

CHALLENGES

CHAPTER 4: CHALLENGES

Thailand demonstrates good performance in the area of habitat protection, in particular for coral reefs and mangrove areas, but significant threats to its marine and coastal resources remain. Erosion is impacting the coastal areas, coral reefs are degrading, fish stocks are not managed sustainably, and tourism pressures and demands for water and other resources are high. With a rapidly growing population, those pressures and the need for additional infrastructure and urban and industrial development will continue to increase

in the coastal area, in particular along the Gulf of Thailand.

This section builds on the information in the previous chapters and experiences with local consultations (Box 4.1) to highlight the particular challenges on the path towards an effective and sustainable management of marine and coastal resources. The overarching challenge for Thailand will be to achieve an integrated approach and incorporate transparency and good governance into the management process.

Box 4.1: Lesson Learned from Local Consultation

As part of the process to develop this Thailand Environment Monitor, The World Bank in collaboration with local agencies conducted several consultation workshops. The regional consultations were conducted in Samuth Prakarn, Rayong, and Songkhla Lake river basin areas. The findings and lessons learned from these local consultations have been integrated into this report. The following specific lessons about local consultations can be used to strengthen community participation.

- **Informal meetings work.** Consultation is most effective through a series of informal meetings with key stakeholders. The scope and depth of these consultations can depend on the issue and the area.
- **Establishing a willingness to work together.** A minimum of 3 to 6 months is needed to establish a constructive group of people who are willing to move in the same direction. To maintain cooperation, differences in expectations will need to be identified and managed. In Samuth Prakarn, for example, the coastal communities wanted to see immediate actions to prevent erosion, while the technical experts and government representatives were focused on first understanding the erosion process and investment risks.
- **Strong leadership and technical knowledge are required.** Without a technical understanding of the situation and available options, consultations are less effective.
- **Engagement of local governments with support from central agencies is key.** Local agencies can work closely with local stakeholders. Their effectiveness can further be improved by the support and guidance from central government agencies.
- **Considering everyone's ability to participate is needed.** A lack of time and limited financial resources may hinder people's active participation. Timing in terms of season (such as the farming season) and other factors is important. The availability of continuous funding also appears critical for the active participation of local communities in coastal and marine resources management.
- **Conversations and coordination must continue.** After key stakeholders agree to work together to resolve an issue, they must continue their dialogues to ensure all parties agree on the actions and implementation responsibilities.

CHALLENGE 1: COASTAL EROSION

Challenge 1: Reducing coastal erosion and adverse impacts of natural hazards

Thailand's coasts are experiencing severe erosion. While preventing erosion and mitigating impacts will require substantial investments, the costs of inaction are even greater. Engineering solutions will play a role, but a strategic approach must include non-engineering measures such as preserving mangroves and wetlands and establishing cost-sharing mechanisms among stakeholders. Past experiences have shown that efforts to mitigate coastal erosion will likely fail, unless all key parties – including central and local agencies, communities, and land owners – work together

towards the same goal. Local consultation experiences in the Upper Gulf also suggest that active leadership by a central agency is essential (Box 4.2).

To move forward, the following actions may be considered:

- *Developing a strategic plan and allocating an appropriate budget.* DMCR and DMR should plan and implement strategic measures to reduce coastal erosion in the 30 defined priority areas. The draft policy framework on coastal erosion and various investment studies should be reviewed. To ensure implementation, involved agencies need to be provided with the necessary budget.

CHALLENGES

Box 4.2: Lessons Learned from Local Consultation: Coastal Erosion at Ban Khun Samuthchin

As described in Chapter 1, coastal erosion is causing hardship for communities along the coast, including Ban Khun Samuthchin in Sumuth Prakarn Province (See also Box 1.3). Consultation with the local community at this village in early 2006 confirmed that cooperation among key stakeholders is feasible when a common understanding of the situation can be reached and actions are taken, even while the discussion continues.

Other lessons learned from this consultation include that a central agency, like the Department of Marine and Coastal resources (DMCR) or Department of Mineral Resources (DMR), can play a key role in bridging the gaps among key stakeholders, and that cost sharing is as important as the technical issues. A pilot study, funded by the province and the Thailand Research Fund, on the cost-effectiveness of a plan to mitigate coastal erosion along the Upper Gulf is being conducted at Ban Khun Sumuthchin. More pilot studies along the Upper Gulf are needed to better understand coastal processes and determine the cost-effectiveness of various measures to reduce erosion.

- *Consulting with local governments and communities in priority areas.* Local consultations should be used to explore issues, concerns, and feasible options for moving forward. The cooperation of local governments and communities is critical for implementation. Previous knowledge and experiences, including the pilot study at Ban Khun Sumuthchin described in Box 4.2, can serve as a model. Efforts of the various agencies and communities will have to be integrated to ensure effective investments and prevent unfavorable impacts.
- *Strengthening the understanding of coastal erosion processes along the Thai coast.* Technical knowledge can be strengthened through a comprehensive program for data collection and analysis and through technical studies in close cooperation with local stakeholders. Attention should also be paid to naturally occurring erosion that is not enhanced by human activity and of which the resulting sediment transport may play a role in local habitat development. For improved technical information Thailand must support and build new connections and capacity at universities and institutions in the country, as well as explore technical collaborations with specialized agencies abroad.
- *Reviewing the adequacy of the Environmental Impact Assessment (EIA) process in controlling coastal erosion.*

The EIA process and implementation, in particular in terms of the responsibilities for actual environmental impacts on coastal ecosystems, should be carefully reviewed. Results should be made available to the public.

- *Improving the warning of and responses to natural disasters in the coastal area.* Following the 2004 Tsunami event, a natural hazards warning system and associated measures are being implemented along the Andaman Coast. To reduce the damage from natural hazards along the entire coast, similar efforts will have to be made for the Gulf of Thailand, giving high priority to the West Coast. A system and database for collecting and sharing information related to the causes and effects of coastal natural disasters, including a hazard map, need to be developed.
- *Developing strategies for preventing and mitigating impacts of a global sea level rise.* The Upper Gulf, including Bangkok and the middle part of the West Coast are identified as hot spot areas for a rise in global sea level. Studies are needed that explore opportunities and policy options for mitigating and adapting to the impacts of climate change in these areas.

CHALLENGE 2: FISHERIES

Challenge 2: Establishing sustainable fisheries

Current marine fisheries practices are not sustainable. While a sector policy exists and interesting community-based approaches are tested and applied, a stepped-up management approach is required if Thailand is to meet increasing demands for fish products for export and local consumption. In particular, the conflict between small-scale fishermen and large commercial operators must be addressed. Stepping up enforcement of regulations, however, appears difficult in light of limited government staff, poverty, and other social issues.

To move forward, the following specific actions should be considered:

- *Use of economic instruments as a management tool for sustainable fisheries.* This exploration must be carried out in close collaboration with key stakeholders. Regulating access to fisheries can be effective in preserving fish stocks. This can be done in various ways, such as by reducing open-access, restricting the number of licenses issued, limiting total allowable

CHALLENGES

catch, limiting entries into the sector, and developing an exist strategy for current fishermen. Also, interventions such as closed fishing seasons need to be created during key spawning periods for commercial species. Marine Protected Areas as breeding and nurturing habitats need to be further developed, and area-based fishing gear restrictions need to be created and enforced. Economic instruments can also be used to enforce regulations, encourage inefficient actors to leave, and increase financial resources to improve management. Lessons learned from previous experiences can be used to guide new strategies.

- *Rehabilitating fish stocks and fish habitats* by increasing nursery habitats and seed bed areas for fish breeding, and by protecting mangroves and sea-grass beds as natural nursery, breeding, and feeding grounds.
- *Stepping up conflict management between small scale and commercial fishers.* Co-management can be used as a strategy for conflict management, increased compliance, and community enforcement.
- *Updating the Fisheries Act to reflect necessary policy changes to achieve critical reforms.* Further effort should be made to strengthen monitoring and control systems to enforce regulations and apprehend violators.

CHALLENGE 3: AREA DEVELOPMENT

Challenge 3: Stepping up oversight and monitoring of development activities.

Tourism development, aquaculture, and industrial and port activities are among the major threats to the marine and coastal resources along the Thai coast.

Sector policies, regulations, and responsible agencies exist, but ensuring effective control of pollution and other negative impacts from these land and marine-based sources has been a challenge.

Priority actions include:

- *Stepping up the oversight and management of area development,* in particular for the Eastern Seaboard, Upper Gulf, Pak Panang Nakorn Srithammarat, Songkhla Lake, and the Pollution Control Zones (PCZs). Activities should include monitoring pollution loads from ports, industries, hotels, and other commercial and domestic sources. Collecting and improving the reliability of water quality data and information about

wastewater production, treatment and prevention should be part of this effort. Findings must periodically be made available to the public.

- *Stepping up control of shrimp farming* through third party audits of the GAP and CoC system and disclosing the implementation and monitoring results.



Monitoring aquaculture, such as here in Phang Nga Province, is important to prevent adverse impacts of this productive industry.

Source: World Bank, 2007.

- *Stepping up capacity of local governments and regulatory agencies* to implement Environmental Impact Assessments and monitoring of water quality and ecosystems in target areas and beaches. DMCR and PCD must coordinate this effort and make monitoring data available to the public. Findings must be disclosed to the public.
- *Monitoring ongoing efforts with integrated management for sustainable tourism development.* Experiences from the tourism development project in the Trad-Ko Chang area, implemented by DASTA, should be carefully captured, analyzed and used to guide future development activities.
- *Increasing coordination among DMCR and local water agencies* to manage freshwater resources. Water resources management is an important coastal resource issue and requires an integrated river basin management approach that ensures effective coordination among agencies and involves all stakeholders. The promotion of such an approach requires a series of formal and informal meetings as part of a consultation process (Box 4.3).

CHALLENGES

Box 4.3: Lessons Learned from Local Consultation: Integrated River Basin Management

Local consultation workshops for the Tha Chiad river basin (part of the Songkla Lake basin) suggested that the use of water resources is an important issue in the coastal area. In terms of challenges, the workshops found that local conflicts can hinder government efforts to facilitate constructive discussion and that technical information has to be consolidated and simplified to deliver messages that lead parties to agree on immediate actions to be carried out on the ground. Sharing available technical information and small group discussions proved to be useful tools for solving conflicts and building cooperation. The workshops also highlighted the needs for follow-up actions and investments, including capacity building and sharing of experiences, to make this integrated approach to river basin management effective in the long run.

CHALLENGE 4: PUBLIC PARTICIPATION

Challenge 4: Increasing local capacity and public participation.

While community participation is crucial to the successful management of marine and coastal resources, effective and meaningful participation is often hindered by a lack of local capacity, conflicts of interest, communication gaps, and a lack of financial resources. Funding for community initiatives comes from a variety of resources and improved coordination among projects is required.

Enacting the draft Marine and Coastal Resources Management (MCRM) Act will establish the right for coastal communities to manage its resources and access information and sustainable funding mechanisms (See also Challenge 5). Other actions to be considered include:

- *Increasing local capacity through strengthening existing environmental education efforts* to build awareness and enthusiasm for conservation. Technical and management training and information sharing through meetings, seminars, workshops, and study tours, have proven to be effective.
- *Examining and strengthening the role of local governments in coastal management.* Local governments work closely with local stakeholders. Policy guidance and legislative support by central government agencies should be used to strengthen local efforts.
- *Recognizing and respecting traditional community rules and regulations.* DMCR should study local community activities that may have potential in other areas.

Recognizing traditional community rules would be an opportunity for DMCR to test and improve the concepts and implementation procedures for the Coastal Community approach of the MCRM Act.

- *Exploring financial options to support active participation of local communities.* The concept of raising funds from the private sector through community funds should be further explored, as well as other sustainable funding mechanism that could support local communities.

CHALLENGE 5: INTEGRATED MANAGEMENT

Challenge 5: Strengthening the institutional framework and updating legislation to establish integrated management

In Thailand, integrated coastal resources management has been identified in the national policies. Its implementation, however, remains a challenge due to overlapping and outdated regulations, limited government resources, and a lack of reliable data. In addition, responsibilities for marine and coastal resources management remain scattered among various agencies, including the Office of Natural Resources and Environmental Policy and Planning (ONEP), the Department of National Parks, Wildlife and Plant Conservation (DNP), the Pollution Control Department (PCD), the Department of Water Resources (DWR), the Royal Forestry Department (RFD), and the Department of Marine and Coastal Resources (DMCR). To provide a clear policy direction and reduce the number of involved agencies, key functions should be consolidated. Moreover, greater authority needs to be extended to local governments, combined with policy guidance and law and regulation support from central government agencies.

Possible next steps include:

- *Strengthening DMCR capacity and enabling the agency to lead* the implementation of an integrated approach to marine and coastal resources management and the protection of natural habitats. At the national level, DMCR should be the lead agency and ensure effective management through the integration of policy and budget planning with other ministries—including the Ministries of Agriculture, Transport, Industry and Interior and monitoring overall performance. At sector levels, and in close cooperation with local communities and stakeholders, DMCR should be the key agency responsible for protection and rehabilitation of coastal

CHALLENGES

habitats, including management of the National Marine Parks. DMCR will need to develop the required institutional capacity and have sufficient budget to implement its plans.

- *Enacting the Marine and Coastal Resources Management Act (MCRM)* to provide a legal framework for the implementation of an integrated management approach that involves the active cooperation of local communities and local governments and the sustainability of financial resources. Connecting with local communities and stakeholders should be a key objective of DMCR regional offices. Local knowledge and experiences on community-based coastal resource management should be established and shared through networking.
- *Establishing monitoring and evaluation (M&E) mechanisms* and upgrading existing databases and information system to support M&E for marine parks, coral reefs, natural habitats, marine animals, land-based pollution control, and fisheries. Many studies have been carried out by various agencies, but results are hard to access and data is not always reliable. To improve the cost effectiveness of resource management, reliable data must be collected and disseminated among target audiences.

THE WAY FORWARD

Thailand's coastal and marine resources require a stepped-up approach to preserve these resources and the economic values they represent. The five challenges describe specific measures that would contribute towards this goal. Among all suggested measures, two specific actions are a priority, as they are key to all other improvements:

- (1) Enabling strong leadership by MONRE's Department of Marine and Coastal Resources (DMCR), and;
- (2) Enacting the draft Marine and Coastal Resource Management Act.

The legal framework, combined with a leadership role for DMCR, appropriate authorities for local governments, and genuine public participation, would form the basis for an integrated and participatory approach to coastal and marine resources management.

At the basis of any change, however, is also an increased awareness of the seriousness of the situation. Thailand's rich and abundant coastal and marine resources are under tremendous pressure. The expected growth of both the economy and the population in the coastal provinces demands an improved management of resources to prevent more serious environmental damage and preserve the resources for current and future generations.

