

THE PHILIPPINE FISHERIES MONITORING, CONTROL AND SURVEILLANCE SYSTEM

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1. INTRODUCTION

The Philippines has extensive fisheries resources, with territorial marine waters covering 220 million ha, inclusive of its EEZ, and inland waters with an area of 812 000 ha. The shelf area within the 20 m depth contour covers some 18.5 million ha. The archipelago has a coastline of 17 460 km.

The coast is politically, economically and ecologically vital to the country, as 60 of 63 Provinces and 991 of 1 525 municipalities are coastal. Some 55% of the population reside along the coast. The country has been ranked among the largest producers in the world, and particularly in the Indian Ocean and Southeast Asian region for tuna and tuna-like fishes. Total fish production for 1996 was 2.769 million t, valued atp 83 100 million and the industry provides thousands of jobs directly and in related activities.

The country's marine ecosystem is a complex one, consisting of coral reefs, mangrove forests and seagrass beds. Besides providing a rich source of fish and other aquatic resources, the marine waters serve as a primary mode of transportation, a primary source of livelihood for coastal communities, a breeding ground and habitat for Philippine wildlife, and a prominent feature of the country's natural beauty and tourist attraction.

Studies show that municipal fisheries production is declining. The overall average annual growth rate for the fisheries sector was 2.5% from 1987-1996. Aquaculture and commercial fisheries showed positive growths of 6.4% and 4.5% respectively, while municipal fisheries fell by 1.7%. Production (catch per unit effort) has declined and total fish landings have decreased despite an increase in the number of municipal fishers.

This is a result of excessive fishing, the use of destructive methods such as dynamite fishing, widespread damage to fish habitats, the downstream effects of poor land use practices and deforestation, and pollution from both land and marine-based sources. It has been estimated that the current fishing effort for small pelagic fish within the coastal zone is double that of what should be allowed to ensure resource sustainability. Demersal stocks in the same areas are estimated at only 30-40% of levels in the 1940s.

The open-access nature of fisheries coupled with the rapidly growing fisher's group could well be the cause of the overfishing. Lack of alternative livelihoods due to low labour skills discourages any shift from fishing, compounded with high unemployment rates in other sectors. Declining yields combined with declining returns due to marketing constraints have led to increasing poverty among municipal fishers as well.

This increasing pressure on the country's coastal marine resources from poverty-stricken small-scale fishers has resulted in widespread habitat degradation. About 75% of the country's coral reefs have been damaged, there has been a tremendous reduction in mangrove area, from 500 000 ha to 149 000 ha, and approximately one-third of the seagrass beds have been damaged.

14. Bureau of Fisheries and Aquatic Resources

15. Philippine Fisheries Development Authority

At the same time, commercial fisheries production has remained stable at around 500 000 t/yr for the past decade, despite increases in fishing capacity and some upgrading in technology. Although actual figures have not yet been established, there are indications that the traditional areas of operation of the Philippine commercial fleets are already overfished.

It is, however, also said that there are other areas within the country's EEZ that are still underdeveloped. The commercial fleet is unable to fish in these areas, though, due to lack of information about available resources, inadequate fishing vessel sizes, and inappropriate technology to operate in these areas.

Aquaculture production has managed to increase over the past 15 years. However, this has been at the cost of the destruction of mangrove forests, which, in turn, has contributed to the decline in the natural productivity of coastal fisheries. Aquaculture production, though improving, continues to be significantly below world standards.

The Philippine fisheries sector is in a crisis situation, with annual losses to illegal fishing by foreign and national fishing vessels. The current landed value of the Philippine fisheries is approximately \$US 2 000 million per annum, while illegal fishing activities have been valued at more than \$US 1 500 million, orp 40 000 million per annum. In addition, shipping, smuggling and illegal immigration as well as the illegal logging in coastal areas and shipment by sea to other countries are all ocean-sector concerns which the Philippines does not have the capability to address.

An urgent need was therefore perceived to solve the nation's fisheries and fisheries habitat problems in both the coastal and offshore fisheries. Furthermore, the United Nations Conference on Environment and Development (UNCED) in Brazil in 1992, and the resulting Chapter 17 of Agenda 21, emphasized the need for MCS of the marine resources and habitats in the EEZs and high seas of the world oceans.

2. OVERVIEW OF MCS

The MCS system was designed to address fisheries issues as well as coastal and oceans concerns. It primarily encompasses the gathering of information on fishing effort characteristics and resource yields, the regulatory conditions under which the exploitation of the resources may be conducted, and the degree and types of observations required to maintain compliance with regulatory controls imposed on fisheries activities. The MCS mechanism and information gathered through the use of its resources will likewise benefit other ocean sector interests like the coastal environment, forestry, food security and sovereignty.

Considering the overlapping jurisdictions among the various institutions and stakeholders with an interest in the sector, an integrated, multisectoral approach at both the national and local levels is deemed necessary to effectively implement MCS. As such, the approach to its implementation was consultative and participatory. The MCS System Design was completed with the assistance and input of most agencies involved in the marine and maritime sector, including the Department of Agriculture (DA), Department of Interior and Local Government - Philippine National Police (DILG-PNP), Department of National Defense - Philippine Air Force, Philippine Navy (DND-PAF, PN), Department of Environment and Natural Resources, Maritime Authority (MARINA), Department of Science and Technology (DOST), National Security Council, fishing industry and academe.

The MCS system was designed based on the following assumptions:

- There exists appropriate Inter-Agency political will and commitment to conserve and protect the Philippine waters and the resources therein.
- Fishing is a privilege and not a right, but sustenance fishers have preferential access to the fisheries within conservation limits.

- Fisheries and habitat conservation are essential components of rational fisheries management and therefore should be viewed in a holistic context.

The main purpose of MCS is to provide a credible deterrence to violation of fishery laws and regulations and prevent unlawful foreign and domestic fishing in Philippine waters. In addition, information on fishing effort, catches, vessel traffic, and such other data could very well be the basis for formulation of national policies and laws in making strategic and tactical decisions regarding ocean planning and management, including enforcement.

3. MCS SYSTEM IMPLEMENTATION

3.1 Coordinating mechanism

MCS Coordinating and Operations Centres (MCSCOCs) have been established at the national and regional levels to handle the coordination and analysis of MCS data, planning of operations and deployment of resources, and enhance the linkages between and among the different MCS centres and national agencies, provincial and municipal governments, as well as the private sector.

The National MCSCOC is located in Metro Manila. This Centre will concentrate on offshore MCS operations and will coordinate the operation of the various Regional Pilot Area MCSCOCs. The latter Centres will serve as the link between the nearshore/municipal MCS system and the offshore system, as well as be the focal points for operation at the local level to ensure a more timely reaction from MCS personnel on concerns and transactions limited to a specific pilot area/region. At present there are four pilot sites, namely Puerto Princess City; Batan, Batanes; Davao City; and Tacloban City. Eventually, after validation of implementation, there will be expansion of the system to other regional sites.

The Cabinet Committee on Maritime and Ocean Affairs (CabCom MOA) serves as the advisory body to ensure that a coordinative mechanism among the participating and beneficiary agencies is established and completed to implement the MCS System. The Technical Working Group-MCS, through the Technical Committee of CabCom MOA, serves as the main oversight and policy making body.

3.2 Infrastructure component

This component consists of various monitoring and surveillance equipment for the MCS system implementation. Prior to purchase of the equipment – in general very expensive – it was evaluated whether it would be more cost effective and cost efficient if existing assets within the relevant government institutions could be used and if multi-tasking of available resources, facilities and work force were adopted.

3.3 Support component

The MCS support component comprises:

- an integrated database management system;
- an MCS reporting system;
- MCS operation manuals;
- a fisheries licensing system;
- information, education, and communication; and
- training.

4. STEPS TAKEN TOWARDS IMPLEMENTATION TO DATE

The MCS System design has been completed, approved by the Secretary of Agriculture, and endorsed by the President in July 1995, with directives to CabCom MOA to implement the system under the DA's leadership. However, despite initial implementation using external and some internal funds, the implementation of the whole system is advancing at a very slow pace. Currently, activities are concentrated in the nearshore areas. Offshore activities, particularly surveillance, rely heavily on assistance extended by the DND until such time that the necessary hardware or equipment are purchased for this purpose.

General

- A high-level mission was sent to Canada to view the Canadian Model, its infrastructure and to learn from their system.
- A National Marine Policy was formulated, and a Cabinet Committee was established to oversee Maritime and Oceans Affairs (CabCom MOA).
- A Philippine Institute for Marine Affairs was formed to advise the President on ocean sector affairs.
- The President directed CabCom MOA and the DA to implement the System.
- A Technical Working Group - MCS (TWO-MCS) was formed chaired by the DA and co-chaired by the DND.

Specific

- A Licensing System was established, with
 - Commercial Licensing Revision and Municipal Licensing Design, and
 - Computerization of the licensing systems
- Telecommunication assessment
- Training at Local government level, including
 - Training material development
 - Orientation Training at MCS Pilot Sites
- Establishment of Pilot Sites
 - Setting up of the MCS Centres
 - Municipal licensing system is being implemented
 - Municipal ordinances are developed and implemented
 - Provision of municipal patrol vessels

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