

Blue Environment



SOME FACTS AND FIGURES

1. How long is the Philippine coastline?

The Philippine coastline is 36,289 km long¹, with approximately 60 percent of the population residing within the 832 coastal municipalities. The coastal or marine ecosystems—which include the coral reefs, mangroves, seagrass—of the Philippines are some of the most productive and biologically diverse in the world.

2. What is the current condition of our coral reefs?

The country's coral reefs are among the richest in the world, with about 464 species of hard corals and more than 50 species of soft corals, according to a 2004 World Bank Report.

It has been estimated that of the country's 27,000 km² (about 2.7 million hectares) of coral reefs, less than 5 percent are in excellent condition.



Less than 5% in excellent condition

3. How valuable are our coral reefs?

Coral reefs are the habitat, breeding, nursery and feeding grounds of fish and other marine organisms. They buffer wave action and protect coastlines and provide areas for tourism and recreation. Likewise, they serve as a rich source of medicinal products.

It has been estimated that healthy coral reefs in the Philippines can supply as much as 35 tons/km²/year of edible and economically valuable fish and invertebrates (assuming that ecologically sound fishing methods are used).²

¹ ArcDev (A Framework for Sustainable Philippine Archipelagic Development), February 2004; 2004 World Bank Report.

² The Values of Philippine Coastal Resources, 1998.

4. What causes coral reef destruction?

- Siltation from deforested and mined areas
- Cyanide fishing
- Urban-industrial pollution
- Dynamite fishing
- Muro-ami fishing method

(Right) A field test in the Philippines in 1980 showed that two exposures to cyanide three months apart can completely kill the exposed reef area (Barber, C.V. & V.R. Pratt. 1998)



5. What is the current condition of our mangrove forests?

From 4,500 km² (450,000 hectares) in 1918, the country's mangrove areas decreased to about 1,380 km² (or 138,000 hectares) in 1993³. About 95 percent of our mangroves are secondary growth; 5 percent are old or primary mangroves, and these are found mostly in Palawan⁴

6. How valuable are our mangroves?

Mangroves are classified as part of the Philippine forest. They are the nursery grounds—providing protection as well as food—for fish and other marine animals. They also protect coastal areas from soil erosion.

Direct economic values of mangroves were estimated conservatively at \$153/hectare/year (to as high as \$1,396/hectare/year)⁵. This combines the values of mangrove wood and fish products. This means that we are losing that much for every hectare of mangrove area destroyed.



7. What causes mangrove forest degradation?



Conversion of mangroves into other uses (e.g., fishponds, industrial areas) is a major cause of mangrove destruction. Illegal cutting of mangroves (to be used for construction of houses, furniture and firewood) is another main cause of mangrove forest degradation. Today, fishponds cover about 289,000 hectares, around 90 percent of which are in areas once covered with mangroves, according to a 2004 World Bank Report.

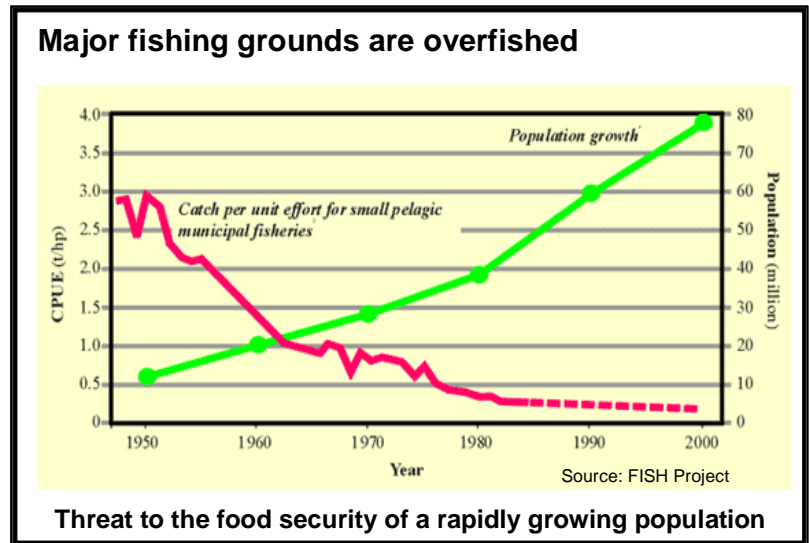
³ The Values of Philippine Coastal Resources, 1998.

⁴ World Bank Report, 2004.

⁵ The Values of Philippine Coastal Resources, 1998; exchange rate used was \$1 to 25 pesos (1991 conversion rate)

8. What is the condition of our fisheries and fishing communities?

The country's fisheries sector suffers from over fishing and illegal fishing practices, such as cyanide and blast (dynamite) fishing. Despite the enactment of the Fisheries Code in 1998, which prescribes 15-km from the shore as municipal waters, commercial fishers continue to enter the area, thus, depriving small fishermen of their livelihood.



These and the rapid population growth rate have resulted in prevalence of poverty in coastal areas where subsistence level is hardly met by income from fishery-related activities. It is estimated that 80 percent of fisher folk households are below the poverty threshold⁶ and that poverty incidence in fishing households was higher than those in non-fishing households, 61.9 percent and 33.7 percent, respectively⁷. Average annual income of fishing households was computed at P70,000 which is half of the average annual income of households in general. Low daily income of fishing households is examined to be a direct consequence of low daily fish catch which averages at 2 kg/day compared to 20 kg/day in the 1940s.

9. How important is this sector to us?

The Philippine population is highly dependent on fish food. Next to rice, fish is the most important component of the Filipino diet.

According to a 2004 World Bank report, fisheries contributed 2.2 percent of the gross domestic product and 15.2 percent of gross value added in the agricultural, fishery and forestry sectors in 2002. In the same year, exports of fishery products amounted to P26 billion, with tuna, shrimp and seaweed as the top commodity exports.

DID YOU KNOW THAT...

- There are 1,788,906 fishing operators in the country as of 2002? The 2002 Census of Fisheries said 99.6 percent of this number were in the municipal fishing sector; only 7,849 were engaged in commercial fishing. Yet, available records show that catch of commercial fishers had overtaken that of municipal fishers'.
- The Philippines is the largest producer of aquaculture products in Southeast Asia, with seaweed production making the biggest contribution?



⁶ PRIMEX, 1996.

⁷ Israel, D. 2004. In Turbulent Seas: The Status of Philippine Marine Fisheries.

10. How can we improve the present state of our coastal resources?

Improving the present state of our coastal resources calls for “good environmental governance”, defined to mean decisions and actions supporting the consistent application of specific “best practices” leading to positive immediate effects and longer-term impact. Good governance is widely recognized to be a key determinant of the current—and future—state of the environment. On the other hand, weak governance and bad practices are closely linked to the catastrophic degradation of the country’s natural resources over the last 30 years. Best practices are consistent with technically, socially and institutionally-accepted strategies, and involve local government unit (LGU)-community partnership in (a) resource management and utilization planning; (b) budgeting; (c) contracting, bidding and procurement; (d) licensing, permitting and issuance of tenure and allocation instruments; and (e) enforcement of laws and regulations. Best practices are planned and carried out following a functional, transparent, accountable and participatory process. LGUs need to enable local communities to effectively participate in the formulation and implementation of resource management plans, as practical evidences show that environmental programs are most effective when designed and implemented at the local level, and when aligned and synchronized with the policies and directions of the national government.

Among the essential best practices is to improve coastal law compliance to prevent further degradation of coastal habitats and overfishing, by urging LGUs to work together in enforcing the law. Delineating municipal waters and preventing entry of commercial fishers and an effective community reporting system are important aspects of enforcement. This is now happening in Baler Bay (Luzon) and Illana Bay (Mindanao) where LGUs are working together to protect their marine resources from illegal fishers and other environmental violations.

Another important intervention is improving and scaling up efforts to marine sanctuaries. At present, there are more than 500 marine sanctuaries all over the country established through local community and government initiatives, but most of them are 10 hectares or less, and not well-managed. Ecological studies indicate that bigger MPAs (e.g., 20 hectares or more) are necessary to have considerable impact on the coral ecosystem and adjacent areas. Forming a network of marine sanctuaries is one strategy that may be adopted.

DEFINITION OF COMMONLY USED TERMS

Aquaculture - fishery operations involving all forms of raising and culturing fish and other fishery resources in fresh, brackish and marine water seas (RA 8550).

Bahura – a Tagalog word roughly corresponding to reef or shoal, any significant rise in the sea floor; depending on local usage, it may or may not indicate the presence of live coral.

Benthic - living on the bottom of the ocean or other body of water.

Benthos - the community of aquatic bottom dwelling life.

Biodiversity - the variety of living organisms considered at all levels, from genetics through species, to higher taxonomic levels, and including the variety of habitats and ecosystems.

Biomass - the total mass of a defined organism or group of organisms in a particular community or an ecosystem as a whole.

Carrying capacity - the limit of a natural or man-made system to absorb perturbations, inputs, or population growth.

Catch per unit effort (CPUE) - the number of fish caught by an amount of effort; typically a combination of gear type, gear size, length of time gear is used.

Coastal habitat – any ecologically distinct ecosystem that supports the production of coastal resources, including coral reefs, mangrove swamps, tidal flats, seagrass beds, and beaches.

Coastal resource – any non-living or living natural product, such as finfish, marine invertebrates and aquatic plants, that is found in coastal areas and is of use or value to humans.

Coastal Zone - is a band of dry land and adjacent ocean space (water and submerged land) in which terrestrial processes and uses directly affect oceanic processes and uses, and vice-versa: its geographic extent may include areas within a landmark limit of one (1) kilometer from the shoreline at high tide to include mangrove swamps, brackish water ponds, nipa swamps, estuarine rivers, sandy beaches and other areas within a seaward limit of 200 meters isobath to include coral reefs, algal flats, seagrass beds and other soft-bottom area (RA 8550).

Crustacean - class of animals that typically live in water and are characterized by jointed legs, segmented bodies, and hard external skeletons (e.g., crabs, lobster, shrimp).

Demersal - organisms that live on or near the bottom.

Ecosystem - a community of living organisms interacting with one another and with their physical environment, such as a salt marsh, an embayment, or an estuary.

Estuary - a semi-enclosed body of water having a free connection with the open ocean and within which seawater is measurably diluted with fresh water.

Fishery - all of the activities involved in catching a species of fish or group of species; one or more stocks of fish which can be treated as a unit for purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational and economic characteristics.

Foreshore - a string of land margining a body of water: the part of a seashore between the low-water line usually at the seaward margin of a low tide terraces and the upper limit of wave wash at high tide usually marked by a beach scarp or berm (RA 8550).

Isdang bato – a Tagalog term which in some areas refers to a variety of fish caught with hook and line on coralline and rocky reefs, usually including grunts, parrotfish, wrasses and emperors; a collective term referring to all those fish caught using hook and line which are not the most desirable or high-value species (“high-value species” generally refers to species such as groupers and snappers).

Juvenile - an organism that has not yet reached sexual maturity.

Landings - the number or poundage of fish unloaded at a dock by commercial fishermen or brought to shore by recreational fishermen for personal use; reported at the points which fish are brought to shore (not necessarily areas where caught).

Littoral - the zone between the highest and lowest springtide shorelines; the intertidal zone.

Marine protected area - a defined area of the sea established and set aside by law, administrative regulation, or any other effective means, in order to conserve and protect a part of or the entire closed environment, through the establishment of management guidelines; considered a generic term that include all declared areas governed by specific rules or guidelines in order to protect and manage activities within the enclosed area (PhilMarSast).

Marine sanctuary - a defined area established and set aside exclusively for the purpose of protecting habitats and species through the prohibition of all extractive uses and strict regulation on non-extractive uses; synonymous with "No-Take-Zones"; may have buffers zones around the area sought to be protected from extractive and non-extractive uses; may be located within a marine reserve or marine park (PhilMarSast).

Nearshore - referring to shallow waters close to the coast.

Offshore - referring to deeper waters far from the coast.

Participatory coastal resource assessment (PCRA) – resource assessment accomplished with extensive participation and contributions from local coastal resource users.

Pelagic - the area of the open sea. The organisms that inhabit the water column/open sea, and spend relatively little time on the sea bottom.

Phytoplankton - microscopic algae suspended in the water column. They contain pigments known as chlorophylls and phaeophytins which make eutrophic waters look green or brown.

Plankton - the plants and animals that are found drifting in the water.

Seine - a large fishnet that hangs vertically, with floats at the top and weights at the bottom, that will enclose fish when it is pulled in.