

## 6. CHALLENGES FOR THE FUTURE

The analysis of trends and responses in this report suggests that the Philippines has a number of challenges ahead when it comes to managing its rich marine and coastal resources. This section will briefly outline some of the main challenges.

### **1. Increased protection of resources under threat.**

A number of experiences clearly demonstrate the value and impact of mangrove rehabilitation and fish sanctuaries and other MPAs on biodiversity, fish stocks, and other aquatic resources. The main priority is to use the existing experience with successful MPAs and to not only replicate them, but, more importantly, to expand their scope, in particular by increasing the sizes of effectively managed MPAs and by forming MPA networks in ecologically connected and critical areas. This expanding scope is only possible through inter-LGU collaboration and co-management between LGUs at both the municipal and provincial levels and the local community MPA managers. Despite several successes, it is estimated that protecting 10 percent of the coral reef areas will take another 100 years



*Group participating in a participatory coastal resource assessment training.*

*Photo: Alan White.*



*Visitors at the Gilutongan Island Marine Sanctuary look out over the sanctuary from the guardhouse.*

*Photo: Alan White.*

unless the current size and rate of establishing MPAs is improved (Alino et al. 2002).

Another priority is to expand transborder initiatives on MPAs. An example is the Sulu and Sulawesi Seas Project by WWF, where the Philippines works with Indonesia and Malaysia on the establishment of an integrated network of priority marine protected areas, as well as sea turtle and fisheries conservation activities.

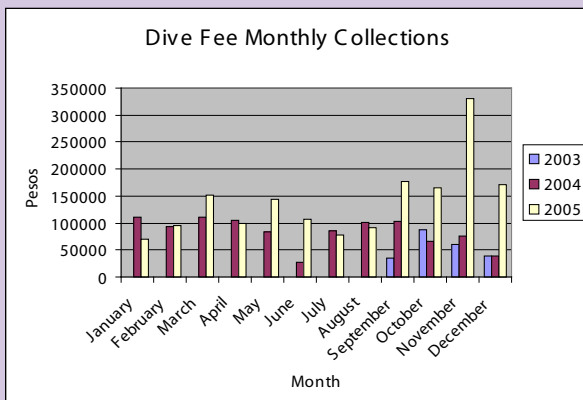
It is also important to promote and strengthen the sustainability of financing schemes for protection. Intact and healthy marine and coastal natural areas with high biodiversity value will eventually attract tourists and generate local revenue. This creates a base for sustainable financing—for example through the user fees, public and private sector partnerships, and models for revenue sharing between stakeholders and government. Examples are the Bais dolphin and whale watching tours organized by Bais City LGU in the Tañon Strait, and the user fee system implemented in Mabini and Tingloy, Batangas (Box 6.1).

### Box 6.1 Money from Conservation: Lessons from Anilao.

Maricaban Strait in Batangas Province, more popularly known as "Anilao," features a high diversity of corals and invertebrates. Human activities, however, were threatening Anilao's rich biodiversity, and in 1998 the local government units of Mabini and Tingloy in collaboration with WWF-Philippines launched a marine law enforcement campaign, which reduced illegal fishing and restored coral cover and fish populations. This conservation effort is financed by user fees.

The system, first implemented by Mabini in September 2003, has yielded PhP 2.89 million (\$56,667) in users' fees by 2006, which are being used for marine law enforcement through Bantay Dagat and other conservation efforts. The user fee system supports the continued protection of biodiversity of Anilao and benefits local fisherfolks and divers through increased fish catches and enhanced diving experiences.

A multi-stakeholder management board decides on the programmatic use of funds and provides oversight to ensure transparency and accountability. In September 2005, Tingloy and Mabini agreed to a unified collection system and sharing scheme, and since its initiation, Tingloy's share of collected fees have amounted to about PhP 700,000 (\$13,725).



From September 2005 on forward, the Mabini-Tingloy unified fee collection system charges PhP 100 and PhP 1,800 for daily and annual passes respectively.

Source: World Wildlife Funds, 2005.

## 2. Improved local livelihoods and sustainable resource utilization.

Improving local livelihoods for communities in coastal areas is closely linked to building a base for a more sustainable management of coastal and marine resources. Ecotourism activities have proven in some cases to provide benefits to local communities. For tourism development, it is important to see local communities as partners and work with community organizations to develop services and facilities. A stimulation of small-scale enterprises in communities could be accompanied by qualified technical assistance and financing opportunities.

A key priority is to target the persistent poverty problems around many of the MPAs. A big challenge is to ensure that the poorest and vulnerable groups, such as women and youth, are targeted beneficiaries of income-generating activities. Another priority is to ensure that profits from ecotourism are shared fairly with local communities.

Rapid population growth in coastal areas also needs to be addressed. There is a need at the local levels for an integrated approach that links environment and natural resources management with access to reproductive health and family planning services. An example of this approach is the "People and Environment Co-Existence Development (PESCO-Dev) Project" in two provinces in Region VI. PESCO-Dev combines the development of reproductive health and coastal resources management capacities within coastal communities.

Improving local livelihoods also entails going ahead with a process to secure community and household tenure rights to land and local resources. Secure tenure is important because local communities are far more likely to act in

ways that conserve natural resources if they have real control over resources, influence in decisions on how resources are used, and if they end up with a fair share of the benefits. An important part of the tenure process will be to continue the demarcation and titling of the ancestral waters belonging to indigenous peoples. The case of the Tagbanwa People, who obtained a Certificate of Ancestral Domain Title (CADT) to the Coron Island in Palawan, demonstrates that the recognition of indigenous peoples' property rights and customary law may lead to community-based conservation areas.

### ***3. Formulation and adoption of a national coastal and marine policy framework and strengthening institutional integration.***

With the numerous laws and government programs being implemented, management of the coastal and marine areas remains fragmented and uncoordinated. While there has been some improvement in conceptual and government attitudes—notably in the area of local governance and marine environment protection—at the national level integrated coastal management across the different sectors continues to be largely problematic.

Considerable sectoral fragmentation exists in the governing regimes of the various coastal and marine-related sectors, resulting in jurisdictional competition among agencies. Multi-sectoral bodies, such as the Fisheries and Aquatic Resource Management Councils for coastal fisheries and the Protected Areas Management Boards for protected seascapes, have been set-up as required by law in recognition of the existence of overlaps and need to coordinate all interested parties, agencies and groups. Ad-hoc inter-agency agreements are often used to resolve program implementation issues, but the underlying legal and jurisdictional framework remains unchanged.

A key priority is the formulation and adoption of an integrated coastal and marine management policy that sets clear priorities, principles, and guidelines that can steer policy towards resolution and encourage government agencies and offices to see themselves as being part of larger effort towards proper management of the coastal and marine areas. The policy formulation should build on lessons learned in the implementation of coastal and marine programs and projects, including proposed policy frameworks such as the Sustainable Philippine Archipelagic Development Framework (ArcDev) and the national coastal resource management policy resulting from projects funded by UNDP and USAID, respectively.

### ***4. Development of institutional and local capacities for coastal management.***

It is important to address the issue of capacity development both in national agencies and in LGUs. While an important effort is already made by the CMMO office in DENR, which provides training and assistance to local LGU staff, a wider capacity building approach is needed that targets all levels of government, including law enforcement units. One way could be to implement the proposed training and capacity development activities in the ArcDev, including the formation of ICRM training and technical assistance core groups at national, regional, and provincial levels. Another priority is to develop and implement a targeted, policy-relevant research agenda for enhanced management and stewardship of coastal resources.

### ***5. Improved coastal law enforcement.***

There is a systemic lack of capacity and resources by the government to enforce fisheries laws in the Philippines. The present enforcement framework needs to be revised and streamline to overcome conflicting and



*Coastal enforcement officers inspecting a fishing boat in Cebu City.*

*Photo: FISH Project.*

ambiguous policies and clear up the present confusion of jurisdictional roles among authorized agencies and deputized local enforcers. The selective enforcement resulting from political interference and discretionary prosecution also needs to be addressed, as well as minimal or non-punishment of offenders.

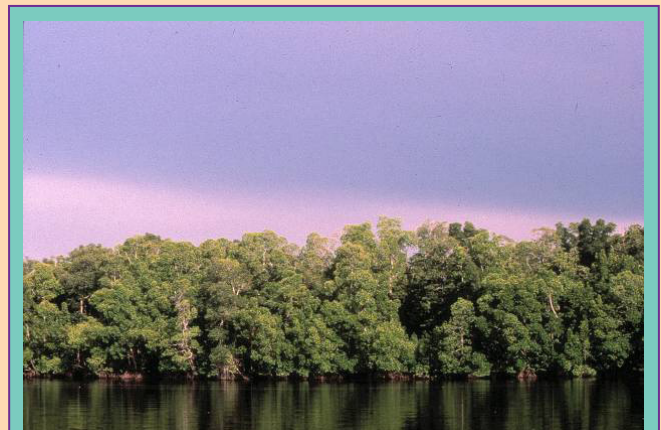
Another priority is to continue working at the local level with local enforcement organizations. It is important to encourage LGUs to continue the process of forming and strengthening local organizations to enforce coastal laws, such as the Bantay Dagat (literally, "sea watch"). Authorities should consider providing more technical assistance and enforcement capacity to overcome logistical constraints and illegal activity, which are undermining local management initiatives. If the collaboration with local organizations and community members on enforcement is to succeed in the long term, it is important to guarantee adequate prosecution of coastal and fishery law violators.

## **6. Sustainable management of fisheries resources.**

The increased demand for fish by a rapidly growing population, and increasing exports due to increasing fish prices, have substantially increased the pressure on Philippine marine fishery resources over the past two decades. Philippine fisheries are now being fished to their limit. While the demand is going up, catch per unit effort and fish stocks are going down, a clear sign of severe overfishing. Within the next 15 years, the demand could be so large that it eventually may lead to a collapse of fisheries and the fishery industry.

To change this situation, a high priority is to revise existing and develop new and more efficient fishing license systems (commercial and municipal) in order to control access to fishing areas and put limits on catch. Concrete proposals and models for improved licensing systems already exist (i.e. the FISH Project in Cebu City).

Another priority is to develop an environmentally friendly aquaculture, using more native species and with adequate mitigation of impacts on vulnerable coastal mangrove and reef ecosystems.



*Mangroves in Mindanao.*

*Photo: Finn Danielsen.*

One example is the environmentally and economically sustainable method of raising mud crabs in pens among the mangroves, which is found in Tantanang Bay in western Mindanao.

Rehabilitation of degraded habitats to improve fish stocks and fisheries yields is also a priority. Old fish pond areas could be used for replanting mangroves, and coral reefs could be better managed so that human-caused impacts are minimized. This way, coral reefs will also be able to recover from bleaching episodes. A good example of this practice is the recovery of living coral cover at Tubbataha Reefs after the 1998 coral bleaching incident in which the reef lost about 24 percent of its living coral cover. Since then, the reef has almost completely recovered to its original state because of protection from other human impacts.

### **7. Strengthening of public awareness and education.**

A recent survey in the Philippine Daily Inquirer<sup>2</sup> revealed that Filipinos in general have a low level of awareness of the Philippines' biodiversity richness, in spite of a number of environmental campaigns in recent decades. It is important to seek new ways to increase public awareness about coastal and marine resources and their uses in order to broaden support for coastal management initiatives. An innovative approach is the new Beach EcoWatch Programme of DENR, which is a multi-stakeholder initiative that seeks to link the management of local coastal resources with public awareness and income opportunities.

An important part of awareness-raising is giving people access to information about coastal

and marine ecosystems and decisions affecting their services. It is therefore a priority to ensure that information is better distributed to both LGUs and coastal communities because increased awareness and access to information will improve participation in coastal resources management, and encourage local communities, barangay groups, and local managers to become effective coastal managers.

### **8. Addressing climate change.**

Climate change and sea-level rise in the coming decades will likely have several major impacts on Philippine marine and coastal resources. It is important to emphasize the degree of difficulty in identifying climate-change-induced coastal patterns from other factors, stresses, and problems affecting these areas. It is vitally important to study baseline dynamics to be able to identify, study, and understand climate change. Additional studies on mitigation and adaptation to climate change in coastal areas also are a priority.

Potential climate change impacts and changes will need to be mitigated and prevented to the extent possible through ICRM. For example, prevention of flooding and inundation of low-lying areas will require planning for and implementation of coastal setback regulations for all kinds of development. Projected rates of erosion and inundation will be needed to help plan for appropriate land use in coastal areas.

Another priority is to strengthen coral reef management to enhance the natural resilience of coral reef communities by reducing human pressures. This entails avoiding overfishing of herbivores, which keep the algae population in check and help maintain clear surfaces for coral recruits following a bleaching event; eliminating physical damage to reefs (blast fishing and cyanide fishing); and identifying and protecting source reefs for coral and fish recruitment.

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<sup>2</sup> The Philippine Daily Inquirer, Regions, 7-9-2005, p. A16

## 9. Fighting corruption.

Good governance and development are linked, particularly in the area of natural resources where corruption and weak management are particularly corrosive of equitable and sustainable growth. The corrupt and illegal practices related to forests, fisheries, and wildlife cost the global economy more than \$30 billion per year<sup>3</sup> and people who have spoken out against it have lost their lives. For good governance, all agencies, organizations and individuals in the Philippines and abroad must step up efforts to fight corruption, illegal practices, and weak law enforcement related to natural resource management.

*The Way Forward.* To address the multiple demands of the Philippines' vast but threatened array of coastal and marine resources, an integrated coastal resources management (ICRM) framework is needed. Such a framework should strengthen the capacity of stakeholders to work across sectors and through layers of government to improve stewardship of these resources. This will require (a) new institutional arrangements that rationalize competing uses across sectors; (b) the formulation and adoption of an integrated coastal and marine management policy that sets clear priorities, principles, and guidelines to steer policy towards resolution and encourage government agencies and offices to see themselves as being part of larger effort towards proper management of the coastal and marine areas. The point of departure for the formulation could be the existing ARC/DEV framework and the draft Executive Order: Adopting Integrated Coastal Management as The National Strategy to Ensure the Sustainable

Development of the Country's Coastal and Marine Habitats and Resources and Providing Mechanisms for its Implementation; (c) a strengthened role of science in resource management decisions; (d) ICRM information, training and technical assistance that are accessible to core groups at the national, regional, provincial, municipal, and barangay levels; (e) a clear definition of roles at the various government levels that identify coastal resource policy, coordination, and management roles and responsibilities; and (f) improved coastal law enforcement through streamlining and upgrading of the technical capacity of enforcement units and stronger participation of local organizations.

One option for designing such a framework is to identify the ICRM champions and start with the DENR proposed National ICRM Strategy for the Philippines. This framework can be strengthened through consultations with the different national agencies and LGUs. Specifically, the lessons from 100 LGUs in the Visayas, where the strategy is currently being piloted, and the recently passed Wildlife Act should be used to improve the current draft.

The needs and aspirations of local communities whose livelihoods depend on a healthy coastal and marine environment should be taken into account. In addition, to aid the effective scaling up of ICRM practices, guidance can be provided on the actions required at the LGU and central government levels to reinforce the cross linkages necessary for effective coordination among levels of government and allow for policy harmonization across sectors. That guidance can be used to ensure the sustainable management of the coastal and marine resources of the Philippines, both in support of the national economy and to improve the welfare of those communities most dependent on secure coastal and marine resources.

<sup>3</sup> Losses from illegal logging and failure to collect appropriate taxes from legal forest operations: \$15-20 billion per year (World Bank estimate 2005); Illegal, unregulated, and unreported fishing: \$9 billion per year (High Seas Task Force 2006); Illegal trade in wildlife products: \$6-10 billion per year (16th Meeting of the Interpol Working Group on Wildlife Crime, October 2003).