



National Coastal Policy for the East Asian Seas: Status Review and Model Policy Development



March 1999

**NATIONAL COASTAL POLICY FOR THE EAST ASIAN SEAS:
STATUS REVIEW AND MODEL POLICY DEVELOPMENT**

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MISSION STATEMENT

The primary objective of the Global Environment Facility/United Nations Development Programme/International Maritime Organization Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas is to support the efforts of the eleven (11) participating governments in the East Asian region to prevent and manage marine pollution at the national and subregional levels on a long-term and self-reliant basis. The 11 participating countries are: Brunei Darussalam, Cambodia, Democratic People's Republic of Korea, Indonesia, Malaysia, People's Republic of China, Republic of the Philippines, Republic of Korea, Singapore, Thailand and Vietnam. It is the Programme's vision that, through the concerted efforts of stakeholders to collectively address marine pollution arising from both land- and sea-based sources, adverse impacts of marine pollution can be prevented or minimized without compromising desired economic development.

The Programme framework is built upon innovative and effective schemes for marine pollution management, technical assistance in strategic maritime sectors of the region, and the identification and promotion of capability-building and investment opportunities for public agencies and the private sector. Specific Programme strategies are:

- Develop and demonstrate workable models on marine pollution reduction/prevention and risk management;
- Assist countries in developing the necessary legislation and technical capability to implement international conventions related to marine pollution;
- Strengthen institutional capacity to manage marine and coastal areas;
- Develop a regional network of stations for marine pollution monitoring;
- Promote public awareness on and participation in the prevention and abatement of marine pollution;
- Facilitate standardization and intercalibration of sampling and analytical techniques and environment impact assessment procedures; and
- Promote sustainable financing mechanisms for activities requiring long-term commitments.

The implementation of these strategies and activities will result in appropriate and effective policy, management and technological interventions at local, national and regional levels, contributing to the ultimate goal of reducing marine pollution in both coastal and international waters, over the longer term.

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Executive Summary

The papers summarised below discuss the issues and experiences relating to the management of coastal resources and the development of a national coastal policy and action plan for the countries in the East Asian Seas. While based on extensive research and field validation, these papers do not claim to be the final word on these matters, but are intended to provoke further discussion and thought on the issues discussed therein.

EXPERIENCES IN COASTAL MANAGEMENT LEGISLATION IN THE EAST ASIAN REGION

The paper describes basic concepts relating to integrated coastal management (ICM) or integrated coastal zone management (ICZM). The paper examines three countries, i.e., the Philippines, Thailand, and the Republic of Korea to see how they are implementing ICM.

Based on such examination, the paper concludes that there is no country in the East Asian Region that addresses coastal management in a holistic manner. Most of the countries have yet to formulate a national coastal or marine policy. The need for integration is well recognised but the achievement of integration remains elusive. The closest is the Republic of Korea, which has succeeded in integrating key agencies under one institution. Others, like Thailand, rely on co-ordinating committees to harmonise policies and programs. Still others, namely the Philippines and China, have opted to grant local governments the discretion to adopt integrated management. However, institutional integration alone is insufficient. Korea bears watching as it pushes for the enactment of an ICM law that will form the basis for integrated management.

The paper notes that there is an increasing commitment by governments in Southeast Asia to policies and programs of decentralisation and community-based management and co-management. The shift in focus will require new legal, administrative and institutional arrangements at both the local and national community levels to complement contemporary political, economic, social, and cultural structures.

An ideal policy or law would provide for phases or cycles of issue-identification, options-generation, implementation, and assessment. Each of these aspects is briefly discussed, in relation to the actual experiences of the countries that are the subject of the paper.

ICM IMPLEMENTATION AT THE LOCAL LEVEL: THE BATANGAS BAY AND XIAMEN CASES

While most countries in the East Asian Region do not have a national coastal policy, micro-level experiences in some of these countries would serve as valuable inputs in the formulation of such policy.

The paper discusses coastal uses in general and the progressive policy requirements to implement ICM. It focuses on the experience of Batangas Bay, Philippines and Xiamen, China in implementing ICM at the local level. These two areas were chosen as demonstration sites of the GEF/UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas (MPP-EAS). ICM is applied in these sites for effective prevention, control, and mitigation of marine pollution.

Before discussing the prescribed policies for coastal management, the paper gives a brief profile of the demonstration sites and discusses the coastal use and management issues in each. These two cases are then used as a springboard for the discussion on ICM.

The underlying principle behind coastal zone management is the harmonisation of multiple uses while minimising their impacts on the environment. The conventional approach in managing coastal zones is sectoral management, which more often than not results in intersectoral conflicts. The trend is towards ICM that applies an integrative, holistic approach and an interactive planning process in addressing the complex management issues in the coastal areas.

Policies for coastal management are categorised as follows:

- a system for policy formulation and legislation;
- institutional arrangements and administrative mechanism;
- implementation and enforcement;
- monitoring and assessment;
- scientific and technological backstopping/capability-building; and
- sustainable financing mechanisms.

The paper emphasises that these policies should be sequenced in such a way as to provide conditions for the accomplishment of subsequent ones. Timing is crucial, as each of the policy requirements must first satisfy certain prerequisites before they can be implemented.

The paper explains each of these policies, their relationship to other policies, and how these policies have been adopted in Batangas and Xiamen.

GUIDELINES FOR THE PREPARATION OF A NATIONAL COASTAL POLICY AND ACTION PLAN

While coastal management problems are often unique for each area and require tailor-made management plans, a national policy that lays down the general framework for coastal management is nonetheless appropriate.

ICM is promoted as the workable approach to addressing issues in coastal management. ICM is defined as a dynamic process in which a co-ordinated strategy is developed and implemented for the allocation of environmental, socio-cultural, and institutional resources to achieve the conservation and sustainable multiple use of the coastal zone.

The minimum elements of ICM are set out and explained, emphasising that the elements need time to evolve and that the accomplishment of one element paves the way for the realisation of the others. While there is no single formula for developing a national policy that would be responsive to the special needs of a State, there are some common elements in policy that have to be addressed, albeit in unique ways. Even the steps taken in arriving at these policies would follow a general flow.

The paper stresses the importance of the preparation of a coastal environmental profile, prioritisation of issues, choosing the proper institutional arrangement, public participation, internalisation of environmental costs, and co-ordination among various agencies operating in the coastal zone. The relationship among the national policy, a general strategic management plan, and the action plan is also explained. The discussion is principally based on the experience in MPP-EAS' demonstration sites in Batangas and Xiamen.

After such discussion, the paper points out that the development of a national coastal policy should be viewed as a continuum. The results of monitoring and assessment of the effectiveness of the policies and its implementing laws and regulation, as well as changing conditions, will lead to modification of these policies. This will lead to a new cycle of assessment, planning, implementation, and monitoring, thereby ensuring that the national policy remains dynamic and responsive.

In conclusion, the need to ensure continuity of the policies despite changes in the people running the government or the management program is emphasised. Ultimately it is community vigilance that will ensure the continuity of the management efforts.

MODEL NATIONAL COASTAL POLICY

After a discussion of concepts relating to ICM, this portion outlines the basic elements of a national coastal policy (NCP). The model NCP sets out general policy and management objectives recommended above.

For institutional arrangements, the model NCP proposes the creation of a National Committee for the Management of the Coastal Zone (the Committee), a high-level, multisectoral group as the highest policy-making body of the State for coastal zone management. Aside from the Committee, a lead agency, which shall take charge of the day-to-day implementation of the guidelines formulated by the Committee, is identified in the model NCP.

Each coastal zone management area shall be managed in accordance with a general management plan to be prepared by a Local Council. This Local Council shall be composed of the highest-ranking local government executive of a particular coastal management area as chairman and representatives from the other LGUs, business, industry, the academe, nongovernmental organisations, peoples organisations, and other local stakeholders as members.

To ensure that the Local Council has a significant role to play in the coastal management area, the model NCP requires licenses or permits for activities within the coastal management areas to be issued only upon the favourable endorsement of the Local Council and calls upon the Legislature to enact such requirement into law within a year from the approval of the model NCP. The Local Council is also enjoined to actively participate in the evaluation of development projects that must undergo environmental impact assessment prior to implementation. Finally, the favourable endorsement of the Local Council shall be given only after proper consultations with the stakeholders have been held.

Co-ordination is emphasised in the model NCP, which calls for the co-ordination of coastal research activities consistent with an agreed common program, and co-ordination under an integrated environmental monitoring program. All participating enforcement agencies shall also co-ordinate under a common enforcement program which is built on traditional or customary practice so as to optimise compliance.

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Regular monitoring and assessment are likewise institutionalised, to ensure that the management strategies and their implementation are effective.

The Committee is mandated to set up a capacity-building program that gives priority to training personnel in management, research and enforcement, with the aid of national agencies that possess the necessary technical expertise.

Stakeholder participation permeates the processes in the NCP. To ensure meaningful participation of the public, the NCP guarantees the right of *bona fide* stakeholders access to information relating to decisions made or to be made with respect to coastal management.

To ensure sustainable financing of coastal management efforts, the model NCP requires the State to institute a system of accounting that shall take into consideration the environmental costs of the use of coastal resources, which costs shall be reflected in the fees and charges developed by the Committee. Equitably sharing of financial burdens, the use of market-based instruments, and private sector investment in environmental services and other related activities, shall be encouraged.

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EXPERIENCES IN COASTAL MANAGEMENT LEGISLATION IN THE EAST ASIAN REGION

INTRODUCTION

Integrated Coastal Management (ICM) has been widely accepted as the appropriate strategy for managing the coastal environment. As of 1993, there were at least 142 ICM efforts in 57 countries worldwide.¹ As a testament to its widespread acceptance, ICM has been enshrined in Agenda 21 prepared in Rio in 1992. Section 17.5 of the Agenda 21 provides:²

Coastal States commit themselves to integrated management and sustainable development of coastal areas and the marine environment under their national jurisdiction. To this end, it is necessary to, *inter alia*:

- (a) provide for an integrated policy and decision-making process, including all involved sectors, to promote compatibility and a balance of uses; ...

However, Agenda 21 did not define nor specify what integrated management or integration means. A report of the OECD³ describes integrated coastal zone management (ICZM) as:

Management of the coastal zone as a whole in relation to the local, regional, national and international goals. It implies a particular focus on the interactions between the various activities and resource demands that occur within the coastal zone and between coastal zone activities, and activities in other regions. In practical terms this might mean the integration of environmental protection goals into economic and technical decision-making processes, the management of the impacts of agricultural run-off is having on coastal zone water quality, the coordination of tourism policies with nature conservation policies, the coordination of pollution control policies within different parts of a particular coastal zone, or (most probably in practice) all of these and more simultaneously.

ICM presents a paradigm shift from the common sectoral approach to management of coastal resources. Integration should be thought of as a political process which should be pursued between: (a) the claiming of national maritime jurisdictional belts and the protection of the coastal ecosystem; (b) the coastal system and its external environment; and c) the decision-making systems acting at all levels (international, regional, national and local).⁴ To achieve integration, there is a need to restructure the existing management systems. In most instances, laws have to be amended or new laws have to be formulated to formalise or institutionalise integrated management.

NATIONAL EXPERIENCES IN COASTAL MANAGEMENT LEGISLATION

In this paper we examine three countries, the Philippines, Thailand, and Republic of Korea to see how they are implementing integrated management of the coastal zone. The Philippines and Thailand have yet to formulate a national marine policy, while Korea is adapting its existing policy to respond to the changing international environment. The Philippines has devolved much power to local governments to implement integrated management. Thailand is looking at co-ordinating mechanisms at the highest levels to formulate and implement a national policy. Korea has created a superagency to implement ICM on a national scale.

Philippines

The Philippines is the world's second largest archipelago with more than 7,000 islands. It is bounded by the Pacific Ocean, the South China Sea, Sulu, and Celebes Seas. The Philippines is at the centre of major international trade and travel routes. The country boasts of a coastline extending 18,000 kms. It occupies a total land area of 300,000 km². The territorial waters cover an area of 220 million hectares, of which 26 million hectares are coastal waters and 193 million hectares are oceanic waters. Philippine waters comprise an area at least 10 times more than its territorial environment. About three-quarters of the 70 million population live in coastal areas.

To date, the Philippines has yet to formulate a comprehensive ICM strategy, although several policy instruments have been issued relating to the management of the coastal zone, notably, the Action Agenda for Coastal and Marine Ecosystem of the Philippine Agenda 21 (PA 21) and the National Marine Policy (NMP).

Policy Pronouncements

While there is no detailed ICM strategy yet, there have been several general policy pronouncements that may serve as guiding principles in coastal management. PA 21 prepared as the country's response to the challenge of the United Nations Convention on Environment and Development contains an Action Agenda for Coastal and Marine Ecosystem summarised below.

Table 1. Summary of Action Agenda for Coastal and Marine Ecosystem.⁵

Issues/Concerns	Strategy/Action Agenda
Uncoordinated and inadequate policies	Review National Marine Policy; pass the Fisheries Code; prepare a comprehensive Coastal Zone Management Plan; identify priority rehabilitation areas for coral reefs, seagrass, mangroves and swamplands; revert unsustainable fisheries to mangroves; review bilateral agreements; evaluate sustainability of existing fishing methods; and develop anti-illegal fishing plans.
Conflicting uses of coastal and marine ecosystem	Adopt a systems approach to management; conduct carrying capacity studies of priority coastal areas; ensure areas for research on the ecosystems approach; conduct programmatic EIA for coastal and marine development projects; strictly enforce protection measures; modernise <i>Bantay Dagat</i> ; provide mechanisms to facilitate fisheries cases and penalise violators of laws through criminal liability.
Deterioration of shore and water quality	Include adjacent watersheds in the delineation of coastal areas, protect marine environment from land-based activities; monitor pollution and sedimentation patterns and rates; prevent oil pollution; study coastal geomorphology in critical areas; review development plans of economic growth centres.
Socio-economic issues	Review fisheries lending schemes; conduct research and development on alternative livelihood, provide training for business management and technology; increase equity in access to coastal resources; promote multisectoral participation in management planning; conduct formal and non-formal education on the ecosystem and conservation.
Lack of capacity to effectively manage coastal and marine ecosystems	Coordinate with research institutions/academe for capacity building and information support measures to enable communities to participate in the management of coastal and marine ecosystem.

The NMP, on the other hand, is primarily a developmental and management program that emphasises the Philippines' status as an archipelagic state.⁶ On the marine environment, the NMP provides:

The Philippines as an archipelagic nation must ensure that its marine and coastal resources are properly managed and that its environment is protected against threats of possible pollution from both marine and land-based sources.

The following goals relevant to coastal management are included in the NMP:

- 1) Explore, develop, and manage offshore/oceanic resources on the principle of sustainable development;
- 2) Develop and manage coastal resources within an ICZM framework;
- 3) Develop and enhance national marine consciousness through a comprehensive information program;
- 4) Encourage the development of a marine research program;
- 5) Adopt a "polluters pay" principle in ensuring the protection of the marine environment; and
- 6) Ensure the high quality of maritime professional schools and other such institutions for training experts in maritime-related issues.

The NMP is to be pursued through the concerted effort of all government agencies through the Cabinet Committee on Maritime and Ocean Affairs created under Executive Order (E.O.) No. 186 (1994).

At present, there is no clear concerted effort to push for a national law on integrated management. There is no national management plan to speak of. The Department of Environment and Natural Resources (DENR) has initiated a study developing a National Coastal Policy based on consultations with stakeholders as to what should be in the policy. The consultations have been

completed but the draft Policy has yet to be finalised and validated. However, there are successful integrated management examples at the local level. Among these are the Batangas Bay Region and the Lingayen Gulf Region.

Sectoral Management

Despite the high-level policy pronouncements advocating integration, coastal management in the Philippines remains sectoral in approach. There are particular government agencies tasked with specific functions mandated by subject-specific laws. The Administrative Code of 1987 (E.O. No. 292) apportioned executive functions to line agencies of government. The DENR is tasked with general environmental protection as well as exploitation of natural resources. It implements the environmental impact assessment (EIA) law (Presidential Decree [P.D.] No. 1586), pollution control law (P.D. No. 984), forestry law (P.D. No. 705), mining law (Republic Act [R.A.] No. 7942), national integrated protected areas system law (R.A. No. 7586), and other related laws.

The utilisation and management of coastal resources are now controlled by the local government units (LGUs), mainly the municipal and city governments. The management of fishery resources is largely a local concern under the new Fisheries Code (R.A. No. 8550). However, land laws implemented by the DENR and the Department of Justice (through the Land Registration Authority) govern ownership and other rights over coastal lands.

Despite the extensive powers of LGUs, major activities in the coastal zone are still regulated by national agencies. For example, shipping and ports development is the responsibility of the Department of Transportation and Communication, through the Maritime Industry Authority and the Philippine Ports Authority (PPA). These two specialised agencies are semi-autonomous and have their own specific powers under their charters. Coastal tourism is under the Department of Tourism, through another specialised agency, the Philippine Tourism Authority (PTA). The Department of Energy manages offshore oil and gas exploration.

The boundaries of the authority of the various government agencies over an activity are not always clear. For example, while the DENR generally regulates pollution matters, marine pollution control and management functions have also been lodged in another agency, the Philippine Coast Guard (PCG) by virtue of another law (P.D. No. 600, as amended by P.D. No. 979). In reading the laws alone, it is difficult to determine which law would apply in case of pollution of the sea coming from a land-based source. The DENR and PCG have had to clarify their respective roles through interagency agreements.

The fragmentation of functions and multiplicity of responsible agencies have resulted in confusion and inefficiency as evidenced by the continued depletion of coastal resources and degradation of the coastal environment. There have been several attempts to co-ordinate activities among the agencies. The Presidential Commission on Anti-Illegal Fishing and Marine Conservation (PCAIFMC) or *Bantay Dagat* Committee was formed in 1989 and is chaired by the Secretary of the Department of Agriculture (DA) with members consisting of the Secretaries of Justice, Education, National Defence, Interior and Local Governments, Tourism, Environment and Natural Resources, as well as the Press Secretary and the General Manager of the PTA. It was created in response to the urgent need to co-ordinate the efforts of national and local government agencies, civic organisations, and the residents of fishing communities for a total and simultaneous campaign to stop and reverse this destructive trend, and manage our fishery resources to maintain their productivity.

The activities of the Committee have mainly focused on law enforcement. It has distributed patrol boats to LGUs to be used for apprehending illegal fishing activities. Much of the funding has come from the Fisheries Sector Program of the DA.

In 1993, another agency, the Inter-Agency Task Force on Coastal Environment Protection (IATFCEP) was formed by virtue of E.O. No. 117, series of 1993 at the initiative of the DENR. This was an extension of the Coastal Environment Program launched by the Department in the early part of the same year. The creation of the task force was to answer the need for cooperation and coordination among the departments and agencies enforcing coastal environment protection to strengthen and sustain law enforcement systems throughout the country.

However, it appears that the task force also focuses only on law enforcement and not on other aspects of coastal and marine resources management. This is apparent in the initial designation of the Department of National Defence-Philippine Navy as lead agency, to be replaced by the Department of Interior and Local Government-Philippine National Police after one year.

Both IATFCEP and PCAIFMC as co-ordinating bodies started with lofty ideals. Neither has come up with a comprehensive program to manage coastal and marine resources, not even a program to co-ordinate and rationalise existing efforts. Both bodies focus mainly on law enforcement. However, other aspects of coastal and marine resource management also have to be co-ordinated. For instance, research efforts on the status and sustainability of the use of the resources must be a combined effort of national agencies and local governments. Few resources, if any, are limited to a single municipal jurisdiction.

The existing institutional set-up is not only complex, confusing, and sectoralised, but more importantly, it is fragmented. This fragmentation is the major systemic hindrance to more effective management of the marine and coastal zones. A conclusion can thus be made that there is an urgent need for sectoral integration and coordination.⁷

Integration under the Local Government Code

In 1992, a new window of opportunity for integrated management was opened when the Local Government Code (LGC, R.A. No. 7160) took effect. The LGC grants specific and general powers to LGUs to manage and maintain ecological balance within their territorial jurisdiction.

LGUs have considerable control in matters related to environmental protection.⁸ While the law does not provide for comprehensive nor detailed provisions on coastal resources management, the general provisions can serve as bases for formulating a complete municipal coastal resources management program. To be sure, local governments have the capacity or the potential to develop a total approach to coastal resource management within their jurisdiction. However, it is the common observation that local governments are ill-prepared to take on the responsibilities. Both expertise and logistics have long been concentrated in central government agencies. Few LGUs are equipped with the financial and technical capabilities to carry on a sustainable program on coastal resources management.⁹

Environmental management programs, to be effective, must manage whole ecosystems, which seldom correspond to political boundaries. It is imperative that local governments join together to manage common resources. The LGC has provided for instances where LGUs may co-operate to achieve common goals.¹⁰

The program to manage shared resources must be forward looking, considering the natural advantages afforded by the available resources, the goals of the LGUs involved and the practicability of implementing the program. In other words, strategic planning is essential to optimise the use of the resources in line with the development strategy of the local governments and their role in the national development strategy.

The emerging trend is that the LGU shall become the focal point for coastal management. This is supported by the provision in the LGC that requires national government agencies to consult the LGUs prior to the implementation of any project or program. The need to consult is especially enjoined when the project

or program has significant environmental impacts. The new Fisheries Code has also further strengthened LGU control over fisheries resources.

The potential for ICM by the local government has been tested and proven effective in the Batangas Bay Region.¹¹ Another example is the Lingayen Gulf experience¹² where local government and national agency representatives were grouped together to form the Lingayen Gulf Coastal Area Management Commission (LGCAMC).

Strong Public Participation

There is a trend in the recent laws to involve communities and nongovernmental organisations (NGOs) in the formal decision-making processes. This is likely an offshoot of the success of community-based coastal management efforts all over the country. Under the Fisheries Code, stewardship and prior rights of local communities are recognised. NGOs and local community representatives are part of the Fisheries and Aquatic Resource Management Councils that act as advisers of local officials in matters relating to fisheries management. NGO representation is also provided in the Batangas Bay Environmental Protection Council, the LGCAMC advisory committee, and even in the high-level Philippine Council for Sustainable Development.

Kingdom of Thailand

Thailand is a peninsula with a total land area of about 514,000 km². It has two major coastal boundaries: the Andaman Sea, to the west and the Gulf of Thailand to the east. The Gulf of Thailand is a semi-enclosed sea of about 350,000 km². Some areas of the Gulf are shared among Thailand, Cambodia, Malaysia, and Vietnam.

Thailand has a robust fishing industry. Total catch in 1994 reached more than three million metric tons valued at more than US\$3 billion. However, fishery resources in the coastal areas have dwindled because of overfishing as well as a reduction of fishing grounds as a result of overlapping claims of the countries bordering the Gulf.¹³ As a result, attention has shifted to aquaculture or mariculture. Thus, Thailand is currently one of the world's largest producers of shrimp. The expansion of aquaculture has led to the loss of mangrove forests.

Coastal tourism is also a major activity especially in the resort areas of Pattaya, Phuket, and others. The influx of people into the tourist and urban centres has exacerbated the problem of waste and sewage disposal into the coastal waters. Thailand generates up to 33,000 tons of solid waste each day. Insufficient drainage and waste disposal facilities lead to the dumping of the waste and untreated sewage

into the sea. Industrial effluent, often containing toxic substances, is also a major threat to the coastal environment. In 1994, 1.6 million tons of hazardous wastes were generated in Thailand.

As Thailand gears up towards industrialisation, more pressure will be exerted on the coastal environment as more industrial estates and ports development projects are undertaken. Increased shipping activities will also bring more threats of pollution.

Sectoral Management

Like most countries, Thailand follows a sectoral approach to the management of resources, including coastal resources. There are specific agencies responsible for fishing, shipping, ports development, tourism, pollution control, and environmental planning. There is no single national agency responsible for coastal management or which has jurisdiction over both marine areas and coastal lands. For example, the Department of Fisheries manages fishery resources, while mangrove areas are under the Royal Forestry Department. Although intersectoral cooperation has always been a major objective, it is rarely achieved. It is only when conflicts in jurisdiction occur that intersectoral concerns get appropriate attention.¹⁴ Nevertheless, certain agencies play major roles in the management of the coastal zone.

The Pollution Control Department (PCD) under the Ministry of Science, Technology and Environment (MOSTE) was created in 1992 as a result of the newly updated Enhancement and Conservation of the National Environmental Quality Act (NEQA). The PCD's functions include: (a) to support the formulation of national policy and plan of environmental quality conservation and promotion in respect to pollution control; (b) to formulate emission and effluent standards; and (c) to monitor environmental quality. The PCD is a centralised agency that performs its functions all over the country. It is beset by the usual problems of lack of manpower and resources to effectively fulfil its duties.¹⁵

The Harbour Department regulates the maritime industry through registration, inspection of ships, and shipping regulation. It takes care of patrolling the seas for violations of pollution control laws. The Harbour Department participates in the evaluation of policies relating to coastal management through the various cabinet committees.¹⁶

The Office of Environmental Policy and Planning (OEPP), under the MOSTE, is the agency that administers the Environmental Impact Assessment (EIA) system. It is the lead planning agency for environmental management. It helped prepare

the national environment management plan required under the NEQA. According to Dr. Ampan Pintukanor, Chief of the OEPP, the national coastal masterplan, as part of the larger environment plan, is composed of four strategies promulgated through cabinet resolutions, including a coral reef strategy. She added that the local governments in conformity with the national plan prepare Changwat (provincial) management plans. The Changwat plan is approved by the National Environmental Board (NEB) and may be financed through the Environmental Fund created under the NEQA.¹⁷

Co-ordinating Mechanism

Thai officials think that there is no need to restructure the existing government set-up in order to achieve integration of policies or programs in the coastal zone. The change that is necessary is a re-orientation of sectoral managers to consult and co-ordinate with the other concerned sectors in cases where potential conflicts or duplication of functions can occur.

The government has formed a body, the Committee for Rehabilitation and Development of the Coastal Area (the Committee), under the Office of the Social and Economic Planning Board.¹⁸ It was launched in order to draft a marine policy. An environment group is included in the Committee and it is doing policy-oriented research on the sensitivity of the Thai coastline to development projects. The Committee is headed by the Prime Minister and includes as members the heads of the various departments directly involved in the coastal zone. The Committee is principally for planning purposes. It sets goals and guidelines to be followed by the line agencies in performing the individual functions.

Curiously, the NEQA law passed in 1992 also mandates the creation of a co-ordinating body, the NEB, also chaired by the Prime Minister. The NEB is tasked to evaluate and approve the Environment Quality Management Plan, as well as the Changwat (local) Action Plans for environment management. As a consequence of the passage of the NEQA, the government prepared a set of detailed guidelines (the environmental policy masterplan) to be followed so that all actions of government agencies would conform to the Management Plan. The masterplan contains a specific chapter on coastal management, which was largely based on the output of the Thailand Coastal Resources Management Project.

The two bodies do not appear to be related.¹⁹ The NEB looks at and manages the present situation, while the Committee is basically developing strategies for the future. The two bodies have overlapping memberships and concerns. However, the lead planning agency under the NEQA, the OEPP, is not a member of the Committee. It is said that the NEB has a broader coverage (the entire

environment) but a narrower concern (protection and conservation), while the Committee has a narrow coverage (marine policy) but broader concern (conservation as well as development programs).

Drafting of Marine Policy

Thailand does not have a national marine policy.²⁰ The government formulates policies on a project to project (or issue) basis. This has resulted in a number of conflicts. The Committee on Rehabilitation and Development of the Coastal Zone is responsible for the formulation of the policy. The various subgroups under the Committee are still conducting research that will serve as the basis of the policy.

Even as the drafting is on going, some general principles are likely to be adopted. First, participation of stakeholders will be encouraged. In the new Constitution, power has been given to the local communities that have some say in the development process. The invitation for more participation is likely a result of successes in community-based local management efforts. Fishermen's organisations, for example, have grown in strength and they have implemented successful management projects with the help of NGOs. Community stewardship of resources is increasingly being recognised. NGO participation is institutionalised even in the NEQA, which devotes several sections on NGO participation.

Another important concern of the marine policy is the international aspect.²¹ Thailand is currently actively negotiating the delimitation of boundaries with Cambodia, Vietnam, and Malaysia. In cases where no agreement can be reached as to clear boundaries, Thailand has embarked on Joint Development Agreements as an avenue of cooperation and joint utilisation and management of the marine resources.

Republic of Korea

The Republic of Korea (Korea) lies on the southern half of the Korean Peninsula. It is bounded on the east by the Sea of Japan, on the west by the Yellow Sea, on the south by the Korean Strait, and on the north by North Korea. South Korea has a coastline of about 2,413 km. It claimed a 12-nautical mile territorial sea (3 nautical miles in the Korean Strait) in 1978 and a 200-nautical mile exclusive economic zone (EEZ) in 1996. About 40% of the 45 million population live in the coastal zone.²²

Traditionally, the major activities in the coastal zone in Korea were agriculture, fishery, and mariculture. Since embarking on rapid industrialisation beginning in

the 1960s, the use of the coastal zone has diversified to include shipping and ports development. The coastal waters have also served as disposal sites for sewage and industrial effluent from urban and industrial centres. The increasing demand for land to be used for agriculture and urban development has pushed Korea to reclaim and fill-in vast tracts of wetlands and mudflats. As Korea became more prosperous, much attention was devoted to preserving the natural beauty, wildlife, and cultural heritage of the coastal areas.²³

In the past three decades, serious conflicts have erupted among competing coastal uses and activities. Urban development accompanied the rapid development of industrial sites, such as in Kwangyang City. Port cities such as Incheon and Pusan also flourished as Korea marched towards becoming a major shipping centre. Urbanisation, industrialisation, and shipping bring about pollution problems that wreak havoc on fishing and mariculture activities. Large reclamation projects resulted in the loss of critical habitats that also support the fishery sector. Under the development-oriented national policy pursued in the 1960s to the 1980s, the issues of environmental conservation received a low priority in the process of decision-making. It was only in the mid-1980s that Korea began to recognise the importance of coastal resources and embark on efforts to formulate a comprehensive management program for the coastal zone.²⁴

Evolution of an Ocean Policy

Three factors influence Korean marine policy: (a) the geopolitical situation of Korea, where it is practically a geopolitical island and a land bridge to mainland Asia; (b) the lack of land area and natural resources, which therefore makes the maritime jurisdictional areas critically important; and (c) the socio-economic agenda which puts a high regard on marine policy.²⁵

Over the last five decades, Korea's marine policy has evolved in response to unique issues, events and political processes. The evolution of this policy may be classified into three stages of development:²⁶

- 1) the rudimentary stage (1945-1961) – emphasised coastal fisheries, settlement of marine territorial disputes with Japan, and maritime defence against potential invasion of North Korea or sporadic infiltration by sea;
- 2) the formative stage (1962-1980) – emphasised strengthening oceanographic research capabilities, promotion of ocean industry, modernisation of the fishing industry, and

establishment of the legal regime concerning the continental shelf; and

- 3) the internationalisation stage (1982-present) – emphasised expansion of the national interests from coastal seas to pelagic oceans, environmental concerns in the coastal areas, government reforms on deregulation, liberalisation and globalisation.

The institutional or governance structure also evolved in order to be more responsive to the changing policy. Three phases may also be identified:²⁷

- 1) first phase – creation of the Ministry of Maritime Affairs to bring together the many fragmented programmes, later replaced by the Maritime Administration (1955-1961) under the Ministry of Commerce and Industry. The Administration was abolished and subsequently replaced by several agencies such as the Fisheries Administration (1966) and the Ports Administration (1976);
- 2) second phase – emphasised the need for high-level coordination to harmonise the disparate goals and programmes of existing agencies, but also to gain more authority to raise the profile of marine affairs. During this period, the Korean National Assembly enacted 66 laws relating to marine affairs. Seventeen government committees and commissions under various ministries operated to resolve inter-ministerial conflicts. The enactment of the Marine Development Basic Act (MDBA) in 1987 greatly simplified matters by creating the Marine Development Committee (MDC) chaired by the Prime Minister. However, the MDC had its shortcomings among which were being top-heavy, the presence of turf wars, and the lack of an operating arm; and
- 3) third phase – search for a more influential agency that focused on centralisation rather than coordination. This agency, the Ministry of Maritime Affairs and Fisheries (MOMAF), was created in August 1996, merging the Maritime and Ports Administration, the Fisheries Administration, the Maritime Police Administration, and other marine-related authorities previously divided into 10 government organisations.

Functions of the MOMAF²⁸

The MOMAF is recognised as a “superagency” made possible because of the strong political will of then President Kim Young-Sam to effect structural reforms to effectively respond to the changing global environment. The main functions of the MOMAF include: (1) the development and integration of marine policy; (2) the development of shipping industries and safety of ships; (3) port development and operation; (4) the promotion and development of fisheries; (5) marine science and technology research; and (6) the conservation of the marine environment. The extent of the powers and functions of the MOMAF is so wide that it is perhaps one of the most powerful superagencies existing in Korea today.

The MOMAF has identified the following six objectives:

- 1) to establish a plan for the “Ocean Century”, expand global maritime economic territory, and strengthen management capability;
- 2) to apply world-class technology to ocean science and industry, and contribute to responsible use of the world’s oceans;
- 3) to transform maritime logistics from a high-cost/low-efficiency proposition to a low-cost/high-efficiency structure through the development of Kadukto and Kwangyang ports into two cargo-transport hubs;
- 4) to shift from hunting-type fishing to mariculture, diversify distant water fishing grounds through enhancement of fishery diplomacy and establish economically vital fishing villages;
- 5) to maintain safe and clean seas through prescriptive measures and contingency plans; and
- 6) to promote among citizens a new and abiding awareness regarding the ocean.

Each objective has been translated into a corresponding policy issue. Each main policy issue, in turn, has a corresponding action plan. Thus, under the first

objective/issue, the MOMAF intends to push for the proclamation of an EEZ and prepare for territorial disputes with Japan and China. Under the fourth objective/issue, the MOMAF will push for the rehabilitation of existing fishing villages in order to spark a return from urbanism to those villages. Rapid industrialisation has lured traditional fishing families to move to the industry sector. Fewer fishermen are engaged in fishing and the declining trend will continue. This is also due to the fact that fishing technology has advanced considerably and fewer fishermen are needed to catch fish.²⁹ Under the fifth objective/issue, the MOMAF intends to introduce an ICZM system.

The MOMAF has served as catalyst for expediting processes to address pressing issues in Korea's marine policy. The MOMAF is managing to achieve accord among the agencies that have been transferred under it. This has been attributed to the formidable implementing powers that it possesses as well as to the dynamism of its Minister.

Drafting of the Coastal Zone Management Law

At present, the MOMAF chiefly implements the Reclamation of Public Waters Act, formerly a responsibility of the Ministry of Construction and Transport (MOCT). However, its immediate goal is to formulate and actively promote a proposed Coastal Zone Management Act, which embodies ICM principles. A new division on Coastal Zone Management was formed two months after the MOMAF's creation to specifically deal with ICM policy and its implementation.³⁰

The ICM approach has been pilot-tested in Chinhae Bay since 1994.³¹ Chinhae Bay is one of the estuarine systems in Korea that is most heavily impacted by human development, as it hosts major heavy industry, port, and urban centres. It is also known for its intensive mariculture activities. The Korean Ocean Research and Development Institute (KORDI) initiated ICM efforts to formulate clear goals and plans of action as well as involve government agencies, especially local governments, in the planning and implementation process. A critical output of the project is the Chinhae Bay Integrated Management Plan. A Local Advisory Committee has been created to enhance communication among the KORDI, local scientists, and local governments. The emphasis of the project is to optimise the use of scientific data and expertise in integrated management. The Chinhae Bay Project was initiated before the MOMAF's creation and before any national integrated management plan or law was formulated. Therefore, it serves as a valuable model for consideration in the national plan or law.

The MOMAF hopes that by 1998 or soon after, the proposed Coastal Management Act can be enacted into law.³² The latest draft of the proposal

contains eight main sections.³³ Section 1 contains general provisions on the purpose of the law and principles of coastal management and contains basic definitions. For instance, the term "coastal zone" is defined to include a sea component extending 12 nautical miles off shore and a landward component extending about 500 meters inland.³⁴ This section also provides for the conduct of a coastal zone survey.

Section 2 is the heart of the bill and relates to the preparation of the ICM plan. The MOMAF is required to consult with the provincial and city governments in the preparation of the plan. The Coastal Management Council reviews the contents of the ICM plan. At present, the plan is to have a separate coastal use zoning system. However, there is strong resistance from the MOCT. It wants to downplay the coastal use zoning function of the MOMAF and integrate it with the national land-use plan under the MOCT, which has been in existence for 30 years. The MOMAF proposed, as an alternative, to strengthen the coastal management plan instead of insisting on the coastal zoning function. The details of this section have yet to be finalised. Local governments are also mandated to formulate their own ICM plan, which provides for details of on coastal use and activities.

Section 3 provides for a two-tiered classification of coastal space: at the national level, the coastal zone will generally be classified to multiple-use, buffer, and conservation areas. At the local level, local governments will designate specific zones for ports, recreation, fisheries, and resource development. However, because of the strong opposition of the MOCT, coastal use zoning may just end up as part of the general land-use planning system.

Section 4, like a similar provision in the US Coastal Zone Management Act, proposes coastal use enhancement projects, which shall complement the restrictive zoning regulations. Enhancement projects call for more positive actions to restore and improve the coastal environment situation. Coastal enhancement projects are aimed to protect of the shoreline from natural hazards, provide waterfront area with public access, improve the coastal environment and restore degraded areas. Funding of the coastal enhancement projects will come from the budgets of the management authorities (the MOMAF or local governments). Under Section 27, the management authority can assess special fees or taxes for persons who benefit from the enhancement. Under Section 28, polluters will also pay for the damage they cause to the environment.

Section 5 aims to repeal the existing Public Waters Management Act passed in the 1960s. This section shall govern the utilisation and management of public waters consisting mainly of coastal waters. As a consequence, the MOMAF will now manage public waters instead of the MOCT.

Section 6 provides for the creation of Coastal Management Councils at the national and local levels. Originally, the national Council was to be under the MOMAF. However, an alternative proposal is to have the council under the Prime Minister. The Council shall review the management plan, amend the plan, designate coastal enhancement areas, and review other coastal management regulations. While the details are not yet final, the Council as presently envisioned shall have vice-ministerial level members, to be assisted by working committees. The local councils shall be under the local governments, and not under the national council. The Councils will involve stakeholders from government sectors and academe. However, these councils will be review/recommending bodies only. Under the Korean system, councils do not have decision-making powers. The National Coastal Management Council will be the co-ordinating body to link up with other government agencies.

Section 7 provides for procedural matters, while Section 8 provides for penalties of up to US\$8,000 and imprisonment of up to six months for violations of the Act. For instance, Section 40 penalises throwing or discharging of pollutants. Under Section 50, quarrying, mining, and destruction of wildlife are penalised.

The proposed Coastal Management Law will not replace existing laws on fisheries, ports, development, or conservation. It will merely provide a framework for ICM implementation. In the enforcement of provisions on prohibited acts, the law will only apply to the coastal areas or declared zones. The clear delineation of territorial jurisdiction will help avoid overlapping of operations of various laws. The law will also spell out the four main functions that the MOMAF will play in the coastal zone: (a) allocation of coastal space into development and conservation areas; (b) determining the types of development and avoiding multiple-use conflicts; (c) control of human activities through restriction, and encouraging other enhancement activities; and (d) monitoring of environmental quality.³⁵

Several difficulties were encountered in the preparation of the proposed law. One concern reveals that there are not enough resources to review local plans. The idea then was just to set guidelines for the local governments to follow. Another problem was the conflict with the MOCT and the Ministry of Environment. The two agencies are still smarting because the MOMAF is perceived to have grabbed vital powers and functions from them. In the implementation of the laws, no problem is foreseen in coastal waters because the MOMAF has sole control. However, in coastal lands, the MOCT is resisting the proposal of the MOMAF to control the area up to 500 meters inland. The proposed law will hopefully clarify the roles of each agency. Another potential area of conflict is with local governments. They are not receptive to the proposal because they want full control of the coastal zone. They see the law as blocking

their development plans. Enforcement of coastal regulations by local governments is, however, a problem, with lack of capacity being a limiting factor. There are no specific provisions on monitoring and funding, but the MOMAF is strengthening coastal waters monitoring and funding from the regular budget will be forthcoming once the law is passed.

The MOMAF has a working committee drafting the law drawing members from three fields: government (the MOMAF), marine policy researchers (the KMI), and social scientists. A process of consultation with other ministries, local governments, and environmental NGOs is being undertaken. At present, the proposed law is under ministerial review and local government consultation. After its endorsement by the various agencies to the legislature, the National Assembly will conduct public hearings and finally approve the bill.

ASSESSMENT OF THE NATIONAL EXPERIENCES

Policy

Despite the importance of the seas, little attention is given to assessing the need for and formulating a national ocean policy. In many instances, the driving forces that push integrated policy-formulation are: (a) continued degradation of the coastal environment; (b) intensifying conflicts among the uses of resources; and (c) international issues including border conflicts.

There is little doubt that integration of policy, institutions, and plans is needed to address the problems in the coastal areas. Even so, in many countries, coastal zone management has evolved in isolation from the mainstream of national development processes. There is a need to include ICM in the national development planning.³⁶ Such an approach has been applied in the Philippines where coastal issues are tackled in the Regional Development Councils as part of the general planning processes.³⁷

However, it is unreasonable to expect governments to address environmental problems in a holistic manner, no matter how compelling the need or desirability to do so.³⁸ Administrative jurisdictions are typically narrow in range and bureaucracies are highly protective of their core responsibilities. A holistic viewpoint would conflict with these traits because such a perspective requires broad and far reaching jurisdictional responsibilities as well as infringement of bureaucratic jurisdictions. The Lingayen Gulf (Philippines) is an example where local governments strongly resisted the creation of the LGCAMC because it would diminish their authority. Cooperation among different organisations is possible (but not likely) for effective collaboration is premised on agreement on overall goals. Such agreement is rare, even among like-minded organisations and those with related tasks. This is a sobering note that should always be kept in mind.³⁹

Aside from the issue of integration as a general approach, a major issue that needs to be addressed in national marine policies is the delimitation of maritime boundaries. Both Thailand and Korea are actively pursuing and preparing for the negotiations for delimitation. Indonesia, the largest archipelago straddling between two oceans and bridging two continents, has also focused attention on delimitation issues.⁴⁰

Institutional Arrangements

Such widespread fragmentation in national policy-making structures and processes for the ocean seems to have resulted from the fact that patterns of coastal use have largely developed in isolation of each other. Different technologies have given rise to separate networks, communities, and ways of thinking and doing. These communities have matured into fully autonomous sectors with weak or no links between them. The rapid rate of technological change, when human use of neritic zones is multiplying swiftly and when different uses begin to generate adverse impacts for each other, has resulted in the present highly dysfunctional system.⁴¹

Fragmented management is a common problem in the Philippines, Thailand, and Korea. In Malaysia, a high degree of fragmentation in administrative and legal mechanisms is apparent from the fact that there are at least 14 ministries and 10 federal departments responsible for marine related functions.⁴²

Some countries have adopted co-ordinating mechanisms to achieve harmony in the planning and implementation of coastal management programs. In Thailand, there is strong resistance to restructure the present institutional arrangement to achieve integration. Thailand has chosen to retain sectoral control and at the same time set up a high-level co-ordinating mechanism for planning purposes. Implementation of the integrated plans shall be done through the sectoral agencies.

In Australia, there is no single ocean policy but a multiplicity of policies reflecting the concerns of each of the nine Australian governments. It is therefore imperative to have a mechanism to co-ordinate the formulation and implementation of the different policies to ensure harmony. At the national (Commonwealth) level, it is proposed that a National Coastal Advisory Committee (NCAC) be formed, composed of representatives of top national community, conservation, industry, research bodies, indigenous peoples, the National Landcare Advisory Committee, and local governments. In addition, two other bodies are to be formed to ensure policy coordination (integration) both vertically and horizontally. These bodies are the Commonwealth Coastal Co-ordinating Committee, which will provide the mechanisms to co-ordinate and integrate activities of the numerous Commonwealth agencies, and the Intergovernmental Technical Committee, which will ensure that the Commonwealth activities are integrated with activities managed by other spheres

of government.⁴³ In Western Australia, one of the nine governments, a two-tiered coastal council of 10 members with an executive committee and supporting committees was recommended. The original proposal of a single-tier committee with 19 members was found to be unworkable.⁴⁴

Korea has embarked on a different approach. It created a superagency that concentrates all powers over the major coastal resources and activities. The MOMAF determines goals, plans of actions and does the actual implementation of coastal management programs. While local governments have the capacity to formulate their own local ICM plans, the MOMAF still remains a powerful watchdog. There is resistance from other agencies. Such resistance can lead to non-cooperation and even outright opposition, if left unchecked.

In the Philippines, despite the absence of a national ICM law, existing laws recognise the LGU as the focal point for integrated management. Powers have largely been devolved to LGUs. This is a tacit admission that the national government is unable to effect integration at the national level or implement it at the local level. The role of the national government becomes adviser and provider of technical support to the LGUs. It has been suggested that the prioritisation given to local governments in the application of ICM system is an important workable strategy in China.⁴⁵

Devolution to local governments of the primary function of coastal management has certain advantages. Local communities are presumed to be more knowledgeable of the problems that beset them. They are also in the best position to determine what development direction and pace they would like to adopt. However, there are apprehensions that local management alone tends to be parochial, where only local interests are addressed, oblivious to the larger national goals.

Implementation/Enforcement

There are four key stages in the translation of policy into operational management techniques "on the ground":⁴⁶ (a) identification of management options; (b) evaluation of the options; (c) implementation of the management strategies; and (d) evaluation of the management performance.

Experience suggests that solving the major problems posed by anarchy in the development process and degradation of coastal ecosystems is not merely a matter of selecting and applying the best technical tools (i.e., zoning, siting standards, impact assessment) but a highly complex challenge of governance that requires modifying entrenched patterns of behaviour on accepted norms. There is a need to build well-organized and strong constituencies at many levels within a society; otherwise, the

result will only be more paper, much of it of excellent technical quality, and increased frustration among professionals involved in the endeavour.⁴⁷

Olsen suggests the following guidelines for ICM implementation:

- 1) Adopt an incremental approach to the design, funding and implementation of the programs;
- 2) Require an overt experimental design—with clearly stated goals, process and outcome indicators and assessment procedure;
- 3) Adopt a two-track strategy where “governance” experiments are simultaneously conducted at local and national levels to increase chances of replication in other areas;
- 4) Work to build constituencies at all levels by selecting issues with important implications to the communities and involvement of stakeholders in all steps in the policy process;
- 5) Build a policy-relevant research agenda into the programs; and
- 6) Build a capacity for effective management at all levels through trainings.⁴⁸

These guidelines are often included in policy, but are rarely translated into action. National laws and action plans often want everything done overnight. An ideal policy or law would provide for phases or cycles of issue-identification, options-generation, implementation, and assessment. The complexity of issues tackled should be coupled with the capability to complete the cycle.

Monitoring and Assessment

Laws and policies almost always interpret monitoring and assessment as processes to check the state of the environment. However, an even more important aspect of monitoring and assessment has to do with the effectiveness of ICM policy and programs.

There is little interest in honestly assessing effectiveness of programs because the implementers do not want to see a negative result. The U.S. Coastal Zone Management Act (Section 132) appears to be the only law creating an ICZM arrangement that requires program evaluation on a periodic basis.⁴⁹ A regular evaluation procedure is especially helpful if the implementation of the ICM program is left to a subnational unit (state, region, province, or city).

Sustainable Financing

Coastal management plans are invariably tied to economic development in two ways. First, economic development is one of two goals of integrated management and second, economic development provides the money for the implementation of the management plans.

Countries like the Philippines and Thailand have received substantial international financial and technical assistance to develop ICM systems. Korea, on the other hand, has relied solely on local finances. However, with the economic crisis sweeping the nations in the region, it will be difficult to allocate much of the scarce government funds to coastal management programs.

In Korea, the proposed ICM bill has no provision appropriating money to implement the law. The reason given is that a law with an appropriations clause will be difficult to pass because there will be a long debate on the availability and sufficiency of the funds requested. This reasoning is likely to be true also in other jurisdictions. The alternative is to include the costs of ICM in the regular budgets of the implementing agency. There is no assurance, however, that the money will be allocated.

In the Philippines, each Department is given a budgetary limit—a slice of a fixed-size pie. The approval of new activities will not increase the limit; instead, more activities will share the same slice of pie. In July 1998, the Philippine government announced that it would defer the implementation of several laws because of lack of funds. In Thailand, the NEQA provides for an Environment Fund to support the Changwat management plans. The Fund will partly be sourced from fees and charges imposed by the law. Since most of the fee systems are not yet in place, not much money has accrued to the Fund.

Stakeholder Participation

Involvement of stakeholders in the policy-formulation and implementation process will result in fewer conflicts and better management of resources. In the Philippines, there are many community-based efforts that have proven successful in

resource management. However, these efforts cannot be sustained if the communities remain on their own. They need to link up with external systems and groups because they are intrinsically connected with these larger groups. In addition, community-based systems need a clear and conducive policy environment in order to be fully effective.⁵⁰

There is an increasing commitment by governments in Southeast Asia to policies and programs of decentralisation and community-based management and co-management. The shift in focus will require new legal, administrative, and institutional arrangements at both the national and community levels to complement contemporary political, economic, social, and cultural structures.⁵¹ Thailand is moving towards this direction. In Korea, NGO-initiated programs are few; however, active involvement of marine policy researchers who pushed for changes in marine policy, local studies, as well as developments in the international arena, made government aware of the problem.

CONCLUSION

There is no country in the East Asian Region that addresses coastal management in a holistic manner. Most of the countries have yet to formulate a national coastal or marine policy. The need for integration is well recognised but the achievement of integration remains elusive. The closest is the Republic of Korea, which has succeeded in integrating key agencies under one institution. Others, like Thailand, rely on co-ordinating committees to harmonise policies and programs. Still others, namely the Philippines and China, have opted to grant the local governments the discretion to adopt integrated management. However, institutional integration alone is insufficient. Korea bears watching as it pushes for the enactment of an ICM law that will form the basis for integrated management.

NOTES

¹ Sorensen, Jens. The International Proliferation of Integrated Coastal Management Efforts. *Ocean and Coastal Management* 21: 45-80, 1993.

² UNCED, Agenda 21. United Nations Conference on Environment and Development, Rio de Janeiro, 1992.

³ OECD, *Coastal Zone Management: Integrated Policies*. Organization for Economic Cooperation and Development – Environment Directorate, Paris, 1993, 126 pp.

⁴ Vallega, Adalberto. A Conceptual Approach to Integrated Coastal Management. *Ocean and Coastal Management* 21: 149-162, 1993.

⁵ PCSD. *A Primer on Philippine Agenda 21*. Philippine Council for Sustainable Development. Manila 1995.

⁶ Foreign Service Institute. *National Marine Policy*. Department of Foreign Affairs, Manila, 1995.

⁷ La Viña, Antonio. *Management of Fisheries, Coastal Resources and the Coastal Environment in the Philippines*. (in press)

⁸ This includes control over fisheries resources, waste management, reclamation, enforcement of laws on pollution control, small-scale mining and environmental protection.

⁹ A study conducted by IESAM-UPLB notes that further clarification is required as to the exact extent of LGU jurisdiction over marine resources and the need for local legal instruments (ordinances) to augment the general and sometimes vague provisions of the LGC on coastal management powers and functions. See Abregana, Betty, et al. *Legal Challenges for Local Management of Marine Resources: A Philippine Case Study*. Institute of Environmental Science and Management, University of the Philippines at Los Baños, College, Laguna, Philippines, 1996, 113 pp.

¹⁰ The Local Government Code, Section 3 (f) provides: "Local governments may group themselves, consolidate or coordinate their efforts, services and resources for purposes commonly beneficial to them." The procedure for such cooperative arrangements is found in Section 33 which states that LGUs:

may, through appropriate ordinances, group themselves, consolidate or coordinate their efforts, services and resources for purposes commonly beneficial to them. In support of sound undertakings, the LGUs involved may, upon approval by the *Sanggunian* concerned after a public hearing conducted for the purposes, contribute funds, real estate, equipment, and other kinds of property and appoint or assign personnel under such terms and conditions as may be agreed upon by the participating local units through Memoranda of Agreement.

¹¹ A detailed discussion on the Batangas Bay experience is contained in the technical paper entitled ICM Implementation at the Local Level: The Batangas Bay and Xiamen Experience, a companion output of this project.

¹² Tulaue-McManus, Liana and Chua Thia Eng. The Lingayen Gulf (Philippines) Experience: If we have to do it again. *Ocean and Coastal Management* 37(2):217-232, 1997.

¹³ Menasveta, D. *Fisheries Management Frameworks of the Countries Bordering the South China Sea*. FAO Regional Office for Asia and the Pacific, Bangkok, 1997, 151 pp. (Appendix 2.6).

¹⁴ Kiravanich, P. and S. Bunpapong. Coastal Area Management Planning: Thailand's Experience. p. 215-229. In: *Coastal Area Management in Southeast Asia: policies, management strategies and case studies*. TE Chua and D. Pauly eds. ICLARM Conference Proceedings No. 19, 254 pp. ICLARM, Manila, 1989.

¹⁵ Interview with Pollution Control Department officials: Dr. Watana Sukasem, Dr. Vithet Srinetr. Bangkok.

¹⁶ Interview with Ms. Kannegar Boontanon and Mr. Pakorn Prasertwong, Harbour Department, Bangkok.

¹⁷ Interview with Dr. Ampan Pintukanor, Chief, Office of Environmental Policy and Planning, Ministry of Science, Technology and Environment, Bangkok.

¹⁸ Interview with Dr. Suraphol Sudara, Director, Department of Marine Science, Chulalongkorn University and member of the Committee on Rehabilitation and Development of Coastal Areas, Bangkok.

¹⁹ *Id.*

²⁰ *Id.*

²¹ Interview with SEAPOL officials: Dr. Chumphorn Pachusanond, Admiral Thanom Charoenlaph and Dr. Ankana Sirivivatnanon, Southeast Asian Program for Ocean Law, Policy and Management, Bangkok.

²² Cicin-Sain, Biliiana and Robert Knecht. *Integrated Coastal and Ocean Management, Concepts and Practices*. Island Press, Washington, D.C., 1998, p. 340.

²³ Huh, Hyung-Tack and Ji-Hyun Lee. Republic of Korea. In: *Coastal Management in the Asia-Pacific Region: Issues and Approaches*. Hotta, Kenji and Ian Dutton, eds. Japan International Marine Science and Technology Federation, Tokyo, 1995.

²⁴ Lee, Jihyun, et al. Coastal Zone of Korea: Status and Prospects. In: *International Perspectives on Coastal Ocean Space Utilization, Proceedings from the Second International Symposium on Coastal Ocean Space Utilization, April 2-4, 1991, Long Beach, California*. Grifman, Phyllis and James Fawcett, eds. Sea Grant, Los Angeles, California, 1993.

²⁵ Hong, Seoung-Yong. Marine Policy in the Republic of Korea. *Marine Policy* 19 (2): 97-113, 1995.

²⁶ Hong, Seoung-Yong. A Framework for Emerging New Marine Policy: The Korean Experience. *Ocean and Coastal Management* 25: 77-101, 1994.

²⁷ Hong, Seoung-Yong and Young-Tae Chang. Integrated Coastal Management and the Advent of New Ocean Governance in Korea: Strategies for Increasing the Probability of Success. *The International Journal of Marine and Coastal Law* 12 (2): 141-161, 1997.

²⁸ *Id.*

²⁹ Interview with Dr. Seong-Kwae Park, Division of Fisheries Policy, Korean Maritime Institute, Seoul.

³⁰ Interview with Dr. Sang-Bae Han, Chief, Division of Coastal Zone Management, MOMAF, Seoul.

³¹ Lee, Jihyun. Policy Issues and Management Framework of Chinhae Bay, Republic of Korea. *Ocean and Coastal Management* (in press).

³² The Coastal Management Act was approved by the Korean Legislature on December 24, 1998. Ed.

³³ Interview with officials of the Marine Policy Division of the Korean Maritime Institute which is spearheading the drafting of the proposed coastal management law, particularly Dr. Ji Hyun Lee, Dr. Won Kap Lee, Dr. Jin Sook Yoon and Mr. Jung Ho Nam, KMI, Seoul.

³⁴ Under the Coastal Management Act as passed, the term *coastal zone* is defined to include a sea component extending 12 nautical miles off shore from the high water mark and a landward component extending from 500 to 1000 meters inland from the high water mark. The maximum of 1000 meters inland is established for areas that can be significantly affected by land-based activities, i.e., industrial complexes, trade ports, coastal port areas and fishing port areas managed by the National Government. Ed.

³⁵ Interview with Dr. Sang-Bae Han. See note 30.

³⁶ Vallejo, Stella Maris. The Integration of Coastal Zone Management into National Development Planning. *Ocean and Coastal Management* 21: 163-182, 1993.

³⁷ Alabanza, Joseph. A Philippine Approach to the Integration of Coastal Resource Management into Regional Development Planning. p. 129-138. In: *Coastal Area Management in Southeast Asia: Policies, Management Strategies and Case Studies*. TE Chua and D. Pauly, eds. ICLARM Conference Proceedings No. 19, 254 pp. ICLARM, Manila, 1989.

³⁸ Tobin, R.J. Legal and Organizational Considerations in the Management of Coastal Areas. In: *Integrative Framework and Methods for Coastal Area Management*. TE Chua and LF Scura, eds. ICLARM Conference Proceedings No. 37, ICLARM, Manila, 1992.

³⁹ *Id.*

⁴⁰ Agoes, Etty. Current Issues of Marine and Coastal Affairs in Indonesia. *International Journal of Marine and Coastal Law* 12 (2): 201-224, 1997.

⁴¹ Miles, Edward. Future Challenges in Ocean Management: Towards Integrated National Ocean Policy. In: *Ocean Management in Global Change*. Paolo Fabbri, ed. Elsevier Applied Science, New York, 1992, pp. 595-620.

⁴² Hamzah, B. and Jenny Wong. Current Issues and Management Framework of Chinhae Bay, Republic of Korea. *Ocean and Coastal Management* (in press).

⁴³ Howard, Marcus. Institutional Framework for Australian Ocean and Coastal Management. *Ocean and Coastal Management* 33 (1-3): 19-39, 1996.

⁴⁴ Kay, R. et al. Reforming Coastal Management in Western Australia. *Ocean and Coastal Management* 35 (1): 1-29, 1997.

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⁴⁶ Pickering, Helen. Practical Coastal Zone Management, Alternatives and Strategies. *Marine Policy* 18 (5): 393-406, 1994.

⁴⁷ Olsen, S.B. Will Integrated Coastal Management Programs be Sustainable: The Constituency Problem. *Ocean and Coastal Management* 21: 201-225, 1993.

⁴⁸ *Id.*

⁴⁹ Sorensen, J. See note 1.

⁵⁰ Rivera, R. and G. Newkirk. Power from the People: A Documentation of Non-Governmental Organizations' Experience in Community-Based Coastal Resources Management in the Philippines. *Ocean and Coastal Management* 36 (1-3): 73-95, 1997.

⁵¹ Pomeroy, R. Community-based and Co-management Institutions for Sustainable Coastal Fisheries Management in Southeast Asia. *Ocean and Coastal Management* 27 (3): 143-162, 1995.

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ICM IMPLEMENTATION AT THE LOCAL LEVEL: THE BATANGAS BAY AND XIAMEN EXPERIENCE

INTRODUCTION

This paper discusses coastal uses in general and the progressive policy requirements to implement integrated coastal management (ICM). It focuses on the experiences of Batangas Bay, Philippines and Xiamen, China in implementing ICM at the local level. Both areas were chosen as demonstration sites of the GEF/UNDP/IMO¹ Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas (MPP-EAS). ICM is applied in these demonstration sites for effective prevention, control, and mitigation of marine pollution.

THE EAST ASIAN REGION

The East Asian Region is composed of the southeastern part of continental Asia and numerous islands of various sizes, most of which are coral or volcanic, surrounded by major water bodies including, among others, the Malacca Strait, South China Sea, Indian Ocean, Gulf of Thailand, Java Sea, and Pacific Ocean.

The seas of East Asia are approximately 5.9 million km² in total area, with a coastline extending up to 150,000 km. The East Asian Seas consist of five large marine ecosystems that are known for their rich biodiversity. In addition, the East Asian Seas serve as important routes for international navigation. The region is the hub of maritime trade, with nine of the 20 largest container ports clustered within the shipping corridor between Singapore and Japan. (GEF/UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas, *Pollution Prevention and Management in the East Asian Seas, A Paradigm Shift in Concept, Approach and Methodology*, 1998)

Singapore is the busiest port in the world in terms of shipping tonnage. In 1997, vessel arrivals totalled 130,333 with shipping tonnage of about 808.3 million gross tons. There are about 800 ships in port at any one time. (MPA, 1996; 1997a)

¹ *Global Environment Facility/United Nations Development Programme/International Maritime Organisation.*

The Malacca Straits is of vital importance to both the littoral states and major trading countries in the world. It is the world's second busiest waterway after the English Channel, with an estimated 274 vessels of all types passing through it daily. It provides the shortest and most economical trade route between the Indian Ocean and the South China Sea. It is an important international sealane that plays a key role to the traffic of more than 29 million "ten-foot equivalent units" (TEUs) or standard shipping containers of cargo. It is also an important route for oil tankers. On average, 98 to 100 tankers carrying around seven million barrels of oil cruise the Straits daily. Rapid economic development in the East Asian Region during the last two decades has resulted in a substantial increase in shipping traffic that will likely continue at an even greater pace in the future. (Malacca Straits Environmental Profile, 1995)

The marine and coastal ecosystems provide a major resource base to the Region's economies. The coastlines have always been centres of economic growth and industrialisation. Thus, settlement in these areas is an inevitable consequence. The East Asian Region has the world's largest population numbering about 1.8 billion people, 60% of which live in the coastal areas. Three hundred million people currently live in coastal urban centres of the region. Many more live in coastal rural areas, more than half are women and children, largely depending on the sea for food and employment.

The East Asian Seas produce 40% of the world's fish catch and support one-third of the world's coral reefs and mangroves. It is upon these resources that the region's population depends on for food and employment.

Poverty in these areas, whether urban or rural, remains high. Poor people are often both the victims and agents of coastal and marine environment degradation. As victims, they lack access to clean water supplies and proper sanitation facilities. They are exposed to various environmental pollutants and are helpless as their primary source of subsistence is appropriated and degraded. As agents, they clear land of the very vegetation that prevents erosion. They extract fish in overexploited fishing areas, employ destructive fishing methods, and destroy marine habitats for short-term economic gain. (Timpson, 1996, in Sustainable Financing Mechanisms: Public Sector-Private Sector Partnership)

COASTAL ZONE AND COASTAL RESOURCES

The coastal zone is the band of dry land and adjacent ocean space (water and submerged land) in which land ecology and use directly affect ocean space ecology, and vice versa. The coastal zone is a band of variable width which borders the continents, the inland seas, and Great Lakes. Functionally, it is the broad interface between land and water where

production, consumption, and exchange processes occur at high rates of intensity. Ecologically, it is an area of dynamic biogeochemical activity but with limited capacity for supporting various forms of human use. Geographically, the landward boundary of the coastal zone is necessarily vague. The oceans may affect climate far inland from the sea. Ocean salt penetrates estuaries to various extents, depending largely upon geometry of the estuary and river flow, and the ocean tides may extend even farther upstream than the salt penetration. Pollutants added even to the freshwater part of a river ultimately reach the sea after passing through the estuary. (Ketchum, 1972 in Sorensen, et al., 1984)

Coastal areas have valuable natural endowments that make them suitable for various kinds of uses and activities. They are a source of livelihood to most people, a means of transportation for communities and industries, a breeding ground for wildlife, and a show window of the country's natural beauty.

Coastal resources compose the living and non-living components of the coastal zone. A coastal resource is usually defined as a natural—often renewable—commodity, the existence of which depends on the coast, or the commodity's value(s) to society appreciably enhanced by its location within the coastal zone. (Sorensen, et al., 1984)

COASTAL USES AND MANAGEMENT ISSUES IN GENERAL

Coastal use is defined as the utilisation of coastal resources for economic, aesthetic, recreational, scientific, or educational purposes. Use may either be consumptive or non-consumptive. One of the foundations of most integrated coastal resources management programs is the distinction between coastal dependent uses and non-coastal dependent uses. A coastal dependent use requires an immediate coastal site to be able to function at all. Examples are fishing, mariculture, port facilities, offshore oil extraction, boat works, and marinas. An example of a coastal dependent use would be residential development along the coastal area. Coastal dependent uses should not be pre-empted or precluded from shoreline or offshore location by non-coastal dependent uses. (*Id.*)

Coastal use may be artificially grouped into land and sea uses, although by the nature of the coastal zone as an interface, most uses of the resources embrace both land and sea.

Aldo Chircop (1993) broadly classified sea or ocean uses into resource use and non-resource use (Figure 1). He further classified resource use into extractive use

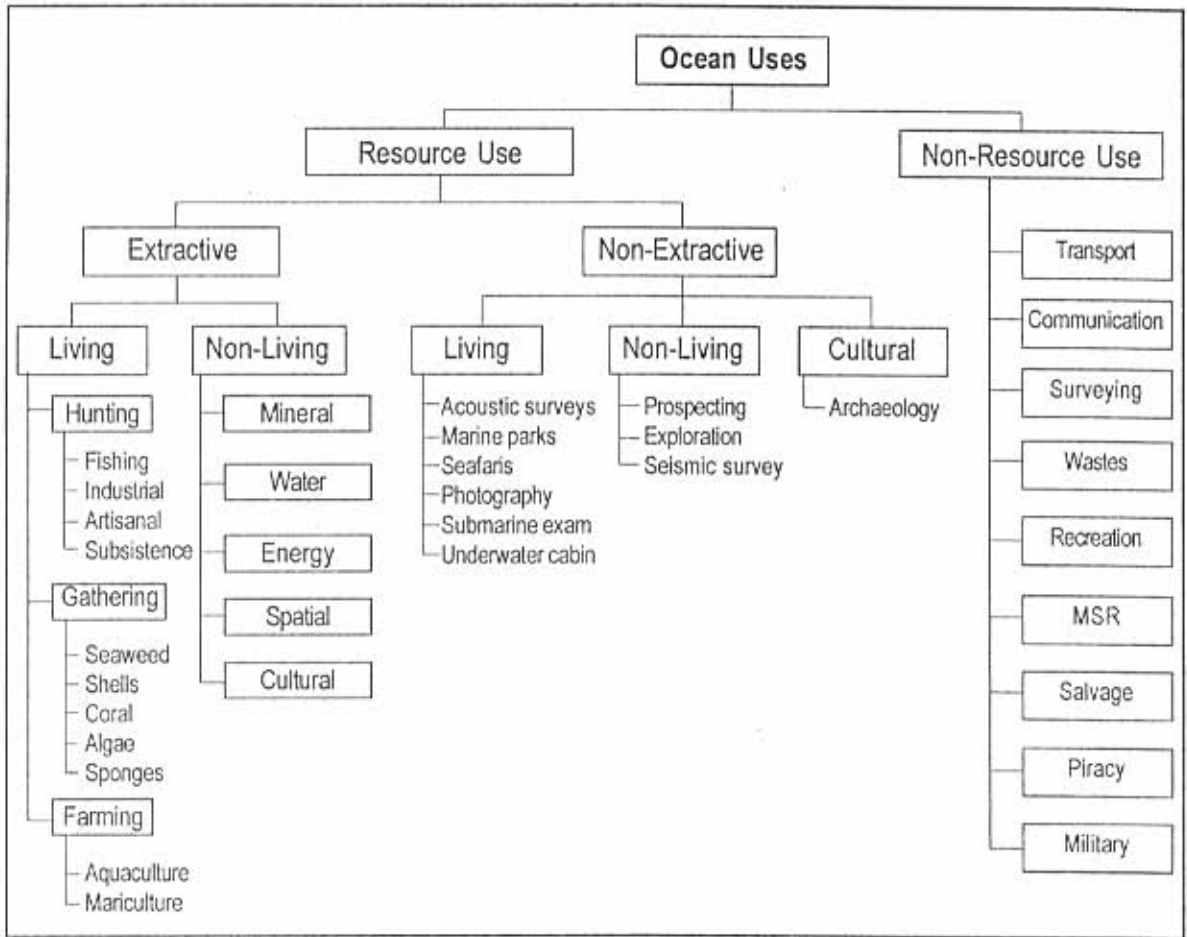


Figure 1. Chircop's Classification of Sea or Ocean Uses.

and non-extractive use. Under "extractive use", he made a distinction between living and non-living resources. "Extractive use of living resource" covers those activities that derive live marine resources from the coastal ecosystem (e.g., fishing, aquaculture, mariculture, and gathering).

On the other hand, "extractive use of non-living resource" refers to extraction of mineral, water or energy, or use of space, or use for cultural or scientific purposes. The most common activity of this type is that which utilises sea space. Dredging, land reclamation, building of tunnels, bridges, causeways, and dams qualify under this classification. Portions of the ocean space are lost to structures and projects, thereby contributing to the reduction in sea area.

Regarding "non-extractive resource" uses, Chircop refers to activities such as surveying, prospecting, and exploration. In these types of activities, the coastal area and everything it contains are simply observed and measured, generally for scientific and data gathering purposes.

Non-resource use is the utilisation of the sea without consuming or diminishing the quantity of any coastal resource. Chircop's use of the term "non-resource use" is seemingly inappropriate. In whatever way one views the activities listed thereunder (e.g., transportation, disposal of waste, tourism, etc.), they still qualify as "resource-use". Although nothing material is taken from the sea, these activities still make use of the coastal resources.

The coastal area accommodates numerous outdoor activities such as diving, boat riding, swimming, and surfing. These activities may only be enjoyed in coastal areas, thus, attract tourists to these areas for purposes of recreation. Tourism, however, requires high environmental amenity and access to infrastructure. As a result, the aesthetic quality of the coastal area and the quality of the environment are often sacrificed.

One of the less desirable uses of the coastal area is as a receptacle or a dumping ground of waste. Domestic wastewater, industrial effluents, solid waste, and sewage are being indiscriminately discharged from human settlements, industrial establishments, and ships plying the ocean. These discharges fatally affect marine life as well as water quality, proving to be detrimental to other coastal resource users.

Towards the landward side of the coastal zone, the dominant uses are for agriculture, urban development, mining, tourism, industry, and ports development. Since most of these land-based activities involve the setting up of structures, the use of coastal waters in these instances is not so apparent.

Some uses of coastal resources do not interact with each other, with each activity being independent from the other. The uses that do interact may conceivably complement each other. The most problematic interaction, however, is when the uses overlap and therefore become competitive. It is this type of interaction that gives rise to conflicts and eventually poses a threat to the economic well being of the coastal community, to environmental health and to public order.

Edward Miles (1989) defines multiple use conflict as the situation where more than one use of a resource or a marine area precludes or adversely impinges upon the use of other resources of the same space by other users. It may be in the form of actual physical damage done to the resource or the equipment for one use by another use, or increased costs of operation by changes in patterns and timing of operations to avoid or to accommodate other uses. Generally, there is a constraint on one use imposed by another, not only with respect to the use of resources but also with respect to the utilisation of space. Trade-off is inevitable.

The degree of trade-off among the various uses of coastal resources depends upon the scale or magnitude of the activity and its timing. For example, diving which is a tourism activity can not be done simultaneously with fishing in the same space at the same time. On the other hand, aquaculture can not co-exist with mangrove development in a certain area since aquaculture takes over the space where mangroves thrive.

These potential conflicts in resource use trigger the need for an improved and more effective integrated approach to management.

Dr. Chua Thia-Eng (1993) groups management issues into these three main groups: resource utilisation, environmental quality, institutional concerns, and natural hazards.

Resource utilisation and environmental quality are interrelated. Every activity utilising the coastal resources has its corresponding repercussions on the quality of the environment.

Rapid urbanisation and economic development give rise to complex resource-use conflicts and environmental degradation problems. These problems are further aggravated by hunger, unemployment, poverty, and rapid population growth (Chua, 1993). Most of the activities in the coastal areas are driven by economic motives. More often than not, the economic benefits gained from these activities overshadow the adverse consequences they wreak on the environment.

The desire to increase economic benefits from coastal resource use and the expected economic opportunities associated with development prove to be detrimental. The benefits arising from development are offset by the negative impacts which development perpetrates on the environment. While these impacts may not be noticeable at their early stages, these may later manifest in horrifying proportions. Thus, the struggle between conservation and development.

It is well established that the coastal zone supports various natural ecosystems and hosts a large number of dependent uses. The conflict, however, is not only between and among the users as mentioned above. A more serious conflict occurs, that is, between the users and the resource.

Generally, the problems concerning resource utilisation and environmental degradation arise from indiscriminate activities. The absence of supervision and control over these activities adversely affects the environment in great proportions. The methods used in certain coastal activities and the extent to which these unregulated activities are conducted prove to be destructive and hamper the other coastal activities.

The use of the resource may not always be compatible with the maintenance of the coastal ecosystem. This holds true with respect to extractive resource use activities like fishing, gathering, and harvesting of coastal resources. The rate at which users extract these finite resources is greater than the rate at which the resources can replicate themselves. Hence, the volume or the population, as the case may be, of the resources concerned is rapidly diminishing. This problem of resource depletion is best manifested by the declining fish catch through the years due to overfishing, coupled with the use of destructive fishing methods.

Another factor that contributes to overfishing is population growth. A large population translates to numerous competitors. Fisherfolk compete with each other in fish production. Population growth worsens the already severe coastal-use conflict with respect to land and water space and resource utilisation. Moreover, increased human settlement together with industrial development contributes to the degradation of the coastal waters since the latter are at the receiving ends of land- and water-based pollution.

The growth of industries in the coastal areas, with the accompanying increase in human settlement, undoubtedly boosts the economy. However, the risks of discharges, whether accidental or not, of solid waste, industrial waste and domestic waste, and oil spills, also increase with such growth. Such risks lead not only to ecosystem damaged but also to adverse health impacts.

Weak legal institutions and unsound government policies on coastal and marine resources have always been the obstacles to the successful implementation of coastal management programs. Further complicating the problem are interagency or intersectoral conflicts and ambiguous policies resulting from overlapping governance of local, provincial and central governments. There is a duplication of legislation and there are consistency problems. Coastal management is fragmented throughout the various levels, departments, and agencies of the government. Contributing further to the inadequacy of legal institutions and coastal policies is the frequent change in leadership, which affects the continuity of sound environmental policies and programs.

Natural coastal hazards and disasters are seen as one of the issues confronting coastal zone management. Storms, typhoons, tropical cyclones, tidal waves, and hurricanes are periodically encountered in coastal areas. Loss of life and property are serious consequences of these. The development of some natural hazards like climate change and sea level rise may occur unnoticed. Its repercussions, however, manifest at a much later time. While natural hazards may be beyond the control of humans, they can minimise the effects of these hazards by a conscious effort of safeguarding the natural systems. Management of the activities in the coastal area, particularly those that put people and property at risk would form part of such effort.

COASTAL USES AND MANAGEMENT ISSUES IN BATANGAS BAY

The Batangas Bay Region (BBR) is located in the southern portion of the Province of Batangas, which occupies the southwestern part of Luzon Island. It is one of the three demonstration sites of the MPP-EAS established in 1993.

The Region has a total land area of 1,460.7 km² and a coastline measuring 470 km. It extends to the municipality of Tingloy in Maricaban Island in the south, while the catchment areas or watersheds that drain in to the Batangas Bay delineate the north, south, and west boundaries. Within the BBR lie 14 coastal and inland municipalities, including the cities of Lipa and Batangas and portions of Lobo and Verde Island. The bay itself forms a semi-enclosed body of water, with an average depth of about 200 m which renders it ideal for international port and harbour development. This bay has a water area of about 220 km².

The entire BBR is essentially an agricultural area. In 1985, about 60% of its total land area was planted with sugarcane, rice, corn, coconut, fruits, and other crops. Secondary forest occupies only nine percent of the land area and is almost non-existent in the coastal areas. Settlement areas constitute less than five percent of the land area. Commercial raising of livestock, especially poultry and piggery, is a growing industry in the region, making BBR a primary supplier of poultry and meat products in the Southern Tagalog Region and Metro Manila. The phenomenal growth of this industry has had the effect of encroaching on some ricefields and coastal lands. Fishponds cover about 100 hectares, mainly in Batangas City. This is about a quarter of the area devoted to aquaculture a decade ago. Many fishponds have been converted to commercial, industrial, and residential areas.

Batangas Bay is a growing industrial area. Its coastline is dotted with industrial firms engaged in oil refinery, chemical and textile manufacturing, and food processing. Each of these firms emits effluent or generates wastes that need preventive and control measures. Batangas City also hosts a major international port that is the alternative port to that found in Manila. Between 1985 and 1990, the total number of vessels entering the Bay rose from 5,052 to 6,776. In 1995, an estimated 15,870 ships docked at the port. This raises three interrelated issues for the management of the bay resources: (a) the congestion in sea vessel traffic; (b) the potential of oil spill and ship collision; and (c) marine pollution.

The Batangas Bay supports varied intensive activities including municipal fishing, shipping, and ports development, causing intense competition among these sectors and also endangering the marine environment, its resources, and water quality. For municipal fishing alone, for instance, the ratio of fishing area to fishing boat in the bay stands at only 0.08 (or 0.08 km² of fishing area per fishing boat). The number of municipal fisherfolk is estimated to be 8,965, but the families dependent on this

sector are 4,335. Some people in the coastal areas participate in fish distribution to market outlets and/or direct marketing.

Overfishing is a growing concern in the Bay. The density of fisherfolk in the Bay's water area (around 41 per one km² of fishing ground) is relatively high. About seven percent of the coastal residents are dependent on subsistence fishing. Seventy percent of municipal fisherfolk are solely dependent on small-scale (municipal) fishing. The remaining 30% supplement their incomes with seasonal employment such as carpentry and masonry.

Resource use conflict between municipal and commercial fisherfolk is also a major problem in Batangas Bay. Being an embayment, the Batangas Bay water falls under the classification of municipal waters under Republic Act No. 7160, the Local Government Code of 1991 (hereinafter, the Local Government Code). There are incidents when commercial fisherfolk encroach on municipal waters, contributing to the depletion in the volume of fish catch of municipal fisherfolk.

At present, there is no available data to assess the impact of such resource-use conflicts on the fishery resources. Even an inventory of fish stock and other marine resources in the Bay is limited.

Urban development and industrialisation have also brought to fore another serious problem, that of pollution. The volume of domestic wastes as well as industrial refuse and effluents generated by residents and business establishments are considerable. Households generate more than 100,000 tons of wastes every year. This is projected to increase to 120,000 tons in the year 2000. At present, the local government units (LGUs) collect only about 60% of household, commercial, and hospital wastes. The remaining wastes are burned or dumped indiscriminately in backyards, streets, and waterways, eventually ending up in the Bay.

Industrial and/or commercial pollution is a critical problem. Sources of pollution include oil refineries, power plants, shipyards, chemical manufacturing plants, alcohol distilleries, food processing plants, livestock farms, markets, and hospitals. These sources contribute pathogenic wastes, nutrients, oil sludge, and heavy metals, among others. A 1995 inventory showed that of the 352,485 tons of solid wastes generated by industries, 17% came from oil refineries in the form of oil and chemical wastes, 78% from chemical companies in the form of latex sludge, hydrofluoric tar and paper, and four percent from shipyards in the form of paint, grit blasting, and copper slugs.

In addition to domestic and industrial waste discharges, pollution of marine waters is expected to escalate due to potential oil spills from increased vessel traffic. For the period May 1986 to September 1993, 11 incidents of oil spill have been recorded

by the Philippine Coast Guard, or at least one spill per year. What is alarming is the increasing repetition of these incidents from an average of one occurrence per year from 1986 to 1990, to two occurrences in 1991 and 1992, and four occurrences in 1993. In the case of Filipinas Shell Corporation, these incidents have been attributed to structural defects (such as unstable foundation of oil tanks) and inadequate internal inspection.

People in Batangas Bay lack the necessary experience and know-how of mapping out an integrated management plan. There may be numerous environmental and fisheries laws but these are not effectively enforced and implemented. Monitoring by the LGUs and by field offices of the Department of Environment and Natural Resources (DENR) of compliance by firms in the locality with environmental standards is insufficient. A result of this is the continued non-compliance by the polluter firms with environmental standards. Likewise, numerous government agencies are mandated to manage Batangas Bay. Unfortunately, these agencies implement their mandates independently of each other. Hence, there is duplication of work and a waste of government resources. In addition, five municipalities (i.e., Batangas City, Bauan, Mabini, San Pascual, and Tingloy) are located along Batangas Bay. The exact jurisdiction of each municipality is difficult to delineate due to the overlap in the boundaries of their municipal waters.

COASTAL USES AND MANAGEMENT ISSUES IN XIAMEN

Xiamen is located at the southern part of Fujian Province of the People's Republic of China and west of Taiwan Strait. It is composed of Xiamen Island proper, Gulangyu Islet, and the coastal part of the northern bank of Jiulongjiang River and southwest of Xiamen Island.

The Xiamen Municipality consists of six districts and one county, namely: Kaiyuan, Siming, Gulangyu, Huli, Jimei and Xinglin Districts, and Tongan County.

The total length of the coastline is 184.54 km characterised by cliff, rocky, sandy, and silt-mud shores. Xiamen Municipality has a total area of 1,516 km² with Xiamen Island proper having an area of 128.78 km².

The Xiamen Demonstration Site covers the waters on the southern coast of Fujian extending west of Taiwan Strait. The site's coastline is 57 km long from north to south and 68 km wide from east to west. For environmental considerations and manageability, the existing administrative boundary of the Xiamen Municipality is used as the limit of the demonstration site, covering all the administrative regions of Xiamen Municipality.

Xiamen's strategic location and the deep harbours and navigational channels are conducive for ports development. Xiamen is a major entry point for goods and people to the rest of Mainland China. It provides the link to several areas and leading trade and economic centres. In 1993, a total of 1,474 ships had visited Xiamen ports. In the past five years, vessel traffic has increased significantly.

In response to the rapid economic growth and urbanisation, major coastal engineering projects are being undertaken. Reclamation projects and construction of causeways and jetties are being conducted to increase land areas for commercial development and facilitate access to the various points of the island. These activities have significantly changed the physico-chemical conditions of the surrounding waters.

Fishing and mariculture are the other major economic activities in Xiamen. Fish production from both traditional capture fisheries to intensive mariculture has been increasing. A total of 10,531 fisherfolk were counted in 1993, using 2,663 fishing boats. Fresh marine products are being harvested not only for food. Marine resources are being explored and developed as potential sources of pharmaceutical and health products.

In the 1980s, the sharp increase in seafood prices and the free and easy access to and use of the coastal waters drove the communities to resort to mariculture in Xiamen. The area allocated for mariculture expanded through the years. In 1992, mariculture sites were estimated to occupy 75 km² of shallow waters. Mariculture production, however, did not increase proportionally. As a consequence, some areas were abandoned and left idle.

Tourism is another important economic activity. In 1993, approximately 0.28 million foreign tourists and five million domestic tourists visited Xiamen. The place has a scenic national park, island scenic spots, beaches and an island reef, among others. Gulangyu Islet, located at the entrance to the West Harbour, is a famous tourist destination. Travel and tourism facilities particularly seaside resorts were developed to house the visitors. Concomitant thereto, business establishments and commercial centres have sprouted.

Chinese white dolphins (*Sousa chinensis*), frequently found in Xiamen waters, particularly in the Western Channel, are an endangered species. Besides the white dolphin, other endangered species that dwell in the waters of Xiamen are the egret and the lancelet (*Branchiostoma belcheri*). Areas in which these species are found are declared as marine protection areas in an attempt to conserve and protect them.

As identified in its Strategic Management Plan (1996), Xiamen is confronted with the following marine environmental problems:

- multiple use conflicts and lack of a master plan;
- single sectoral-oriented policy and weak coordination;
- drawbacks in rules and regulations;
- weak capability in pollution prevention and mitigation;
- insufficient funding for integrated environmental management;
- weak environmental public awareness;
- low capability of integrated coastal management;
- inadequate scientific knowledge on data necessary for management decisions;
- lack of sound information system;
- outdated coastal management concept which strictly applies sectoral resource exploitation and environmental protection strategies; and
- transboundary problems, the causes of which originate beyond the jurisdiction of Xiamen.

Mariculture, port construction, maritime transportation, and beach reclamation compete with each other insofar as sea space is concerned. The most apparent resource use conflict in Xiamen is between navigation and mariculture. By reason of unscientific planning, mariculture areas are situated very near navigational channels putting maritime navigation and transportation at risk.

Major ecosystem changes are also confronting Xiamen. The causes for such change include the construction of causeways and reclamation, which greatly reduced the water surface by a significant area. Causeways along Gao-ji, Maluan, Yuan Dang, and Dongyu have occupied 40% of the water surface of the West Harbour. Water exchange within the vicinity was affected, thereby weakening Xiamen's capacity for pollutant dilution and diffusion.

Pollution from establishments, berths and ships, and wastewater from mariculture activities adversely affect coastal resources and marine habitat. Marine habitats have been dislocated, putting the functional integrity of Xiamen's coastal ecosystems at risk.

Other causes for the change in Xiamen's ecosystem are soil erosion resulting from runoffs from the Jiulongjiang River, development activities, overfishing, urban effluent discharge, and pollution.

EXISTING POLICIES FOR COASTAL MANAGEMENT

The underlying principle behind coastal zone management is the harmonisation of multiple uses while minimising its impact on the environment. A particular coastal use need not be suppressed or prevented altogether. What is ideal is the imposition of control on all coastal uses by allowing continued use with the objective of optimising the benefits from a particular use and at the same time minimising conflict. (Miles, 1989)

The conventional approach in managing coastal zones is sectoral management (Chua, 1993). Sectoral management more often than not results in intersectoral conflicts. The lack of coordination among agencies, ambiguous implementing responsibilities, and the general lack of unified laws manifest this.

The trend is towards ICM that applies an integrative, holistic approach, and an interactive planning process in addressing the complex management issues in the coastal areas. The goals and objectives of sustainable development are achieved by maintaining the functional integrity of the coastal resource systems, reducing resource-use conflicts, maintaining the health of the environment, and facilitating the progress of multisectoral development. (*Id.*)

Policies for coastal management may be categorised as follows:

- a system for policy formulation and legislation;
- institutional arrangements and administrative mechanisms;
- implementation and enforcement;
- monitoring and assessment;
- scientific and technological backstopping/capability-building; and
- sustainable financing mechanisms.

The need for policies under these categories is best illustrated by following the experiences in Batangas Bay and Xiamen. The discussion below gives an overview of the existing policies in Batangas Bay and Xiamen, which evolved as a response to the identified management issues identified above. ICM was already initiated and adopted in the two sites to address these issues.

A System for Policy Formulation and Legislation

Prior to selecting and finalising the arrangement through which the ICM is to be implemented, one must undertake the following preparatory work: (a) analysis of institutional capabilities; (b) consideration of new management measures; (c) comparative analysis of existing legislation; (d) analysis of existing programs; and (e) consideration of the area's environmental profile.

In the formulation or preparation of the ICM program, the proposed program should, as much as possible, conform to the existing legal system and local customs. In determining the appropriate governance arrangement, an assessment of the government's existing procedure for policy and decision-making, and the existing environment and resource management laws and regulations related to ICM is important. The feasibility of integrating ICM initiatives into existing government programs should be considered.

In designing the ICM program, new legislation need not be passed. Existing coastal legislation may be modified after due deliberations while individual sectoral line agencies continue to perform their regulatory and management responsibilities as incorporated in the program.

Constitution of a Co-ordinating Mechanism or Body

The establishment of a lead agency or body for coordination and integration aims to solve the problems of weak institutional arrangements and lack of sound government policies. It provides a venue where the national agencies, local governments and stakeholders can collaborate and contribute to the formulation of solutions to address multisectoral and multi-user issues. This co-ordinating body will promote and strengthen interagency and inter-sectoral collaboration and in effect reduce interagency rivalry and conflicts. Duplication of functions will also be minimised.

The selection, however, of a co-ordinating mechanism to oversee the implementation and operation of ICM depends on the circumstances in the coastal area in question. Among the options for a permanent institutional arrangement for ICM are: (a) concentrating authority in a new centralised

agency; (b) expanding the functions of an existing agency formally designating it to act as the lead agency; or (c) creating a special co-ordinating commission or an interagency/interministerial council.

Participatory Process

According to Sorensen (1997), a governance system providing coastal communities and local user groups (stakeholders) with a measure of effective and participatory governance is what binds an ICM program. The general success of coastal zone management is dependent on participation of local authorities and stakeholders. Long-term effort and community support are important for maintaining an effective management. In consideration of this, appropriate education, seminars and training will help increase and strengthen the involvement of the local people in management and conservation activities.

Participation of the stakeholders can greatly contribute to resolving jurisdictional conflicts, maximising coordination and the sharing of resources, minimising duplication of efforts, and resolving other problems not being effectively addressed.

The involvement of all stakeholders, be it non-government organisations (NGOs), people's organisations (POs), the industry, and the general public in all stages of the ICM is important. At the program initiation stage, the stakeholders' participation is necessary in the identification of issues. Key issues and problems in coastal management are identified, narrowed down, and clarified through a consultative and participatory process involving the coastal stakeholders who are directly in touch and are most familiar with the coastal area.

In the formulation stage of the ICM program, stakeholder participation ensures that issues are properly prioritised and goals and objectives well identified. A proposal for an ICM program can then be made.

In the implementation, enforcement and evaluation stages of the program, mobilisation of local community partners makes ICM more effective.

Environmental management, which includes the power to manage and control environmental resources and to implement and enforce environmental laws in the Philippines, was traditionally a function of the national government. Various government agencies were mandated under the Philippine Administrative Code to perform specific powers and functions pertaining to coastal resources.

In 1991, the Local Government Code was enacted. General powers and functions on environmental management were devolved to the local governments. This opened the opportunity for local governments to formulate their own environmental management strategies.

With the passage of the Local Government Code, the Provincial, City, and Municipal governments of Batangas were given wider latitude in managing their environment and natural resources within their respective municipalities. Ordinances were passed and implemented. Environmental awareness and consciousness programs were undertaken.

Theoretically, under the Local Government Code, each municipality has the option to institute programs within its own jurisdiction. In case of the Batangas Bay, however, effective environmental management of the Bay requires co-ordination among the coastal municipalities. Unfortunately, no such co-ordination among these municipalities existed. The lack of such co-ordination necessitated vertical and horizontal integration.

The general sectoral management approach of the national government is employed through the direct management of the resources in Batangas Bay. The DENR is the lead agency tasked with the conservation of our natural resources and the protection of the environment. Several other agencies manage specific resources and regulate specific activities. Some of the agencies that manage specific resources are the Bureau of Fisheries and Aquatic Resources for fisheries, the Department of Energy for oil and gas, and the National Water Resources Board for water. As for those agencies that regulate specific activities, there is the Department of Tourism for recreation and tourism, the Philippine Ports Authority (PPA) for navigation, and the Maritime Authority of the Philippines and the Philippine Coast Guard, together with the PPA, for pollution control from ships.

In response to the institutional inadequacy in coastal resource management in Batangas Bay, a council (i.e., the Batangas Bay Environmental Protection Council (BBEPC)) has been created for coordination and consultation on coastal development policies, and for the implementation of the strategic environment management plan (SEMP) for the Bay. It is a multisectoral and multilateral body composed of representatives of government agencies, coastal municipalities, and key stakeholders (e.g. industries and NGOs). The Provincial Government-Environment and Natural Resources Office (PG-ENRO), a provincial government office whose creation was mandated in the Local Government Code, serves as the secretariat and operating arm to the Council.

The structure of the Council was found to be the most suitable institutional mechanism for Batangas Bay. The specific mandates of existing agencies are retained and no single body possesses comprehensive regulatory powers. Interagency conflicts are minimised. Most important of all, this mechanism is more politically feasible and more practical to implement. (La Viña, 1997)

In the establishment of the BBEPC, the roles and responsibilities of participating groups and organisations, including areas of accountability for implementation, were defined and mutually agreed upon. A participation matrix describing the roles of members and the interrelationships among them was formulated. This paved the way for an acceptable system of recording the level of participation of the member. The defined roles of the BBEPC members and other participating institutions are formalised through the execution of appropriate memoranda of agreements delineating specific key roles, responsibilities and accountabilities among members.

Another area where participatory process may be applied is in the endorsement and/or concurrence of the majority of the stakeholders who will be affected by the proposed legislation prior to enacting certain laws and ordinances. During consultation, options are made available to the stakeholders to enable them to fully appreciate the implications of the proposed legislation and at the same time to provide them with a guide for informed discussion and decision-making.

In China, the National People's Representative Congress and Its Standing Committee is the lawmaking body. It enacts laws, including marine environmental laws, which apply throughout the nation. The State Council is mandated under the Constitution of the People's Republic of China to pass administrative measures and rules, promulgate decisions and issue orders. The Marine Administrative and Environmental Protection Agencies, on the other hand, issue orders, instructions and regulations within their respective jurisdictions. The regulations these agencies formulate are known as Department Rules. Among these agencies are the State Oceanic Administration (SOA) and the Environmental Protection Agency (EPA).

Directly under the central government is the People's Representative Congress and Its Standing Committee of provinces and municipalities. This body enacts local legislation applicable only within the local administrative district. The authority of the Local People's Government to formulate measures, regulations and standards within the locality is recognised in various laws.

The Marine Environmental Protection Law of the People's Republic of China is the national law that embodies the basic principles of environmental protection. Pollution prevention and mitigation are prioritised. This law applies to China's internal waters, territorial seas, and other waters under the jurisdiction of China. Under this same law, the EPA under the State Council is designated as the body in charge of environmental protection for the whole country. The SOA on the other hand is given the responsibility for "comprehensive marine management". Such management involves organising scientific investigation, monitoring, surveillance, and research on the marine environment, as well as protection of marine waters against damage and wastes.

The marine environmental management program of China, which is instituted in both its national and local laws, includes, among others, environmental quality standards, environmental impact assessment (EIA), a system of three-concurrency,² monitoring, surveillance, and inspection, marine pollution reporting, a system of application, registration and licensing for pollutant discharges, imposition of pollution discharge fee, and imposition of legal liabilities such as penalties, fines and suspension of operation.

The problem of lack of coordination and clear delineation of functions and operational limits among technical agencies in Xiamen was addressed by the establishment of an Interagency Task Force/Committee on Marine Management and Coordination (Leadership Group) composed of 24 line agencies. It is a high level co-ordinating and steering group for ICM, chaired by the Executive Vice-Mayor, including four other vice-mayors in-charge of fisheries, marine, ports and harbours, tourism, industries, science and technology, and city planning and construction. In Xiamen's case, the representation is among concerned agencies and the local government. To execute the Task Force's decisions, a Marine Management and Coordination Office (MMCO) was created. Like the PG-ENRO of Batangas Bay, the MMCO is directly under the administration of the Municipal Administration.

In both the Batangas Bay and Xiamen cases, multisectoral bodies were created to provide a system for policy formulation. These bodies provide direction and determine the parameters of the programs on coastal management. The policies agreed upon by these entities are then issued through a resolution, ordinance or local legislation that subsequently serves as the legal framework to which all participating agencies will adhere.

² *In this approach, development of projects and their facilities for pollution prevention and mitigation must be simultaneously designed, constructed, and put into production. Integrated Task Team of the Xiamen Demonstration Project, Coastal Environmental Profile of Xiamen 75 (1996).*

Institutional Arrangements and Administrative Mechanisms

The BBEPC in Batangas Bay has the necessary powers and functions to ensure sustainable development in the area. It has the power to develop policies and programs in the region, to undertake appropriate information and education activities to encourage involvement in all sectors, to co-ordinate with national agencies and local governments to ensure the consistency among their plans and programs, and to perform such other functions necessary in promoting development and conservation in Batangas Bay.

The PG-ENRO was created through a provincial ordinance pursuant to the Local Government Code. Its functions are to perform the devolved functions of the DENR and to co-ordinate the implementation of the SEMP. Its general mandate includes taking the lead in the implementation of environmental management programs in the province, developing operational plans and strategies for implementation of environment and natural resources programs and projects, enforcing pollution control and environmental protection laws, rules and regulations, and co-ordinating the actual implementation of the ICM programs by the concerned sectors.

In relation to Batangas Bay, the PG-ENRO serves as the focal unit for coordination of the different activities relative to the implementation of the SEMP. It functions as the central force for engaging the active participation of the appropriate sectors in accordance with their individual functions in the management of the BBR.

In the case of Xiamen, the MCCO acts as the operational arm of the Interagency Task Force/Committee on Marine Management and Coordination. It executes the decisions of the Task Force with respect to the planning, development and management of all marine related activities.

The MCCO is directly under the administration of the Municipal Administration and was built upon the existing Marine Management Division. Its function is one of management and coordination and it is charged with the responsibility of implementing the ICM program of Xiamen.

With the creation of the MCCO, conflicts between and among agencies responsible for fisheries and shipping safety were resolved, and regulations were clarified. The conflicts on sea-space utilisation between shipyard operators and fish farmers were also settled.

Implementation and Enforcement

Strategies, regulations, and standards are adopted and enforced through the formal legal process. Recommendations are institutionalised in laws. These regulatory instruments are made applicable to coastal zone users and, more often than not, impose legal liabilities in the form of penalties, fines and even closure of establishment for non-compliance with these regulations. Some of these instruments are an integrated permit or licensing system and the land- and water-use planning and zonation, both of which define the limits of use and development patterns. The underlying principle behind these strategies is the sustainable use of coastal and marine resources and conservation. Through regulations, competing interests in the coastal area are resolved and conflicts between and among users are minimised.

Among the programs adopted in Batangas Bay pursuant to its objectives are the development of an integrated land use and water use plan, the application of market-based instruments (MBIs) in combination with command-and-control measures and the integrated waste management action plan. It also incorporates the EIA within its program.

As regards the EIA, the BBEPC of Batangas Bay is considering the development of an appropriate technical committee to process and evaluate initial environmental examination (IEE) and the environmental impact statement (EIS) submissions for projects within the region, and its active participation in the review of such projects. The EIS system is also being institutionalised as a precondition to the grant of local permits.

A zoning ordinance for Batangas Bay is the means through which an integrated land use and water use plan is directly applied. The plan takes into consideration the most appropriate use of the land and marine resources based on their natural potentials. It defines the limits of the development pattern for the region and is consistent with the overall socio-economic development objectives of the various municipalities as well as of the region.

In Xiamen, zoning is determined through a technical procedure where the various functions of a particular sea area are considered. For instance, Xiamen has declared nature conservation zones. Marine protection areas were identified for endangered species. The municipal government has designated an area of 5,500 hectares as a core protected area and has established special regulations to protect the dolphin.

Monitoring and Assessment

There are two aspects of monitoring insofar as ICM is concerned. One is monitoring with respect to the environment and the other is monitoring with respect

to the ICM program. The first concerns maintenance of environmental quality based on standards established by laws and regulations. This involves the management and protection of the environment whereby specific standards at the national and regional level are adopted. These mechanisms are designed to control the impacts of the various uses of the coastal area. The second refers to the compliance of key actors in the ICM program with their respective roles and responsibilities in the program. In both cases, however, the goals and objectives of the coastal program are the criteria against which their success is measured.

At the monitoring phase of the ICM, participation of the stakeholders in monitoring is most welcome.

Baseline water quality information on Batangas Bay is extremely limited, simply because there has been no consistent monitoring effort in the area. The establishment of the BBEPC changed the situation. The Council provided a forum for dialogue between and among levels of government, government agencies and private industry on the need for and utilisation of monitoring information. A multisectoral monitoring program was set up. Local and national government agencies, private companies operating around the Bay, academic institutions and other NGOs participate in this program. The consensus among the members was that the monitoring program should initially focus on environmental monitoring rather than compliance monitoring.

Monitoring and evaluation of the strategic environmental plan, on the other hand, is the responsibility of the PG-ENRO. It focuses on the delivery mechanisms and conversion processes of inputs into desired outputs. A feedback system is in place whereby PG-ENRO reports to the BBEPC on the achievement of outputs.

In Xiamen, a multisectoral monitoring program was also established. Collaboration among the five agencies engaged in pollution monitoring was developed. The program emphasised the use of pollution monitoring information for strengthening management of the environment.

Consultation among the different monitoring groups led to a new arrangement under which an integrated marine environment monitoring program was formulated, intercalibration among participating laboratories conducted, personnel trained, use of equipment shared and monitoring data exchanged.

Five government institutions and a state university now carry out an operational monitoring program. Under the ICM framework, the groups have rationalised their monitoring program so that they complement rather than duplicate each other's efforts.

Environmental impacts of development or any other project within the coastal area must be identified and constantly monitored. Marine pollution monitoring should be integrated into the coastal management system. Surveys of operational activities may be helpful in identifying opportunities for efficiency improvements. On the other hand, data gathered from these monitoring activities can be utilised to detect changes in the marine environment and determine areas for improvement.

Before proper monitoring and evaluation of the ICM program can be conducted, the expectations from the program should be set out. The goals and objectives established earlier on at the initiation stage of the program shall be utilised. Thereafter, the actual performance of the program is measured against these goals and objectives in order to determine variances, shortcomings or excesses.

Naturally, for the proper monitoring and evaluation of the program, technical and scientific training is required. Hence, at this stage the aid of science and technology is necessary.

Scientific and Technological Backstopping/Capability-Building

Capacity-building refers to the enhancement of the technical as well as scientific capacity of local governments and increasing community exposure to environmental matters and processes through training and education.

At the stage where the ICM is designed, training is necessary for the formulators and implementers of the program so that they can sufficiently plan and manage coastal systems, resources and environments. Such training should be given priority in ICM program development, especially for officials at the local government level.

Since the coastal resource manager is a team player, knowledge of the different skills and aspects of management is essential. In fact, issues and problems as well as the various approaches are better appreciated and assessed with a multidisciplinary mindset.

On the other hand, scientific support has played a vital role in coastal management particularly with respect to data collection and analysis. Scientific and technological approaches may effectively address some of the problems and issues and even provide the key to understanding the environment and its processes. For example, the use of modern technology like the geographical information system (GIS) is a very helpful tool for land use planning, evaluation, and zonation. It helps identify sites for new forms of development and it can even be used for risk assessment.

Scientific and technological support enable and guide those tasked to design the ICM program to understand the relationships among the different components concerned and to incorporate or fill in new measures into existing or inadequate ones. Recommendations, strategies, systems for integrated permitting or licensing and systems of land- and water-use zonation are devised accordingly.

Capability building programs are being conducted in the two demonstration sites for the benefit of the key actors in the ICM. On-the-job training is also being employed for the enhancement of their skills both with respect to management and monitoring. Moreover, the GEF/UNDP/IMO sponsors some of these programs on the international scale where representatives from Batangas Bay and Xiamen participate.

Sustainable Financing

Exploration of possible sources of funds that can be used to sustain management activities should be conducted before finalising the ICM program. These funds to support the program are essential to ensure its continuity. Some schemes considered and found to be successful are the following: (a) use fee/charges; (b) polluter's fee; (c) waste disposal fee; and (d) private sector-public sector partnership.

These fees imposed on the users and the polluters must be fair and equitable. The true costs of the coastal resource use and pollution management facilities and services at the local level, and the user's ability to pay, must be considered and reflected accordingly in the fee charged.

Local governments have limited financial resources as well as technical know-how. It is ideal that partnerships between the public sector and the private sector be developed in the form of contracts, build-operate-transfer (BOT) schemes, joint ventures or similar arrangements. The private sector may undertake the task of formulating financial mechanisms and MBIs in the management of the coastal zone.

Batangas Bay is currently exploring innovative financing mechanisms to help sustain the implementation of its ICM program since the government has limited funds. It is considering privatisation schemes, BOT schemes and the trust fund mechanism for collections from pollution charges and environmental fees.

The Batangas Coastal Resource Management Foundation (BCRMF) is a non-government organization established in 1991 by five founding member-companies and the Batangas Governor. Since then, its membership expanded to 11. The BCRMF acts as the co-ordinating body of the member companies, who are all from the private sector.

The ICM program gave the BCRMF an opportunity to pursue its objective of sustainable development for Batangas. It plays a major role in the Integrated Waste Management Action Plan of the region. Voluntary agreements on waste reduction have generated concrete actions from the signatories. Aside from the BCRMF, Batangas Bay is attempting to encourage private investment in the privatisation of appropriate service facilities for its waste disposal.

In the case of Xiamen, a waste disposal fee system is in place. The fees collected are pooled into a special fund is managed by the Environmental Protection Department. These funds are used in major pollution treatment projects and are loaned out to waste producing firms for the improvement of their waste reduction facilities. A percentage of the fees collected is used to buy monitoring equipment.

Xiamen recognises the need for a source of funding to sustain its ICM program. In its Strategic Management Plan (1996), it considered the idea of adopting a market economy, applying appropriate economic instruments, creating new funding mechanisms and diversifying funding sources for environmental protection and management. It was proposed that regulations and policies be adopted to encourage enterprises, co-operatives, individuals, and stockholders to build, establish, and operate environmental industries such as waste treatment facilities for both effluent and solids, to generate environmental engineering designs, and to engage in other similar activities. A foundation for environmental protection, construction, and management is seen as a probable solution.

PROGRESSIVE POLICY REQUIREMENTS TO ADOPT ICM

In the preceding section, the policies required for the establishment of ICM have been identified. However, these policies can not just be issued overnight. These ICM policies should be carefully crafted, taking into consideration other related concerns. The usual processes required for their formulation and passage should be observed.

The system can not be expected to work immediately. ICM is one whole process composed of various phases, which have to be dealt with one at a time. In the course of its application, adjustments and changes external to the system may influence the achievement of its objectives.

Policies should be sequenced in such a way as to provide conditions for the accomplishment of the subsequent ones. Timing is crucial, as each of the policy requirements must first satisfy certain prerequisites before they can be implemented.

Below are the requisites that have to be satisfied for each policy requirement:

Policy Formulation and Legislation

Before a system for policy formulation and legislation can be established, the existing procedure for policy and decision-making and the current legislative environment have to be assessed, highlighting its shortcomings and inadequacies. Once this is done, an appropriate body, which should be multisectoral in nature, shall be formed.

The powers and functions to be vested in the body shall be defined. Among these necessary powers are the power to render final decisions on ICM matters, the power of autonomy, the power to compel compliance with policies, rules and regulations relevant to ICM, the power to deal with finances, and the power to develop policies and laws. Thereafter, the body shall be created.

Institutional Arrangements and Administrative Mechanisms

All of the agencies involved in coastal and marine resource management have to be identified and their interrelationships analyzed before a coordinating agency is created. At the same time, an assessment of the reasons why the existing scheme is not working effectively should be undertaken. Following this, the different options for a coordinating/integrating mechanism, whether a multisectoral implementing agency, a lead-agency coordinator, or a merger into one agency, shall be evaluated before a choice of which mechanism is most suitable within the context of the subject coastal area is made. When all these are done, the appropriate coordinating body shall be constituted.

Implementation and Enforcement

Upon the implementation of the ICM program, the co-ordinating body shall decide and begin to adopt and apply management strategies.

The identification of specific measures needed for management decisions have to be accomplished before anything else. Tools and measures such as the EIA, zoning or use plans, licensing and permitting system, and the GIS are used, devised, and incorporated into the ICM program.

The necessary information and mechanisms for gathering information have to be identified, together with the financial and technical requirements related thereto. These policies shall be designed accordingly. Acts which need to be prohibited and restrictions that should be imposed have to be identified. The prohibited acts and the various restrictions shall be set forth in law and the appropriate authority to enforce these laws will then be determined. Once the law is in place, the law shall be implemented and enforced.

Monitoring and Assessment

With policies in place, the two aspects of monitoring must be addressed, that is, monitoring of the environment and monitoring of the plans and programs. The parameters subject to monitoring should be identified, that is with respect to the quality of the environment or the condition of specific resources, or to the compliance of the participating agencies with their respective responsibilities. The possibility of forging partnerships among the various institutions in monitoring may be proposed and worked out. Financial, technical, and manpower availability have to be assessed prior to establishing the monitoring framework. These are measured against the goals and objectives that the formulated policies seek to achieve.

Scientific and Technological Backstopping/Capability-Building

The existing capabilities of all participating agencies have to be identified. The feasibility of pooling the capabilities of all participating agencies must be looked into. Groups such as the private sector that possess these capabilities may be tapped to manage certain components of the ICM. For instance, oil spill contingency planning and response in Batangas are handled by the private sector.

On the basis of the identified capabilities of the agencies, gaps and inadequacies will be determined. In order to address these gaps and inadequacies, venues for training have to be identified as well as the target groups for whom the training shall be conducted. To be considered, likewise, is the financial requirement which such training entails.

Sustainable Financing Mechanisms

Insufficiency of funds to sustain an ICM program is a reality. Feasibility studies have to be prepared regarding the various options and mechanisms which may be employed to sustain pollution management and prevention. Prior to making a choice as to which option will be adopted, external factors such as social acceptability and the capability of the public or private industry to pay (in case of fees and charges) have to be considered. A series of consultations will have to be conducted wherein

alternatives are presented to the stakeholders for them to better understand the rationale of the program and to enable the policy body to elicit their comments or counterproposals. Regardless of the scheme chosen, the proper atmosphere to encourage investments must be created.

The identification of the existing framework and its defects and an analysis of its performance are essential to the formulation of policies. Even as the requisites have to be satisfied, the policies still have to come in the proper order. For instance, the policy on sustainable financing can not work without the proper administrative mechanism to support it, or the proper training of personnel to implement it, or the proper policy that sets a favourable environment for the private sector to invest in environmental services or facilities.

Obviously, the first task is to establish the policy body that is clothed with sufficient powers to make the final decisions. Necessarily, there has to be another administrative body that will take care of day-to-day business.

The policy body then decides on what programs to adopt. It may formulate a master plan for coastal and marine resource management. It may establish zonation schemes or a licensing or permitting system. The policy body also decides as to what tools are necessary to make intelligent management decisions.

The administrative body, for its part, will set forth the details of the plans and programs formulated by the policy body and shall implement the broad plans. In carrying the ICM plans, the administrative body has to enhance its skills and capabilities. This is where scientific and technical expertise are needed. Such expertise may be imparted to the personnel and other participants through training and technical and management-oriented activities.

Sustainable financing must already be in place at the initiation of the ICM because it is the fuel for the system to work. A policy on the forms of sustainable financing mechanisms that will be employed has to be crafted. Stakeholder participation in the formulation of these policies is essential inasmuch as their finances stand to be substantially affected once these mechanisms are operational. To determine its feasibility, both administratively and economically, the personnel responsible for its enforcement and implementation will have to be trained and the mechanism will have to be pilot-tested to see if it is viable. Should the results be favourable, then full implementation of the program should be underway.

CONCLUSION

Coastal uses are similar throughout the East Asian Region. Batangas Bay and Xiamen represent and best illustrate the characteristics and conditions of fast-growing coastal areas. The management issues and problems confronting these demonstration sites may be serious but these are not without solutions.

The ICM offers a workable approach to these management issues. To implement ICM, however, several key policies have to be formulated. These are: (a) a system of policy formulation and legislation; (b) institutional arrangements and administrative mechanisms; implementation and enforcement; (c) monitoring and assessment; scientific and technological backstopping and capability building; and (e) sustainable financing mechanisms.

These policies can not evolve overnight. Certain prerequisites have to be satisfied first before they can be implemented. Timing here is crucial. These policies are so linked to each other that the accomplishment of one policy paves the way for the realization of the policies that follow.

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**GUIDELINES FOR THE PREPARATION OF
A NATIONAL COASTAL POLICY AND ACTION PLAN**

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GUIDELINES FOR THE PREPARATION OF A NATIONAL COASTAL POLICY AND ACTION PLAN

INTRODUCTION

Coastal uses are similar throughout the East Asian Region. Batangas Bay in the Philippines and Xiamen in China, where the GEF/UNDP/IMO Regional Programme¹ has demonstration sites, exemplify the characteristics and conditions of coastal areas where traditional activities (e.g., fishing) have been overtaken by industrial or urban development. The management issues and problems confronting these demonstration sites reflect the dilemma of development versus environment.

Integrated coastal management (ICM) offers a workable approach to addressing these management issues. A national coastal policy employing ICM should contain the following minimum elements:

- clear policy and management objectives;
- institutional arrangements and administrative mechanisms;
- directions for preparing plans and implementation and enforcement of these plans;
- monitoring and assessment of the environment, policy, and effectiveness of implementation and enforcement;
- requirement of capability-building;
- mechanism for stakeholder participation; and
- sustainable financing mechanisms.

The above elements need to evolve. They cannot all be accomplished overnight, nor can they be achieved at the same time. Certain prerequisites have to be satisfied before they can be implemented. Timing is crucial, as the elements are so linked to each other that the accomplishment of one paves the way for the realisation of the others.

THE NEED FOR A NATIONAL COASTAL POLICY

Coastal management issues are intricate. Hence, solutions need the full attention and machinery of the national government to implement. Coastal management problems are often unique to each area and management plans need to be tailor-made. However, a national policy that lays down the general framework for coastal management is appropriate. Such policy should provide the minimum standards for management and interventions, as well as financial and regulatory mechanisms. Such instruments may not be workable if established on an area-by-area basis.

Having a national policy does not necessarily mean that coastal management functions would be concentrated in the central government. In fact, the policy can mandate the devolution of management functions to local authorities. The national framework would then furnish the local implementers with the basic tools and guidelines for preparing and implementing specific area plans and programs.

The ICM Framework

ICM is widely accepted as the appropriate strategy for managing the coastal environment. As of 1993, there were 142 ICM efforts in 57 countries worldwide. In Asia alone, 12 of 21 coastal states have ICM efforts in various stages and degrees. Bangladesh, Brunei Darrusalam, the People's Republic of China, Indonesia, Japan, Maldives, Malaysia, the Philippines, Singapore, Sri Lanka, Taiwan, and Thailand have government-initiated programs or projects to manage the nation's entire coastal zone or a portion of it done as a pilot project.²

Agenda 21 signed in Rio in 1992 recognises integrated management. Section 17.5 thereof provides:

Coastal States commit themselves to integrated management and sustainable development of coastal areas and the marine environment under their national jurisdiction. To this end, it is necessary to, *inter alia*:

- (a) provide for an integrated policy and decision-making process, including all involved sectors, to promote compatibility and a balance of uses;...

A decade earlier in 1982, the United Nations Convention on the Law of the Sea (UNCLOS), while recognising the rights of States to exploit their natural resources, also placed the obligation on these States to protect and preserve the marine environment. UNCLOS incorporates the general principles embodied in earlier

international agreements on marine environmental protection such as the International Maritime Organisation (IMO) Conventions. The obligations imposed on the parties to UNCLOS to “prevent, reduce, and control pollution of the marine environment from any source” require a holistic approach that would not only manage the pollution already created but also control the activities that created the pollution to begin with. These activities encompass the whole range of human conduct; thus the need for integrated management.

ICM is defined as a dynamic process in which a co-ordinated strategy is developed and implemented for the allocation of environmental, socio-cultural and institutional resources to achieve the conservation and sustainable multiple use of the coastal zone.³

Integrated – has been used to mean: the horizontal integration of separate economic sectors (e.g., fisheries, tourism, and transport) and the associated units of government which significantly influence the planning and management of coastal resources and environments; the vertical integration of all levels of government and non-governmental organisations which significantly influence the planning and management of coastal resources and environments; a planning and management perspective which combines land and sea use processes; analysis and assessments which cut across scientific disciplines; and a program which consists of planning, management, education and applied research components.

Coastal zone – consists generally of three components: a) coastal waters – the area measured oceanward from a tidal mark, tidal influence mark or salinity mark, or an arbitrary boundary (such as 200m depth or 12 nautical miles); b) coastline – the area between high and low tides to include the area covered by extreme high tides, coastal flooding events or the most seaward extent of permanent coastal vegetation; and c) coastlands – area extending inland from a tidal mark, tidal influence mark or salinity mark, an inland boundary such as a highway, the boundary of a local government unit, or lands the use of which may have a direct and significant impact on coastal waters.

Management – generally would include *planning*, which is a process of comprehensively analysing coastal systems, environments, natural resources, and uses in order to produce a framework (or plan) to guide decision makers in the immediate and future allocation of scarce resources among competing

interests; also includes applied research, and education and public outreach, in addition to specific steps to address each problem/issue.⁴

The ICM approach highlights multisectoral or multi-user perspectives. It is very dynamic as it operates in an area where interactions between resources and users and among various users are constantly changing.

STEPS IN THE PREPARATION OF A NATIONAL COASTAL POLICY

There is no single formula for developing a national policy that would be responsive to the special needs of a State. Even in the East Asian Region alone, there is such rich and diverse selection of political, social, cultural, and economic characteristics that a prescriptive model of national coastal policy is not feasible. Each state is unique and should have a policy that takes advantage of its political, socio-cultural and economic strengths.

Regardless of the variety, there still remain some common elements in policy that have to be addressed, albeit in unique ways. Even the steps taken in arriving at these policies would follow a general flow. The common steps or milestones are described below. The listing below was principally derived from the experience in the Programme's demonstration sites in Batangas and Xiamen. The idea of describing the common steps is for other countries in the region to get an idea of what process to go through, or if they have initiated their own processes already, to locate where they are and see what next steps to take.

Trigger Factors

Often enough, the process of developing national coastal policy starts with a jolt. Some environmental catastrophes occur which trigger government to focus its attention on the problem, such as flash floods that kill coastal residents and deposit tons of silt on fragile coastal ecosystems, recurring red tide or fish kill episodes, and ship collisions or groundings that release oil into the coastal waters. These are some of the environmental triggers that can push government to act.

International obligations are also effective trigger factors. When a State becomes a party to an international agreement, such as the IMO Conventions, it is expected to set local policy or enact laws to implement the provisions of the agreement locally. For example, when a state accedes to MARPOL 73/78,⁵ it is expected to put in place the regulatory mechanisms to prevent pollution from ships, as well as provide the necessary infrastructure, like reception facilities, to comply with the Convention.

A research study or a coastal management project could set off policy formulation by making an assessment of the existing policy (especially its weaknesses) and recommending changes or new policies or consolidation of existing policies. In developing countries, large foreign-funded projects generally have policy review components that would involve such assessment and preparation of recommendations.

It can also happen that, even in the absence of the other factors, government devises policies on coastal management as part of its long-term development goals.

The actual trigger may also be a combination of any of the above factors. What is important is that the triggering factor sets the tone of policy development. Environmental triggers would normally demand a quick and specific response, which sometimes is reactionary and myopic. A long-term development policy would have a broader scope but would take a longer time to prepare.

Coastal Environmental Profile

In most cases, there are existing policies, laws and other regulations that govern activities in the coastal areas or provide management plans for coastal resources and environments. Such material serves as the starting point for any attempt to formulate a national policy.

The next step is to review and assess these existing laws and plans. The goal of the assessment is two-pronged: (1) to get a broad picture of the existing policy framework, including the gaps, overlaps and conflicts; and (2) to determine the general approach of the new policy, i.e., whether it will be supplementary, corrective, or a complete overhaul of the existing framework.

The objective of assessing existing norms is to be able to determine which ones to retain, which to incorporate into the national coastal policy, which to repeal, and most importantly, what the effects of the new policy will be on the retained ones.

A quick assessment of existing coastal resources and the status of coastal environments is also necessary. In all probability, many studies have also been conducted in the past on the biophysical state of the coastal areas. Secondary information is sufficient if the studies are fairly recent and cover a representative area. Primary data should be gathered only to fill in wide data gaps or to validate some doubtful data. In addition, socio-economic data need to be gathered. Population, employment, income, growth rates and trends need to be considered in the proposed policies. An inventory of all activities in the coastal areas has to be made. High impact activities such as fishing, mining, shipping and ports development, tourism, coastal agriculture, commercial, and industrial developments have to be identified.

The data to be gathered need not be very accurate or complete. The purpose of the profile is just to give an idea of the existing situation on which management actions are to be based. Data have to be gathered quickly; otherwise the whole exercise of developing a national coastal policy will be bogged down unnecessarily. There will be enough time to fine-tune the data at a later stage (e.g. during the monitoring phase).

In both the Batangas and Xiamen Demonstration Projects, coastal environmental profiles were prepared to establish baseline information on the coastal environment, resources, and socio-economic conditions that form the basis for evaluating and monitoring the environmental changes. The information includes an inventory of land, forest, groundwater and mineral resources, fisheries resources, water and land-use patterns, economic activities in the area, population and demographic characteristics, and the state of marine pollution.

The study also includes existing development plans for the area, identification of the environmental management issues and a review of environmental programs and projects. At the end of the study, an action plan is outlined detailing what activities to do next to address the issues and problems identified. An important part of the study is the identification of data gaps that are crucial in the preparation of the management strategies and specific action plans.

Legal and Institutional Aspects

The laws define the rights of stakeholders as well as their obligations. They also delineate the roles of the various agencies of government in the management of the coastal zone. The laws, especially fundamental laws like the Constitution, provide the legal basis for particular aspects of management (e.g., classification or zoning, prohibitions, and preferential rights). In many cases, the laws do not completely cover all aspects of coastal management, or are inconsistent with one another. It is therefore necessary to identify the gaps, overlaps, vague provisions, and the general interrelationship of laws (e.g., hierarchy). Attention should be given to definitions (e.g., coastal zone), limitations on coverage (e.g., law on marine pollution), jurisdiction of concerned agencies (e.g., ports authority), devolution of powers (local government versus national agencies), rights (e.g., ownership of land and preferential rights to fishing), and prohibited acts and penalties.

Traditional or customary norms must also be taken into consideration. A management system that is consistent with customary practices is more easily accepted and more likely to succeed. For example, the slaughter of marine turtles and the gathering of eggs should be strictly prohibited. However, a law imposing an immediate ban may elicit stiff opposition and poor compliance because it

has been the tradition of some communities to gather turtle eggs and eat turtle meat. In this case, a phase-out program tied with an intensive education campaign and provisions for alternative livelihood, may be the more prudent strategy.

Problem Identification

The coastal environmental profile should give enough leads as to what the key problems and issues are. The major issues that need to be thoroughly evaluated are those that pose immediate danger or pose great risk (such as oil spills and toxic industrial effluents) and those that are prone to conflicts among competing stakeholders (such as access to foreshore lands).

In all likelihood, there will be a long list of issues and problems. Since most countries in the Region are developing countries, it is unlikely that there would be sufficient government resources to address all of the concerns fully. Thus, there is a need to prioritise the issues in order to get the most value out of the limited resources.

Problems or issues that have a wide impact should be given priority. Municipal solid waste disposal, for example is a concern that affects all. In contrast, toxic and hazardous waste treatment is the concern of probably only a small sector. Government funds and personnel are better off used for municipal waste management. This does not mean, however, that the problem of toxic wastes will not be dealt with. Toxic wastes may be addressed through other means, such as requiring the polluter to treat his own waste, relocating the polluter to another area where there is capacity to treat the toxic waste, or phasing-out the activity that produces the waste.

Another major consideration in prioritising issues is the technical/financial capability of government to address the issues. At present, the government may not have the money or know-how to provide reception and treatment facilities for ship-borne oily wastes. It can then allocate only a small portion of its resources to build capacity through training and encouraging private sector participation, and spend the bulk of its resources on programs that it can effectively perform such as licensing and enforcement of regulations.

Getting Government Support

After the studies are completed and problems identified, it is necessary to identify the proper government agency that will act on the problems. All too often, after the studies are discussed and the problems are identified, the reports only gather dust in some office, which either does not have the mandate or is not capable of acting on the problems. This is especially true for coastal management issues, since the problems

cut across the traditional management turfs. For instance, submitting the report to the environment department may not be enough, because the issues may touch on trade and investments priorities that are outside the mandate of the environment department.

In certain situations, the reports are forwarded to the highest levels (Prime Minister or President) where, as a response, an ad hoc evaluation committee may be formed composed of representatives of several key offices (e.g., environment, trade, public works, and agriculture) The committee may decide to develop policy under its auspices or create a more specialised and permanent office to look into the problems identified, generate options and solutions, and implement these solutions.

Appropriate Government Agency

There is generally a hierarchy of functions that have to be performed by one agency or different agencies. The first is policy-formulation, which is often the function of high-level bodies such as the Cabinet. The second is the lead agency function, which is assigned to an agency that oversees the day-to-day implementation of the management actions. The third, co-operating agency functions, are functions performed by agencies which may provide technical or enforcement assistance, help in the monitoring of activities, and assist in determination of compliance with regulations. The fourth are the apprehension, prosecution, and penalising functions which are necessary to deal with violators.

The national coastal policy should provide the direction for coastal resource management and delineate the roles of the agencies involved. This national policy, once formulated, can be mandated in subsequent implementing laws. In such implementing laws, the designated lead agency or lead official must have a clear mandate. Furthermore, there should be clear accountability for all the actions of participating agencies.

Options on Institutional Arrangements

Creating a superagency is a tempting option. A superagency can have a governing board that formulates policy, planning and implementing arms, as well as enforcement (police) units. The obvious advantages of this option are its simplicity and full control over all aspects of coastal management. The disadvantage is that it can be unwieldy, considering the breadth of functions needed to properly manage the coastal zone. In fact, in small-island states, it can conceivably cover the whole government. In addition, government agencies from which other functions may be taken away may resent the formation of a superagency.

A common option is to retain specific separate agency functions and create a coordination body, composed of representatives of the various agencies to discuss, co-operate, co-ordinate, and integrate functions or activities. The advantage is that a co-ordinating body is not disruptive to the existing set-up. The disadvantage is that the body is only policy development and advisory-oriented, relying on the co-operation and actions of the operating agencies for implementation.

Another option is to devolve functions to local government. The advantage of this option is that local plans can be fine-tuned to meet the specific requirements of the area. The disadvantages include: (a) the fact that ecological boundaries seldom coincide with local political boundaries; (b) the tendency for local objectives to be parochial; and (c) the risk that local governments may easily bow to pressure to forego long-term conservation goals in favour of short-term economic gains.

A combination of approaches may be made to take advantage of the strengths of the various options. It is conceivable to have a high-level policy-making body (e.g., cabinet-level), which will have full control of the general policy directions, plans and actions regarding coastal management. Local governments can be tasked to lead in the implementation of the general policy. They can formulate specific policies, regulations and other actions to suit the requirements of their sites. National agencies can be tasked to provide technical, financial and enforcement assistance to local governments.

A model policy may provide for a national policy-making body, a ***National Committee for the Management of the Coastal Zone*** (Committee), composed of the following members: (a) The Prime Minister/President (or Minister/Secretary of the lead agency) – Chairman; (b) Minister (trade/industry); (c) Minister (infrastructure/public works); (d) Minister (environment); (e) Minister (agriculture/fisheries); (f) Minister (economic/development planning); (g) Minister (interior/police agencies); (h) industry representative; and (i) environmental nongovernmental organisation (NGO) representative. The Committee can assign the general management function to a Local Council headed by the highest-ranking local official in the area and having as voting members representatives of stakeholders such as industry and fishermen's associations.

The choice of which option to follow depends on what has been the traditional practice, assessment of success and failure of the traditional practice, openness to change, technical, managerial and financial capability to set-up a new system, and political considerations.

Stakeholder Consultation

Stakeholders must be consulted at all stages of the policy formulation, even during the preparation of the coastal environmental profile and in the problem identification and prioritisation phase. Ideally the stakeholders must be the source of data used for the preparation of the coastal environmental profile. The policy should lay down the levels and stages at which the public, especially the affected communities, can participate.

There is a wide spectrum of activities that may be considered as part of public participation. In addition, the members of the public may be involved at different stages of the development of an activity, policy or law. On one end, keeping communities informed of the management plans and actions and eliciting their comments would be considered as public participation. On the other end, electing representatives of the public to become members of recommendatory bodies or to make management decisions for themselves would also be considered public participation. The common form of public participation is consultation or public hearing, where the affected groups are asked their opinion about an issue.

The public can meaningfully participate only if they are properly informed. The policy should contain provisions that would guarantee that the public has access to relevant information in order to make an informed decision. It should also provide for a program to raise the awareness of the public on the management issues being confronted.

Particular sectors (e.g., industry, fishing, and tourism) have to be consulted on matters that affect them. Incentives should be provided to encourage private initiatives compatible with the set policies. The oil industry is a typical example. In many instances, the industry is required to have an oil spill preparedness and response program. Such a program is expensive and requires cooperation and coordination among government agencies, the shipping sector, the oil firms and communities. In many countries, the government cannot afford to maintain such a system and relies on the resources of the oil firms.

The political traditions in the Region do not normally allow direct participation of the public in decision-making, which is left entirely to governmental institutions. Advisory bodies are quite common, but their role is mostly limited to giving technical advice. In the Philippines, there is a growing trend to give representatives of the communities, affected sectors and NGOs direct participation in the decision-making process. In the Batangas Council, representatives of industry and fishermen's organisations are regular voting members of the policy-making body. In community-based coastal resources management projects, the community directly manages the resources, although with the consent and cooperation of the local and national

authorities. Under the Fisheries Code (Republic Act [R.A.] No. 8550), there are Fisheries and Aquatic Resource Management Councils (FARMCs) created at all levels of government to advise and recommend actions concerning fisheries management. The public is well represented in these FARMCs. As community-based coastal resources management efforts are established elsewhere, it is expected that more functions traditionally performed by government will be performed by the community councils or organisations.

Strategic Environmental Management Plan

There should be general strategic management plan, with accompanying action plans that address specific issues. The general plan should include an integrated zoning plan for the coastal land, shoreline, and coastal waters. The zoning plan will provide the guide for regulations on allowed activities in the coastal zone.

The action plans must address the priority issues identified earlier. They should have a timeframe for completion of various components and designate the responsible agencies. Again, the action plans must be realistic. They should list only the actions that can be accomplished within a reasonable period considering the existing capabilities and the estimated costs. At the same time, the action plans should have a vision of the long-term goals.

The national policy should contain the general principles and strategies of the management plan, but leave the details of the management actions to the local implementers. The policy should provide for a way to customise management actions to meet local needs. For instance, there can be a national zonation providing general management and development areas. Local management authorities should then be able to make local, more detailed zoning plans that reflect the priority uses and concerns of the area. For example, under the national development plan, Xiamen is designated as an industrial/shipping centre. But within Xiamen, there is a functional zoning plan which designates Gulangyu Island as a tourism zone, the West Harbour as the primary ports development zone, certain islands and marine areas as conservation zones for the white dolphin and still other areas, e.g., Tongan Bay in the northern part of the West Harbour as mariculture zones.

It is not enough that the management plan sets out the tasks that need to be done. It should also identify the actors who are supposed to bring the plans into fruition. The actors may be the local council to whom the general authority to manage the coastal zone has been devolved and/or to the other co-operating or supporting government agencies. The actors must also work within a reasonable timeframe that is set in the management plan.

Finally, no plan can be implemented if there is no funding. The general principles for financing the program may be contained in the national policy, while the management plan can identify the strategies for implementing and sustaining the program over the longer term.

National Policy Formulation

The most crucial part of the process is translating the management plan into the language of the law (in the form of policy or statute) mandating the implementers to address the identified issues and problems within the timeframe and budget that has been proposed in the management plan.

The national policy should not contain the details of the plans or its implementing programs or activities. It should only lay the general principles and strategies, while making reference to the management plan and action plans that have been prepared by the implementing agencies.

The national coastal policy has to be clear and comprehensive. However, it has to be realistic, too. It is easy to formulate a policy that contains all the "right" principles, plans and actions. But if such an ideal policy instrument is not implementable, it will remain a piece of paper, an unrealised dream.

Objectives cannot be achieved overnight. It is necessary that the policy provide a direction for phasing-in of management interventions, especially those that depart radically from the existing practices, as well as phasing-out of incompatible activities.

Policy objectives should strike a balance between development and conservation. It is common to use the term sustainable development in policy statements. The problem lies in the specific policies, i.e., whether, when taken together, these policies paint a picture of balanced development.

The policy should direct the enactment or issuance of laws and regulations to implement the declared national coastal policy. In many jurisdictions, policy statements are not automatically executory if these require budgetary support and institutional changes that may only be effected through a legislative enactment. In Batangas Bay, the policy pronouncements of the Batangas Bay Environmental Protection Council cannot be immediately implemented without the financial backing of a provincial ordinance allocating money for the implementation, or an ordinance prescribing new regulations (e.g., garbage segregation and recycling).

Integration into National Planning

The policy should categorically provide that coastal resources and environmental management should be integrated into the regular planning and management processes of the government. In the Philippines coastal issues are tackled in the Regional Development Councils as part of the general planning processes.⁶ The regional plans are consolidated into a medium-term development plan, which should already incorporate environmental concerns.

Setting Limits

The policy should clearly define the physical boundaries of the coastal zone—where the policy and laws will operate. The limit can extend as far out to sea as the limits of the exclusive economic zone and as far inland as to cover all areas that have a direct or indirect impact on the sea. While these limits seem ideal from an ecological standpoint, it may not be practical from an implementation or enforcement standpoint. The coastal zone may be narrower in scope, as long as it contains the three geographical components—a stretch of coastal waters, the coastline and a band of coastland area. The limits need not be uniform nationwide. The policy can provide criteria for determining limits for each specific site.

The policy should identify the major issues and set priority issues to address (e.g., marine pollution, waste disposal, conflicts among stakeholders, habitat and wildlife protection, and institutional concerns). The priority issues are likely to be site specific. The national policy should identify the mechanism by which the implementing agencies can fine-tune management actions to respond to the particular concerns of each site.

The policy should clearly identify what activities are allowed, regulated or prohibited and the matters that are addressed in other policies. In the proposed Coastal Management Act of Korea, the activities proposed to be regulated are those that are under the control of the MOMAF (i.e., fisheries, ports, shipping and reclamation, and pollution). Under the draft Philippine Coastal Masterplan, pollution control and impact assessment of development projects and stakeholder participation are major targets, although the draft policy does not replace existing policies governing these and other specific areas (e.g., fisheries and mining).

The policy should provide direction for the general management style (e.g., integration/coordination among agencies, devolution of powers, merging and centralisation of functions). Thailand has opted to keep the present institutional set-up, but establish a high-level co-ordinating body. Korea has created a

superagency, the MOMAF. The Batangas Bay project takes advantage of the general principle of devolution of powers to the local governments under the Constitution and the Local Government Code (R.A. No. 7160). The management style in Xiamen also takes full advantage of the broad powers of local governments.

Capacity-Building

The policy should give direction to set up a strong program to develop the managerial, technical, enforcement, and prosecution skills of the implementing agencies. The program may include: (a) conducting training needs assessment regarding coastal zone management; (b) launching paralegal and ecological training for coastal managers, participating implementing and enforcement agencies; and (c) enhancing capability of prosecution and adjudication bodies in the disposition of cases.

The phasing-in of management interventions should consider the existing capabilities. Sophisticated management actions (e.g., tradable pollution quotas) should be taken only when the implementers have been sufficiently trained. It is also important that the affected sector has the capability to comply with the new regulations.

Sustainable Financing

The policy should provide that the use of coastal resources should not be for free. The price should internalise environmental costs.

A potential source of revenue is the increase in taxes derived from properties that benefit from improvements in the environment. In Korea, the proposed ICM law provides for coastal enhancement projects that call for more positive actions to restore and improve the coastal environment situation. Such proposal would be similar to a provision in the US Coastal Zone Management Act. These projects are aimed to protect the shoreline from natural hazards, provide waterfront area with public access, improve the coastal environment, and restore degraded areas. Funding of the coastal enhancement projects will come from the budgets of the management authorities (the MOMAF or local governments). Under the proposal, the management authority can assess special fees or taxes for persons who benefit from the enhancement. Such special assessments have been applied in Xiamen after the clean-up of the Yuandang Lake. In Singapore, a significant increase in revenues was also realised from the increase in values of properties lining the Singapore River and the Kallang Basin after the clean-up program initiated by the government. It is estimated that the added revenues can well pay for the enhancement projects.

Any financial burden to be imposed should be distributed equitably. For instance, in jurisdictions that have started collecting garbage disposal fees, the fees are usually based on a schedule where different amounts are charged to different users depending on the volume and types of wastes being disposed. User fees for the extraction of groundwater, for the privilege of constructing fish corrals, traps and the like may also be graduated to correspond to the amount of resources extracted. Pollution charges, fines, and damage compensation should also correspond to the gravity and type of pollution caused.

Private sector initiatives should be encouraged, especially in investments in environmental services, in environmental safety and preparedness, and in cleaner technology, among others. International assistance should also be factored in. A system has to be designed to encourage such assistance, ensuring at the same time that foreign-assisted programs are consistent with the management plan.

Policies that Address Specific Issues/Problems

The national policy may contain provisions that address specific problems that are common to all management areas. For example, the policy can contain strategies to resolve issues on garbage disposal or pollution standards. This is in addition to the provisions on the regulatory mechanisms such as permits or general strategies such as the environmental impact assessment (EIA).

Action Plan and Capacity-Building

The strategic environmental management plan provides the basis for policy formulation. The national policy transforms the plan into mandates for government agencies or local managers to implement. The local managers or other government agencies then prepare action plans in accordance with the guidelines set by the national policy. Such action plans may include the details of regulations that would give flesh to the general policy directives.

Regulations and procedures have to be clear. A major source of confusion is poorly-designed procedures for decision-making and licensing. In many jurisdictions, development projects have to meet various requirements and must secure several licenses and permits that are issued by different government agencies. It often happens that these requirements are acquired separately with no single authority making a final decision on whether the project proceeds or not. The policy should mandate that procedures be streamlined and decision-making should be simple and certain. In the Philippines, for example, development projects have to undergo EIA and secure local permits. In some instances, projects that failed to undergo the EIA process are

nevertheless able to operate because the local government issued a permit. This is unfortunate because there is no single authority that ensures that all requirements are met before the project is finally allowed to operate.

Regulations have to be regularly and uniformly enforced. New regulations should be well-studied and pilot-tested before full implementation. The demonstration projects of the GEF/UNDP/IMO Regional Programme also serve as pilot studies that may later be expanded nationwide.

Action plans on enforcement should be a co-ordinated effort among agencies that operate in the coastal zone. Thus, police agencies must co-ordinate with customs, environment, ports authorities, wardens, deputised agents and other enforcement groups to maximise the use of resources for enforcement.

A common problem in enforcement is that each agency operating in the coastal zone minds only its own business. This may be because each agency is trying to avoid duplicating another's functions, or may not have the legal authority to perform or enforce another agency's functions. This is lamentable because in a lot of cases, it would cost much less in terms of manpower and equipment to have a common enforcement or implementation system. It is conceivable, for example, to have a composite team to monitor the coastal waters, with elements from the police to arrest violators of all customs, illegal fishing, pollution, and similar laws, and scientists to do regular monitoring of the sea. All it takes is for the concerned agencies to talk and fix a common schedule and pool resources. In the Philippines, community-based law enforcement groups are common. Locally known as *bantay-dagat* (guardians of the sea), these enforcement groups are deputised by local officials to make arrests for violations of laws, usually those relating to fisheries.

Incentives should be provided to reinforce desirable behaviour. It has been observed that coastal fisheries employ a labour force that is greatly in excess of that merited by the increasingly overexploited resources. There is an urgent need to identify or generate alternative employment opportunities for rural fishermen. Some of these alternatives are transfer of coastal fishermen to off-shore operations, aquaculture, postharvest enterprises and recreational fisheries. Others include cottage industries, agriculture, land development schemes and manufacturing.⁷ There are numerous examples of alternative livelihood programs, mostly initiated by NGOs and community organisations. There have been mixed reports of successes and failures. Perhaps, financial and technical assistance from the government might help ensure success of these programs.

Monitoring and Assessment

The policy should require regular monitoring of the effectiveness of the policy and its implementing laws and regulations. An honest assessment of the ecological and socio-economic impacts of the policies and regulations, as well as the effectiveness of the implementation and enforcement will enable the proper agency to respond by modifying management interventions that do not work. The U.S. Coastal Zone Management Act (Section 132) appears to be the only law creating an integrated coastal zone management arrangement that requires program evaluation on a periodic basis.⁸ A regular evaluation procedure is especially helpful if the implementation of the ICM program is left to a subnational unit (state, region, province, or city). Existing laws normally provide for review of local management plans by national agencies. In some Philippine laws, the national agencies can take over implementation or enforcement of laws if it sees that the local government is not capable of properly implementing such laws.

Monitoring of the environment is also an important activity because it is the ultimate gauge of the effectiveness of all the policies and plans. An integrated monitoring system is also necessary. This does not mean that only one set of monitoring should be conducted. A monitoring program may be multi-layered, with general monitoring, localised monitoring, and specific monitoring for a particular industry or project, as long as there is a centralised database where all these information may be processed and interrelated, to paint a more accurate big picture of the state of the environment.

DEVELOPMENT CYCLE

An initial attempt to develop a national coastal policy will probably not cover all issues that need to be addressed. Conditions change over time, and what may be the major issue now may not be the most pressing issue tomorrow. Current capabilities and financial resources may not allow the government to focus on all the problems with equal attention. From the start, ICM initiatives are designed to develop public awareness, build capacity, foster cooperation, strengthen institutional and legal frameworks, and formulate and implement issue-driven action plans. With the development of enhanced experience and skills, the scope of the ICM program expands to address new problems, explores new development opportunities and further strengthens management skills, interagency cooperation, collaboration, and integration of development and environmental protection.⁹

Regular monitoring and assessment of the effectiveness of the policies and its implementing laws and regulations would show whether modifications have to be made in the light of new developments. This will lead to a new cycle of assessment,

planning, implementation, and monitoring, thereby, ensure that the national policy remains dynamic and responsive.

Finally, there is a need to ensure continuity of the policies despite changes in people running the government or the management program. ICM is a dynamic process whereby stages require years to complete—with the actual periods varying according to the institutional capacity and the complexity of the management issues. Initial failures, which are not uncommon, may dampen enthusiasm and cause the abandonment of the policy or its programs. On the other hand, the implementation of policy may be mired in politics, as new leaders desert the policies and projects initiated by their defeated rivals. Ultimately, it is community vigilance that will ensure the continuity of the management efforts.

CONCLUSION

The guidelines presented above were prepared based on the learnings from the existing ICM efforts, either in small pilot projects (Batangas and Xiamen) or national programs (Philippines, China, Korea and Thailand). In the succeeding pages, a model national coastal policy has been drawn up following the above guidelines. It is hoped that this model policy will serve as a catalyst in the synthesis of specific policies attuned to the needs of the state adopting the policy.

NOTES

¹ GEF/UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas.

² Sorensen, Jens. The International Proliferation of Integrated Coastal Management Efforts. *Ocean and Coastal Management* 21: 45-80, 1993.

³ Sorensen, National and International Efforts at Integrated Coastal Management: Definitions, Achievements and Lessons. *Coastal Management* 25: 3-41, 1997.

⁴ *Id.*

⁵ MARPOL 73/78 refers to the International Convention for the Prevention of Pollution from Ships adopted in 1973 and the 1978 Protocol Relating to the International Convention for the Prevention of Pollution from Ships.

⁶ Alabanza, Joseph. A Philippine Approach to the Integration of Coastal Resource Management into Regional Development Planning. p. 129-138. In: *Coastal Area Management in Southeast Asia: policies, management strategies and case studies*. TE Chua and D. Pauly (eds.) ICLARM Conference Proceedings No. 19, 254 pp. ICLARM, Manila, 1989.

⁷ Hotta, Masamichi. Rural Enterprises Development and Economic Diversification. In: *Socio-economic Issues in Coastal Fisheries Management: Proceedings of the IPFC Symposium*. FAO Regional Office for Asia and the Pacific. Bangkok, 1994.

⁸ Sorensen, J. See note 2.

⁹ IWICM. Enhancing the Success of Integrated Coastal Management: Good Practices in the Formulation, Design and Implementation of ICM Initiatives. MPP-EAS Technical Report No. 2, 1996.

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MODEL NATIONAL COASTAL POLICY

CONSIDERING that coastal zone ecosystems are important reservoirs of living and non-living resources that must be conserved for the benefit of present and future generations;

Noting that the coastal areas contribute a significant amount [cite figure] to the national economy, and that a large proportion of the population [cite figure] depends on coastal resources for their livelihood or on activities directly or indirectly connected with the coastal zone;

Bearing in mind that the Constitution [or framework legislation] mandates the State to protect the environment while striving to achieve sustainable development;

Recognising that the problems of coastal resources use and conservation are closely interrelated and need to be considered as a whole, and that integrated coastal management has been widely accepted as the viable approach in addressing the complex issues;

Conscious that existing policies, laws and regulations need to be updated, modified, and strengthened;

THEREFORE, the State, after due consultation with the stakeholders, hereby proclaims this National Coastal Policy (NCP):

Article I

General Policy and Management Objectives

- 1.1 The State shall secure the integrity of the coastal zone, ensure the protection and systematic and sustainable utilisation of the resources and environments therein, and adhere to the precautionary principle in implementing programs and developing regulations for the coastal zone;
- 1.2 The State shall integrate coastal zone management into the regular planning and management processes of the government at the national, regional and local levels;

- 1.3 The management of the coastal zone shall be the responsibility of all levels of government. Each level, and all agencies therein, shall co-operate and co-ordinate with the others to achieve common goals; *Provided, however,* that pursuant to the policy of devolution, the Local Councils as herein described shall be the primary implementers of the policies embodied herein within their area of jurisdiction;
- 1.4 The State shall institutionalise and promote cooperation and partnership with people's organisations, non-government organisations (NGOs), private and business sectors, the academe and other concerned groups in the management of the coastal zone;
- 1.5 The State shall provide adequate financial, technical and manpower support to implement management actions and shall encourage private investments in technology and services that would facilitate the implementation of these management actions;
- 1.6 The guidelines for the implementation of this NCP shall complement the specific policies on fisheries, wildlife and habitat conservation, environmental impact assessment (EIA), and other related policies. In case of conflict, the zoning plan and restrictions on activities/projects under the management plans prepared in accordance with this NCP shall prevail;
- 1.7 The State shall enjoin the legislature at the national and local levels to enact laws and regulations consistent with this policy.

Article II

Coverage

- 2.1 This NCP shall cover activities within the coastal zone and all coastal management areas as designated by the National Committee for the Management of Coastal Zones constituted herein.
- 2.2 The **coastal zone** shall include the following components: a) coastal waters up to 15 kms. from the waterline at low tide, including offshore islands; b) the shoreline or intertidal zone; c) coastal lands up to 1 km from the waterline at high tide, except at places where recognisable indicators for marine influences exist such as mangroves, beach vegetation, sand dunes, salt beds, marshlands, deltaic deposits, in which case the 1 km distance shall be reckoned from the edges of such features.

- 2.3 Coastal management areas (such as islands and bays) shall be identified based on ecological and practical management criteria. Development and conservation activities and projects in these areas shall conform to the general management plan for the area as herein defined.

Article III

Institutional Arrangements

- 3.1 There is hereby created a **National Committee for the Management of the Coastal Zone** (Committee), composed of the following members: (a) The Prime Minister/President (or Minister/Secretary of the lead agency)—Chairman; (b) Minister (trade/industry); (c) Minister (infrastructure/public works); (d) Minister (environment); (e) Minister (agriculture/fisheries); (f) Minister (economic/development planning); (g) Minister (interior/police agencies); (h) industry representative; and (i) two NGO representatives.
- 3.1.1 The Committee, as the highest policy-making body of the State for coastal zone management, shall issue guidelines pursuant to this NCP, monitor and assess the implementation of the policies embodied therein, and cause the periodic evaluation and assessment of the NCP, with the objective of continuously improving its implementation.
- 3.1.2 The Committee shall, within [] months from the effectivity of this NCP, design a system for delineating management areas and shall, through a national coastal zoning plan, set priority activities or uses for these areas, in consultation with stakeholders.
- 3.2 The Ministry of [] is hereby designated as the lead agency. The lead agency shall be in charge of the day-to-day implementation of the guidelines formulated by the Committee. Secretariat support shall likewise be provided by the lead agency.
- 3.3 There is hereby created a **Local Council** for each particular management area.
- 3.3.1 The Council shall be composed of the highest-ranking local government executive of a particular coastal management area as chairman and representatives from the other local government units, business, industry, the academe, NGOs, peoples organisations, and other local stakeholders as members.

- 3.3.2 The Local Council shall be responsible for the approval, implementation, supervision and coordination of activities relating to the coastal management area.
 - 3.3.3 The Local Council shall prepare a general management plan for the coastal management area, in consultation with stakeholders. This plan shall include an integrated zoning plan that shall be consistent with the national coastal zoning plan and will serve as guide for all development and conservation activities in the area.
 - 3.3.4 An implementing arm of the Council will be established as an office within the local government. The office will provide Secretariat support to the Council, and implement, monitor, and evaluate decisions and action plans of the Council.
- 3.4 National government agencies shall provide financial, technical, and training support to the Local Councils.

Article IV

Management Strategies

- 4.1 Recognising that complex planning and management (both national and area-level) cannot be implemented at once, the Committee and the Local Council shall identify and focus attention on priority activities (e.g., fisheries, coastal tourism, habitat conservation, and pollution control, among others) and sensitive or valuable resources (e.g., deep harbour, coral reefs and endangered species) that need immediate attention. The Committee shall identify such priority activities within [] days from the effectivity of this NCP, and the Local Council within [] days from the delineation of their particular coastal management area.
- 4.2 The phasing-in of management interventions shall consider the existing capabilities. Sophisticated management actions (e.g., tradable pollution quotas) shall be implemented only when the implementers have been sufficiently trained. Novel management actions shall be pilot-tested before full implementation.
- 4.3 Licensing for allowed or regulated activities within coastal management areas shall be streamlined. No licenses or permits for activities within the coastal management area shall be issued without the favourable endorsement of the Local Council; *Provided, however*, that the Legislature shall, within one year

from the approval of this NCP, enact a law which shall require all agencies involved in issuing licenses or permits for activities within coastal zones to first secure the favourable endorsement of Local Council before the issuance of such license or permit.

- 4.4 The Local Council shall ensure that development projects to be implemented within coastal management areas undergo EIA prior to implementation; where the power to evaluate EIAs and approve development projects rests with another officer or agency, the Local Council shall actively participate in the evaluation. No approval of projects shall be issued without the favourable endorsement of the Local Council which shall, at all times, ensure that proper consultations with the stakeholders have been held prior to the issuance of any endorsement.
- 4.5 Research agencies in government and private sectors shall co-ordinate coastal research activities consistent with an agreed common program, which program shall be developed with the support of the Local Council.
- 4.6 All participating agencies, academic institutions, and industrial firms within a particular management area shall co-ordinate under an integrated environmental monitoring program for such area. This integrated environmental monitoring program shall be formulated under the auspices of the Local Council. Financial, technical, and manpower components shall be pooled, wherever possible, to increase efficiency.
- 4.7 All participating enforcement agencies shall co-ordinate under a common enforcement program, under the leadership of the Local Council. Such program shall include requirements and regulations that build on traditional or customary practice so as to optimise compliance.

Article V

Monitoring and Assessment

- 5.1 The Committee and all Local Councils shall regularly monitor the appropriate use of the management strategies and implementation of all management actions to determine their effectiveness.

Article VI

Capacity-Building

- 6.1 The Committee shall, within [] months from the effectivity of this NCP, set up a Capacity-Building Program (CBP). The CBP shall give priority to training personnel in management, research and enforcement. National agencies that possess the necessary technical expertise shall assist and train local implementers to master the required skills.

Article VII

Stakeholder Participation

- 7.1 The State shall encourage the development and enhancement of coastal management consciousness through a viable information and education program.
- 7.2 Without prejudice to such other forms of public participation as will guarantee success of this NCP and the various management plans, the public shall be allowed to participate in coastal zone management through: (a) representation in the Committee; (b) representation in the Local Council; (c) consultation in the preparation of the management plan and development of requirements and regulations; and (d) cooperation in environment monitoring and enforcement.
- 7.3 The State shall encourage community-based efforts to manage coastal resources consistent with the general management plan.
- 7.4 To ensure meaningful participation of the public, the State guarantees the right of *bona fide* stakeholders to access to information relating to decisions made or to be made with respect to coastal zone management. Such documents shall be considered as public documents and shall be available for inspection of stakeholders during reasonable hours and subject to reasonable rules formulated by the Committee and the Local Council.

Article VIII

Sustainable Financing

- 8.1 The State recognises that the success of coastal management will depend largely on the resources available. In view thereof, a system of sustainable financing is hereby established.
- 8.2 The use of coastal resources shall not be for free, but should account for environmental costs. Pursuant thereto, the State shall institute a system of accounting that shall take into consideration the environmental costs of the use of coastal resources. Fees and charges developed by the Committee shall reflect such environmental costs.
- 8.3 Any financial burden to be imposed shall be shared equitably; the use of market-based instruments shall be encouraged with the aim of reinforcing behaviour compatible with the management plan.
- 8.4 Private sector investments shall be encouraged, especially in environmental services, in environmental safety and preparedness, in cleaner technology, and other related activities.
- 8.5 The Legislature shall, by law, authorise the Committee and the Local Councils to create sources of revenue for this NCP and the coastal management plan through a system of charges, fees and fines. The proceeds of such charges, fees and fines shall accrue to a special fund that shall be used exclusively for the implementation of this NCP and the local management programs and actions plans.

Approved,