebound to socioeconomic benefits. In turn, socioeconomic benefits help secure support for sustainable development programmes. Marine environmental protection and marine economic development can thus bring out the best in each other.

- Conflicts are costly and wasteful. Poor coordination may be cause for suboptimal or inefficient use of

resources. Integrated management can help improve coordination and thereby reduce conflict.  
- A resource-rent capture mechanism (e.g., through user fees) helps secure substantial resources required for effective enforcement. In turn, stronger control through inspection and enforcement helps deter evasion of the resource-rent capture mechanism .

**Countries**

China

**Scale**

Sub-national

**Locality**

Xiamen

**Status**

Ongoing

**Notes**

IMCAM

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**Lead Organization**

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**Websites**

PEMSEA Home Page

**References**

Full case study in PDF