

Chapter 4

Current Coastal Management

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4.1 Coastal Management Policy and Approach

At present, the term “coastal management” has become a by-word in Indonesia. Moreover, its importance is spreading throughout the nation, although it was only in the mid-1990’s that coastal management was taken up as a government policy. Previous to that time period, coastal management had been discussed only on a sectoral basis, such as coastal environmental conservation, fishery development, industrial development and others. The concept of integrated or comprehensive coastal management was also introduced into the country in the 1990s, just as it was taking shape in other parts of the world. Actually, however, implementation of integrated coastal management was started only in recent years. Meanwhile, there exist different agencies with differing management policy and regulations, because there was no coordination agency and responsible agencies for coastal management as a whole. The past few years saw this situation improving with the adoption of the concept of co-management by stakeholders such as different government agencies, NGOs and community people.

It can be said that coastal resource management was first formally incorporated into the national development policy in 1993. For example, in the former National Development Guidelines (*Garis-garis Besar Haluan Negara: GBHN*), drawn up in 1993, the marine sector was separated from the agricultural sector for the first time. Afterward, several important coastal management projects and programs have been started such as Marine Resources Evaluation and Planning Project (MREP), Coral Reef Rehabilitation and Management Program (COREMAP) and Coastal Resources Management Project (*Proyek Pesisir*). These projects and programs are introducing the concept of integrated coastal management and community-based coastal management to the people. Furthermore, the Ministry of Marine Exploration and Fishery (DELP), later the Ministry of Marine and Fishery (DKP), was established in 1999 and is responsible for marine and coastal resources management in Indonesia. The DKP manages a broad range of activities not only fishery

resources development and promotion of industrial development but also coastal community development and marine protected area management. That is to say, a cross-sectoral organization for coastal management was established. This is an indication of the country's serious efforts to manage its natural resources for national economic development and high expectations to achieve this.

The Indonesian Government has recently adopted a decentralization policy following demands for political freedom after the strong authoritarian governance. Of more significance was that the decentralization policy sought to efficiently address problems arising from the diversity of Indonesia because of its geographical features and the different ethnicity, religion, and cultural backgrounds of its people. The top-down approach by the former regime could not appropriately manage this situation. Furthermore, rich provinces such as Aceh and Irian Jaya demanded administrative freedom. The Indonesian Government therefore needed an appeasement policy.

Decentralization is meant to accommodate the services based on regional features in different areas, and hold together a potentially divided country by providing appeasement. Thus, the jurisdiction of central government agencies has been transferred to local governments, especially implementation. Without exception, coastal management also has been affected by this decentralization wave. Local governments especially kota/kabupaten have become increasingly important in coastal management.

In coastal management history, community participation was emphasized from the 1990s. Decentralization gives opportunity for community participation in coastal management. Community people are the user of coastal resources and are always faced with coastal problems so that they have enough motives to play an important role for coastal management. In North Sulawesi, *Proyek Pesisir* (CRMP) has been implemented from 1997 and aims to develop community-based coastal resources management. Community-based coastal management has been recognized as an important approach in coastal management in North Sulawesi as well.

4.2 Roles of Related Agencies in Coastal Management

4.2.1 Transition of the Roles and Functions to Decentralization

The Indonesian Government has adopted a policy of regional autonomy. As a consequence, "Regional Governance, Law No. 22, 1999" and "The Fiscal Balance Between the Central Government and the Regional Government, Law No. 25, 1999" were established. Administrative functions and roles are being transferred from central government agencies

to local governments under Indonesia's decentralization policy. "Government Authority and Provincial Authority as Regional Autonomy, Government Regulation No. 25, 2000" was established in 2000. Although this regulation outlines the roles of central government agencies and provincial governments, those for municipalities and regencies are not prescribed. The responsibilities of central and local governments regarding coastal management are shown in Table 4.1. The responsibilities of different levels of local governments have not been clearly decided especially for regency/municipality and district level governments in the Government Regulation No. 25, 2000.

Important players of coastal management are not only local governments but also communities and NGOs, because community people are coastal resource users. Possibility of sustainable use of coastal resources and conservation of natural environment depend on community people. It is expected that NGOs provide community-oriented technical support and financial support to communities, because of lack of capacity of local governments.

Table 4.1 Administrative Roles of Governments in Coastal Management

| Fields | Central Government | Provincial Government |
|--------------------|--|---|
| Marine | <ul style="list-style-type: none"> Decision on policy and establishment of regulation on investigation, reserve, management for use of marine natural resources beyond 12 miles. Decision on policy and establishment of regulation covers administrative boundaries in the sea and international law for marine Decision on guidelines for beaches and island management | <ul style="list-style-type: none"> Regulation and management of Provincial Marine Water Investigation, exploitation, preservation and management in marine water under provincial government Preservation and management of regional endemic species, and fisheries preservation in marine water under provincial government Issues of license for agriculture and fishery in water area under provincial government Supervision for effective use of fishery resources in water area under provincial government |
| Transportation | <ul style="list-style-type: none"> Decision on management of breakwater at provincial and international ports Decision on standard for working environment of water areas and port areas in provincial and international ports | <ul style="list-style-type: none"> Decision and maintenance/management of transportation monitoring facilities and traffic signs in marine water from 4 miles Decision and maintenance/management of transportation monitoring facilities and traffic signs in marine water from 4 miles to 12 miles Design of provincial ports and decision of permission policy Agreement on environmental management for marine resources use in marine water from 4 miles to 12 miles Agreement on preservation and protection of marine resources in area under plural municipality and regencies |
| Living Environment | <ul style="list-style-type: none"> Agreement on Environment Management for Marine Resources use beyond 12 miles Environmental impact assessment on activities beyond 12 miles Decision on guidelines for natural resources preservation | |
| Others | <ul style="list-style-type: none"> Decision on guidelines for natural resources management and protection Implementation of natural resources management and protection beyond 12 miles | <ul style="list-style-type: none"> Management of non oil/gas energy resources excluding radioactive substances in marine water area from 4 miles to 12 miles Action Plan regarding river erosion, sedimentation, productivity in river basin cover plural municipalities and regencies |

Source: Law No. 25, 2000 "Government Authority and Provincial Government Authority as Regional Autonomy", compiled by JICA Study Team

4.2.2 Central Government Agencies

The following central government agencies still have some responsibility for guidance, although major and important functions are being transferred to local governments including provincial and municipal governments:

- National Planning and Development Agency (BAPPENAS);
- Department of Marine and Fisheries;
- Ministry of State Environment;
- BAPEDAL;
- Department of Home Affairs;
- Department of Forestry and Plantation;
- Department of Mining and Energy;
- Department of Public Works;
- Department of Education and Culture;
- Department of Human Settlement and Regional Development;
- Navy;
- Indonesian Science Institute (LIPI);
- Agency for Assessment and Application of Technology (BPPT); and
- National Survey and Mapping Coordination Agency (BAKOSURTANAL);

Under regional autonomy, major and important functions are being transferred to local governments from the central government. The roles of local governments, especially kecamatan of municipalities and regencies, become increasingly important. The roles and functions of each agency regarding coastal management are also prescribed by different regulations at present. However, these functions and roles are not made clear so that some necessary tasks are not implemented. This issue gives rise to inefficient coastal management.

The central government agencies in Indonesia can be classified into seven categories for coastal management, as shown in Table 4.2). These are Macro Policy and Planning, Regional Development and Infrastructure, Resource Management, Environment and Conservation, Research and Monitoring, Security and Education.

Table 4.2 Roles of Central Governments for Coastal Management

| Macro Policy and Planning | Regional Development and Infrastructure | Resource Management | Environment and Conservation |
|--|--|---|---|
| <ul style="list-style-type: none"> National Planning and Development Agency | <ul style="list-style-type: none"> Ministry of Home Affairs and Regional Autonomy Ministry of Settlement and Regional Infrastructure Ministry of Transportation and Telecommunication | <ul style="list-style-type: none"> Ministry of Maritime Affairs and Fisheries Ministry of Culture and Tourism Ministry of Energy and Mineral Resources | <ul style="list-style-type: none"> Ministry of State Environment BAPPEDAL Ministry of Agriculture and Forestry |
| Research and Monitoring | | Security | Education |
| <ul style="list-style-type: none"> Indonesian Science Institute Agency for Assessment and Application of Technology (BPPT) National Survey and Mapping Coordination Agency (BAKOSURTANAL) | | <ul style="list-style-type: none"> Water and Air Police | <ul style="list-style-type: none"> Ministry of National Education |

a) Macro Policy and Planning

National Planning and Development Agency (Badan Perencanaan Pembangunan Nasional: BAPENAS) is the central agency responsible for the formulation and assessment of national development policies and programs. BAPENAS has two related agencies for coastal management: Bureau of Natural Resources and Marine and Bureau of Food, Agriculture and Irrigation.

Bureau of Natural Resources and Marine formulates policy, plan and program on coastal and marine development. It is also responsible for monitoring, research and reporting on coastal development. Bureau of Food, Agriculture and Irrigation is tasked with the collection and management of data of National Development Plan on flood and coastal erosion, and natural resources and marine information

b) Regional Development and Infrastructure

Three central government agencies are responsible for infrastructure development in coastal areas. The Ministry of Home Affairs and Regional Autonomy is the regional development policy maker, considering growth in harmony with development plans. The Ministry of Settlement and Regional Infrastructure and the Ministry of Transportation and Telecommunication are grouped as Infrastructure Development Agencies. The Ministry of Settlement and Regional Infrastructure provides technical support for coastal protection structures and for structures in river mouth, roads and other infrastructure for provincial and municipal/regency governments. And the

Ministry of Transportation and Telecommunication also provides technical support for port development.

c) Resource Management

There are four central government agencies related to coastal resource management such as fishery resources, tourism resources, and mineral and energy resources.

The Ministry of Agriculture and Forestry is responsible for forest resource management. From the viewpoint of coral management, protected area management is a more important function for the Ministry of Agriculture and Forestry, so that it is categorized under Environment and Conservation in Table 4.2.

In 1999, the Government of Indonesia established a new ministry – Ministry of Marine Exploration and Fisheries (DKP) – by Presidential Decree No. 355/M/1999. The name of the ministry was subsequently changed to Ministry of Maritime Affairs and Fisheries (DKP) by Presidential Decree No. 145/1999. The ministry contributes in the management of coastal resources and services in the coastal and marine zone. This ministry is the first single governmental organization for the integrated management of various activities, including fishery, mining, coastal and small islands development, and marine protected area management in the coastal and marine areas at the central government level.

Coastal resources are very important resources for tourism development so that the tourism sector is recognized as a resource user rather than a resource management body. The Ministry of Culture and Tourism does not have strong roles for establishment of national park management. It only advises the Ministry of Agriculture and Forestry regarding tourism development. However, the Ministry of Culture and Tourism also provides enlightenment for the promotion of coastal environmental conservation awareness.

d) Environment and Conservation

Functions of Ministry of State Environment include formulation of environmental management policy and coordination and evaluation of environmental action programs. BAPPEDAL under the President provides regulations for marine pollution and guidelines on assessment of coastal areas; it also issues AMDAL approval for national projects. The Ministry of Agriculture and Forestry has two roles in coastal management. One is protected area management, the other is management of agricultural activities. Moreover, the Ministry has a responsibility to establish and manage national parks. The management of one national park categorized as marine

national park has been transferred to DKP. However, the Ministry of Agriculture and Forestry is still responsible for Marine National Park Management during the transition period.

Agriculture makes use of land resources. Inappropriate agricultural practices do not bring about deterioration of coastal environment directly but through rivers because of soil erosion. On the other hand, appropriate land use could also cause water pollution by overuse of fertilizers and pesticides. This ministry formulates technical policy, standards and procedures on chemical control, monitoring and others.

e) Research and Monitoring

There are two agencies for research on coast including the Indonesian Science Institute (LIPI) and the Agency for Assessment and Application of Technology (BPPT). LIPI conducts research on marine environment and development of marine resources. On the other hand, BPPT formulates and develops policy on utilization and development programs on technology of integrated survey, marine survey, remote sensing and GIS; it also provides technical services. However, both of them perform the same roles for coastal management.

National Survey and Mapping Coordination Agency (BAKOSURTANAL) carries out surveys and mapping and GIS development. This agency is a source of information for coastal management. National Space Observation Board has a role of providing satellite images for coastal management, the same as BAKOSURTANAL.

f) Security

The Water and Air Police (POLARUD) under the Ministry of Defense is responsible for security of the coastal area. POLARUD is the only agency that can prosecute a person who has committed a crime. POLARUD carries out security work through patrol, community dissemination and instituting measures against violence.

g) Education

The Ministry of National Education is an informal education agency. The Ministry promotes environmental awareness of school children and students through environmental education.

Table 4.3 Goals and Objectives of Coastal and Marine Management Strategic Plan 1998

| Component | Goals | Objectives of the Strategies |
|-------------------------|--|--|
| Social Development | To ensure that the coastal community's aspiration for prosperity will be fulfilled through a management system that practices sustainable utilization of the province's coastal and marine resources | <ul style="list-style-type: none"> To increase community (stakeholders) awareness of the economic and ecological value and benefits of coastal and marine resources in order to encourage active stakeholder participation in the management of those resources. To increase the level of skill and knowledge of community members so that they can participate in various activities for a sustainable development of coastal and marine areas. |
| Ecological Conservation | To maintain, protect, manage, and preserve the coastal and marine ecosystems in an integrated way in accordance with their functions. | <ul style="list-style-type: none"> To supervise the use of coral reef areas through an integrated management system designed to preserve the ecosystem and all its components. To introduce and develop environmentally friendly aquaculture and mariculture systems/technologies. To protect coastal and marine resources through the development and application of appropriate water quality standards, with particular attention to monitoring and the enforcement of sanctions. To develop and implement an effective management scheme for the mangrove resources of North Sulawesi in order to ensure the sustainable utilization of mangrove products and maintain the essential ecological functions of mangrove resources. |
| Economy | To foster an economic development that is both sustainable and environmentally friendly. | <ul style="list-style-type: none"> To develop and promote ecologically and economically sustainable marine tourism through effective stakeholder participation. To develop environmentally and economically sustainable fisheries in North Sulawesi. |
| Administrative Goal | To develop and implement an integrated management plan for coastal and marine areas involving inter-sectoral participation and coordination that is efficient and effective. | <ul style="list-style-type: none"> To support the coordination of planning process, decision-making and implementation of resource development and management schemes in the Planning Area for this Strategic Plan. To help conserve the coastal and marine area through the development and enforcement of effective regulations. To ensure the availability of relevant data and information to decision-makers through the development and support of a provincial data center. |

Source : Coastal and Marine Management Strategic Plan, BAPPEDA North Sulawesi 1998, compiled by JICA Study Team

4.2.3 Provincial Government Agencies

(1) Recent Overall Situation of Decentralization

In the former regime, local governments had stronger functions of representing the central government than autonomous rule. But since the implementation of decentralization policy in January 2001, a dynamic change in roles and functions of local government has been happening. Before the decentralization policy, provinces had *Kanwil*, which were the local offices of each ministry of the central government and were coordinating activities with provincial governments. *Kanwil* had their own sectoral budget (*Sector*) and managed personnel administration independently by each ministerial section. Also there was a hierarchy of local government, in other words, regency/municipal governments used to be below provincial government and were above district governments.

This structure has been dramatically changed and under the new decentralized regime, *Kanwil* are abolished. Provincial governors are then entrusted with authority on behalf of

the central government and are designated to manage the budget (*Dekonsentrasi*) from the central government directly. The hierarchy is abolished and there are now two different lines of coordinating relationship; one is from the central government to provincial governments, the other line is from the Ministry of Home Affairs to regency/municipal governments in terms of policies. Provincial governments are going to coordinate matters, which are common among regencies/municipalities and deal with matters concerning their province.

The local autonomy (*Daerah Administrasi*) executed in Indonesia for the first time conformed to Clause 8 of its 1945 Constitution. In the recent decentralization, actual policy was started with decision "MPR RI N XV/MPR/1998" by Congress. Details of its enforcement were defined by two implementation laws of No. 22 and No. 25 in 1999.

(2) The Role and Functions of the Provincial Government in Coastal Management

At this moment, it can only be said that organizational change has just begun to take place and some directions toward coastal management can be seen in provincial government organization; however, personnel arrangement has not been completed, nor functions of each section and division have been decided. It will be decided following a completion of personnel arrangement. Some descriptions of what is happening in the provincial government's role and functions in coastal management as of February 2001 are as follows.

a) Organizational Change

The former local government organizations established by the Law No 5 in 1974 were totally revised/reestablished by the new regulations; Law No. 22, 1999 on local autonomy, Law No. 25, 2000, on authority of central government and local government for decentralization, and Law No. 84, 2000 on guideline of local government organization.

Then, North Sulawesi Provincial regulation dated December 12, 2000 was legislated aiming to establish a new organization. New organization of North Sulawesi province consists of 18 provincial offices (*Dinas*) and 10 provincial boards (*Badan*). Their roles and functions are as follows:

Provincial office (Dinas)

1. Technical investigation on matters related to each office;
2. General administration and authorization / permission; and
3. Advice on matters related to each office and regulation legislated by the governor.

Provincial board (Badan)

1. Technical investigation on matters related to each board; and
2. Support on execution of provincial local governance.

The most significant change seen in the new organizational arrangement is that all provincial offices (*Dinas*) and provincial boards (*Badan*) related to coastal management now have specified names such as “coastal (*pesisir*)”, “seashore (*pantai*)”, “management (*pengelolaan*)”, and roles of each office have been clarified accordingly.

b) Main sections/divisions in coastal management

Among the new organizations, the following three sections are considered in charge of coastal management:

1. Section of small island and coastal management, Sub-office of marine advisor, Provincial office (*Dinas*) of marine and fisheries
2. Sub-division of marine and coastal, Division of local & regional infrastructure planning, Provincial board (*Badan*) of planning, research, and development (BP3)
3. Sub-division of coastal & beach environment recovery, Division of environmental recovery, Provincial board (*Badan*) of environmental impact assessment (BAPEDALDA)

Table 4.4 Provincial Office (*Dinas*) of Marine and Fisheries

| Old (-2000) | New (January 2001-) |
|---|--|
| Sub-office of living resources establishment | Sub-office of marine advisor |
| --> Section of fish resources and environment | Section of processing & marine exploration |
| Section of fish catch control | --> Section of small island and coastal management |
| Section of fish fly quality control | Section of coastal community empowerment |
| Section of identification | Section of marine institution |

Source: JICA Study Team

Note: The organization marked with “->” is most related to coastal management

Table 4.5 Provincial Board (*Badan*) of Planning, Research, and Development (BP3)

| Old (-2000) | | New (January 2001-) | |
|--|---|--|---|
| Division of physical & infrastructure planning | | Division of local & regional infrastructure planning | |
| | Water irrigation section | | Sub-division of area development |
| | Tourism & transportation section | | Subdivision of urban and rural infrastructure |
| --> | Land use & spatial planning section | | Sub-division of environment & irrigation |
| | Environmental & natural resources section | | Sub-division of tourism |
| | | --> | Sub-division of marine and coast |

Source: JICA Study Team

Note: The organization marked with "-->" is most related to coastal management

Table 4.6 Provincial Board (*Badan*) of Environmental Impact Assessment (BAPEDALDA)

| Old (-2000) | | New (January 2001-) | |
|-------------------------------------|--|------------------------------------|--|
| Division of monitoring and recovery | | Division of environmental recovery | |
| --> | Section of environmental availability monitoring | | Sub-division of land environmental recovery |
| --> | Section of evaluation and analysis | --> | Sub-division of coastal & beach environment recovery |
| | Section of community participation | | Sub-division of artificial environment and social environment recovery |

Source: JICA Study Team

Note: The organization marked with "-->" is most related to coastal management

Provincial board (*Badan*) of planning, research, and development (BP3)

Among the three related organizations, the counterpart of JICA Study Team on the provincial side, the Provincial Board (*Badan*) of Planning, Research, and Development (BP3, former-BAPPEDA) has a function to formulate the master plan (RTRW) of the province. And also BP3 is regarded to execute a role of arrangement and coordination of the policies from other divisions and organizations, accordingly they have advantages relatively in number, academic background, and technical experience of staff compared to other provincial offices (*Dinas*) and provincial boards (*Badan*).

Provincial board (*Badan*) of environmental impact assessment (BAPEDALDA)

In order to draw people's attention to environmental problems, BAPEDALDA decided to come up with a new slogan, "Cradle to Grave," although they had a policy before to deal with only big problems which are easily understood by residents, using slogans such as "End of Pipe" or "B3 (=grade of water quality)" on wastewater. Particularly to improve transparency, to disclose information on environmental impact

assessment, and to promote participation by the residents, BAPEDALDA established a new internal rule No.8 dated February 17, 2000. And also No. 27 year 1999 on environmental impact assessment has been legislated and approved since December 7, 2000 as a part of decentralization.

(3) Financial Arrangement

The financial arrangement in the new system for provincial government basically consists of three funds: Balancing Fund (*Dana Perimbangan*), Deconcentration Fund (*Dana Dekonsentrasi*) and Provincial Regional Fund.

Balancing Fund

It mainly consists of three sources:

- General Allocation Fund (*Dana Alokasi Umum: D.A.U*) is allocation fund from the National Domestic Income (*Penerimaan Dalam Negeri*). Twenty-five percent (25%) of National Domestic Income is allocated for 32 provincial DAU. The allocated DAU to a province is shared by the province and other local governments with the proportion of 1:9 respectively.
- Special Allocation Fund (*Dana Alokasi Khusus*) is allocated to specific needs of provinces and is equivalent to the former "Impres," which is a fund for public services and infrastructure, and also Reforestation Fund (*Dana Reboisasi*) which is quite big for a province like North Sulawesi.
- Revenue from local natural resources.

Deconcentration Fund

This is a direct fund from the central government to provincial governments. It used to be the "Sector" fund of *Kanwil* from their individual central ministries/agencies. However, the fund became the governor's responsibility to disburse. This fund is specified for use by projects and any unspent amount need to be returned to the national treasury.

(4) Gaps and Issues for Provincial Government to Carry Out Coastal Management

Lack of regulation on coastal management

Based on Law No.24 (1992) on regional planning, regional utilization, and its control, the Province legislated Provincial Decree No. 3 dated December 1992 called RTRWP on the guideline for spatial plan for regional development of the province. It was revised in connection with Law No. 22 (1999) and the first draft was finished in February 2001.

Coastal Management is, however, not mentioned in RTRWP nor in the draft revised plan of RTRWP, nor in any related regulations, although there are already a number of issues that need to be addressed such as development of resort hotels along the coastal area, and detailed regulation by province is required.

Lack of personnel

Provincial board (*Badan*) of environmental impact assessment (BAPEDALDA) of North Sulawesi province was established based on Provincial Regulation No. 10 (1997) and Ministry of Home Affairs Decree No. 81 (1998). Because of the short history itself, there is a problem of lack of technical talent. BAPEDALDA set up a team of environmental experts based on Provincial Regulation No. 34 (1999) on environmental management. But this team consists of only 5 experts with different backgrounds except for some administrative staff. The team is responsible for dealing with all matters and projects and for reporting to the provincial governor.

Financial Gaps

The budget of North Sulawesi province for fiscal year 2000/2001 is suspected to decrease by about 50% of its previous budget, even though the previous fiscal year covered only nine months from April 2000 to December 2000 due to the transition period of fiscal year system. This problem is attributed to the modification and substantial decrease of Balancing Fund (*Dana Perimbangan*) from central government to province. At the moment, the central government and provinces are negotiating about the allocation of General Allocation Fund (DAU) and Special Allocation Fund (DAK) to fill the gap from previous years. If the current budget situation is not improved, the province will face serious financial problems. This insufficient budget might affect all other activities such as planning and implementing of environmental / coastal management policy.

(5) Initiative by provincial government

Sulawesi Area Development Partnership (BKPRS)

On October 19, 2000, "Sulawesi Regional Development Partnership Board" (*Badan Kerjasama Pembangunan Regional Sulawesi: BKPRS*) was agreed upon and established by governors of four provinces of Sulawesi islands (except for Gorontalo because Gorontalo became a province in January 2001) with nine implementation measures aiming at decentralization since January 2001. There were five meeting held and after the first meeting, basic budget (AD) and management budget (ART) were signed on February 21, 2001. This agreement consists of the following: to set up

an Information System, to establish “Sulawesi Regional Finance Organization,” and to formulate both plan and organization for the next three years.

Bunaken National Park Management Council

In advance of deconcentration (*dekonsentrasi*) in January 2001 based on Law No. 22 (1999) and No. 25 (1999), North Sulawesi province legislated Provincial Decree No. 826/03/54 dated May 22, 2000 and established Bunaken National Park management council based on the regulation. This organization is intended to coordinate the interested parties, to earn financial resources for operation and management of Bunaken National Park Authority, to formulate a management plan, and to support the conservation and maintenance of the national park. This Bunaken National Park management council is expected to conserve and maintain the Bunaken National Park, which has big influences not only for tourism but also for fishery and other local economy.

4.2.4 Regency and Municipal Governments

(1) Recent Overall Situation of Regency/Municipal Government

In the former regime, regencies (*Kabupaten*) and municipalities (*Kota*) were placed as “the second level regency/municipality” (*Kabupaten Daerah Tingkat II and Kotamadya Daerah Tingkat II*) under province, which was “the first level local government”. After implementation of decentralization of government system, regency/municipality level local governments now acquired autonomy and became “Regency” (*Daerah Kabupaten*) and “Municipality” (*Daerah Kota*) after implementation of decentralization (*Desentralisasi*) in January 2001. Former district government (*kecamatan*) was one of administrative unit (*Wilaya Administrasi*), but it became an autonomous government as well under the new regime.

(2) The Role and Function of Regency/Municipality/District Government in Coastal Management

At this moment, as it is seen in the provincial government, the organizational reform at regency/municipality and district level governments, has just started and personnel arrangement, financial arrangement, and other administrative arrangement for the structural reform have not been even actually started yet. Some efforts and intentions are seen in coastal and environmental management aspect as a form of some newly created organization such as BAPEDALDA.

a) Organizational Change

According to Law No. 22 of local government decentralization, Manado municipality, Bitung municipality, Minahasa regency, and Bolaang Mongondow regency also have been reviewing their organization and personnel arrangement. With regard to personnel arrangement, especially transferring personnel among different levels of governments and/or areas, the decision will be made based on a mutual agreement (*Kesepakatan*) between governments concerned. In order to curtail personnel expenses at regency/municipal governments, they offer conditionally to accept the staff from the provincial government, which requests the province to bear the salaries for those personnel. Still this issue is under negotiation. Organizational reform has not been completed at all as of February 2001. *Sekwilda* who is at the highest rank among the government officials of province has just been selected on February 26, 2001. His inauguration is expected to accelerate those personnel arrangements from the top in the government hierarchy. After personnel arrangement, the next task will be clarification of roles and functions of each section/division, and adjustments and/or transfer of personnel among local governments.

b) New movement in environmental/coastal management at regency/municipal government

Some local governments' efforts towards strengthening environmental management aspect in the area are seen in newly created regency/municipality Boards (*Badan*) of Environmental Impact Assessment (BAPEDALDA), which are in charge of living environmental problems. The new arrangements are shown as follows:

Table 4.7 Comparison of Old and New Organizations of BAPEDALDA

| Regency / Municipality | Old organization (- 2000) | New organization (Jan.2001 -) |
|------------------------|---|--|
| Minahasa Reg. | BAPEDALDA | same BAPEDALDA, but renewed (Minahasa regency regulation No.8 year 2000) |
| Bolaang Mongondow Reg. | BAPEDALDA | BAPEDALDA abolished. Present organization of Sub-division of environment, Division of economy, Assistant of economy took charge. (Bolaang Mongondow regency regulation No. 36 year 2000) |
| Bitung Mun. | Sub-division of environment, Division of economy, Assistant of development administration | BAPEDALDA newly-established (Bitung municipality regulation No. 7 year 2000) |
| Manado Mun. | Sub-section of Environmental impact Management, Section of Environment | Environmental impact management office newly-established (Manado municipality regulation year 2000)* |

Source: JICA Study Team

Note: * This regulation does not have a number because it is not authorized yet.

Bitung municipality newly established the municipal Board (*Badan*) of Environmental Impact Assessment (Municipal BAPEDALDA), and Manado municipality also established a new office (*Kantor*) of Environmental Impact Assessment. Minahasa regency retained BAPEDALDA but made some changes. These new creation of boards and offices are evidence of the seriousness of local governments towards strengthening of environmental management.

Contrarily, Bolaang Mongondow regency abolished the former BAPEDALDA, then reduced and transferred the function to "sub-division" of economic development section. This evidence shows that there are gaps among local governments based on different interests and priorities.

On the other hand, the provincial BAPEDALDA which used to play a key role in environmental management and regency/municipal government initiatives, now stepped down in the new reform movement and became just a coordinator of these local governments and related agencies.

With regard to decentralization of local governments, the central government has been implementing a pilot plan (preparation plan of decentralization) in 26 regencies including Minahasa as model areas since 1996. This pilot plan aims for the smooth transition of decentralization started from January 2001. Expansion of this plan will help to fill gaps existing among local governments.

(3) Financial Arrangement

The financial arrangement in the new government system for regency/municipal

government basically consists of Balancing Fund (*Dana Perimbangan*)

4.2.5 Communities

Coastal Communities have an important role in the development of coastal and marine resources use and conservation. In the study area, Kulu villagers have been replanting mangrove trees in the last 10 years. In Ratatotok village, each community decides the special use in their coastal area according to the benefits to the villagers. Although some coastal communities have been making efforts to manage their area by a participatory approach like Kulu and Ratatotok villages, still most communities do not have any ideas of coastal management and its implementation. Under the new government regime, decentralization of planning and management, the role of communities is becoming more important and their participation for development planning and implementation will be vital. In order for communities to play such an important role, the village governance is being changed in a democratic manner to make it possible to reflect people's voice in decision making.

Governance

In Minahasa Regency, "Several Local Regulations in Minahasa Regency about Village Government: *Beberapa Peraturan Daerah Kabupaten Minahasa tentang Pemerintahan Desa*" was approved and issued in August 2000. In this local regulation, a village (*Desa*) has to have a Village Representative Body (*Badan Perwakilan Desa: BPD*), which will be elected by community members representing social, political, religious, professional, and traditional organizations and other community leaders. The function of BPD is to strengthen village governance and to apply democracy at the village level. BPD replaces LMD and has a say on replacing the village head. In other regencies and municipalities in the study area, this regulation is still in process.

According to the survey of 24 coastal communities done by the Study Team in August, cooperation among fishers exist only in a few communities. But fisher cooperation in these few communities is not really functioning well at all due to various reasons. If no cooperation exists among fishers, it will be difficult to reflect their voices to the village governance.

4.2.6 Academic Institutions

Coastal management requires various experts on natural environment, ecosystem, sociology, tourism, fishery, economy and forestry. Under a decentralization policy, the responsibility of coastal management is being transferred from central government agencies to local governments. Academic institutes have a function of providing human resources for coastal management. In North Sulawesi, there are educational institutions such as Sam Ratulangi State University, Fishery Academy (belonging to DKP) and Institute of Technology Minahasa (Private University). Fishery Faculty of Sam Ratulangi State University provides approximately 100 persons a year of human resources (see Table 4.8). It is expected that academic institutes will provide human resources with knowledge of coastal management.

Table 4.8 Number of Graduated Students from Sam Ratulangi State University

| Department | Year | | | | |
|-------------------------------------|-------|-------|-------|-------|---------|
| | 95/96 | 96/97 | 97/98 | 98/99 | 99/2000 |
| Aquatic Living Resources Management | 14 | 37 | 24 | 0 | 7 |
| Aquaculture | 9 | 19 | 20 | 0 | 15 |
| Socio-economy of Fishery | 0 | 0 | 0 | 0 | 19 |
| Marine Science | 25 | 38 | 32 | 0 | 49 |
| Aquatic Product Technology | 7 | 10 | 5 | 0 | 14 |
| Fishery Resources Utilization | 13 | 8 | 9 | 0 | 9 |
| Total | 68 | 112 | 90 | 0 | 113 |

Source: Sam Ratulangi State University

4.2.7 NGOs

(1) Profile of NGOs for Coastal Management

Non-profit, voluntary, and non-governmental organizations in Indonesia are called *Lembaga Swadaya Masyarakat (LSM)*. They represent an increasingly important role in community development, problem solving, monitoring the effects of local industry and development projects, sensitizing public officials and business groups to environmental issues, and promoting campaigns to enhance public awareness and support for environmental protection and participatory involvement.

In North Sulawesi, more than twenty (20) active NGOs are running such projects. Some of them are listed below and a description of three of them follows:

1. FPK: *Forum Pataupan Katoupan*;
2. Yayasan KELOLA;
3. ASPISIA: *Asosiasi Penyelam Ilmiah Indonesia*;

4. LP2S: *Lembaga Pengkajian dan Pengembang Sumberdaya*;
5. YSN: *Yayasan Suara Nurani*;
6. WALHI: *Wahana Lingkungan Hidup*;
7. WCS: *Wild Conservation Society*; and
8. LBH: *Lembaga Bantuan Hukum*.

a) FPK: Forum Pataupan Katoupan

Forum Patupan Katoupan means “Association of People’s Love Living Environment.” FPK was established in 1996, starting with 11 member organizations. Presently, it has 7 member organizations: Kelola Manado, Serat Manado, YKMP Manado, Triprasetya Tomohon, LP2S Tomohon, TKW Remboken, and KSM Tondano. Thirteen (13) people are working for FPK and they represent the member NGOs mentioned.

The vision of FPK is to manage living environment with sustainable and continuous use for a long period of time. The mission of FPK is to return natural resources management to the public, so that the public is to manage natural resources with attention paid to preservation and conservation of natural resources. Its funding comes from the University Support Program (USP) of USAID and from many other international donors; however, USP funding will expire in April 2001.

b) Yayasan Kelola (Kelola Foundation)

Kelola was established in January 1995. It aims to empower communities and establish community-based coastal zone management by developing innovative coastal zone management techniques and implementing sustainable livelihood alternatives. Kelola is one of the main member organizations of FPK. Kelola’s programs are carried out by several departments in two major program divisions: Technical Programs and Facilitation of Activities Program. Their main activities are community-based environmental education and capacity building to community people. Kelola is carrying out a coastal management program in eight intensive projects sites.

c) ASPISIA: Asosiasi Penyelam Ilmiah Indonesia

ASPISIA means “Indonesian Scientific Divers Association.” It was established in 1994 by scientific divers living in Manado. They now have 25 members and the organization is funded by the members themselves. ASPISIA trains community

people to implement monitoring activities by themselves for protection of their coastal area.

(2) Problems/Issues facing NGOs

Based on interviews of some members of NGOs, the Study identified the following problem areas for NGOs:

a) Lack of self-confidence of community people

Even though community people should have the capacity to carry out projects by themselves after years of empowerment, they still do not have the self-confidence to do so.

b) Difficulty of representing the voice of community

Although BPD (*Badan Perwakilan Desa*) should represent communities, the reality is different since BPD has its own ideas and interests, which do not properly reflect community needs. Consequently, implementation of projects is sometimes difficult.

c) Budget constraints

Small NGO organizations have budget constraints because their limited capability makes it difficult for them to compete with big organizations for funding.

d) Coordination

Coordination between FPK and Non-FPK organization is very limited

e) Preference of dealing with a smaller, exclusive group in a community

Some NGOs prefer to work with a smaller, exclusive group in a community and carry out their activities only with this kind of group. This is partly because of budget limitations and the relative ease of dealing with a smaller group. Moreover, NGOs have a tendency to select only those people who agree with them.

4.3 Related Legislations and Institutions

4.3.1 Land Use

(1) Land Use Planning in RTRW

Land use planning is a core component of RTRW (Regional Spatial Development Plan). The land use plan describes the long-term direction of land use pattern, such as residential area, industrial area, public facilities use, commercial as well as the conservation areas such as protected forest, buffer zones of coastal lines, rivers, dams, springs, etc.. Provincial and municipal/regency governments should formulate the land use plan in the RTRW based on the following regulations:

- The instruction of the Minister of Home Affairs No.19/1996 regarding the formation of coordination team for spatial planning of provincial and regency/municipality areas
- The decree of the Minister of Home Affairs No.134/1998 regarding the guidance for the preparation of regional regulation on the provincial and regency/municipal spatial plan
- The regulation of the Minister of Home Affairs No. 8/1998 regarding the implementation of the spatial planning in the area
- The regulation of the Minister of Home Affairs No. 98/1998 regarding the procedure of community participation in the spatial planning process

However, the statements on land use and water use of the coastal areas are very few and too general. For instance, although the buffer zone, which requires a distance of 100 m along the shoreline, is decided as a coastal protected area, the width of buffer zone is not much considering actual situations, and there is no mention of prohibited activities. The land use guidelines for planning including delineation of zones and prohibited activities are required.

The accuracy of map for the preparation of the RTRW are designated as follows:

- Provincial Land Use Plan: a minimum scale 1:250,000 of territorial map; and
- Regency/Municipal Plan: a minimum scale 1:100,000 for the regency and 1:50,000 for the municipality.

Both municipalities of Manado and Bitung have prepared maps including land use plan at a scale of 1:25,000 in their RTRWs. The scale of the maps conforms with the law, and the direction or general policy of the land use in the future can be gleaned from them; however, these base maps have no clear coordinates and do not provide detailed information on land use control in the case of such urban areas. For instance, this same situation applies to the mapping of existing conditions of the land use and buildings in the proposed coastal

protected area; the scale is not suitable for the type of planning and management tasks required.

4.3.2 Coastal Water Use

Major determined water areas are shown in Figure 4.1 and Table 4.9. According to Law No. 22 (1999), the governments of municipalities (*Kota*) and regencies (*Kabupaten*) should manage coastal waters starting from their shorelines up to 4 miles. Provincial governments should manage coastal waters 4 to 12 miles from shoreline. However, Law No. 22 (1999) does not prescribe where the shoreline starts — the lowest tide level or the highest level or the mean sea level.

In addition to the above management area, there are some zoning systems based on use of fishing in the coastal area. Within water area from shoreline to 200 miles from shoreline is categorized by Ministerial Decree No. 392/kpts/lk 120/99 as shown in Table 4.9. Mariculture farmers, for instance of pearl and seaweed, and fisherman, such as *bagan*, *sero*, and *tambak*, are required to obtain locational and operational permits from government. In case of domestic investment within 4 miles seaward, a permit was previously issued by the provincial government; however, after decentralization this responsibility now belongs to municipal/regency governments.

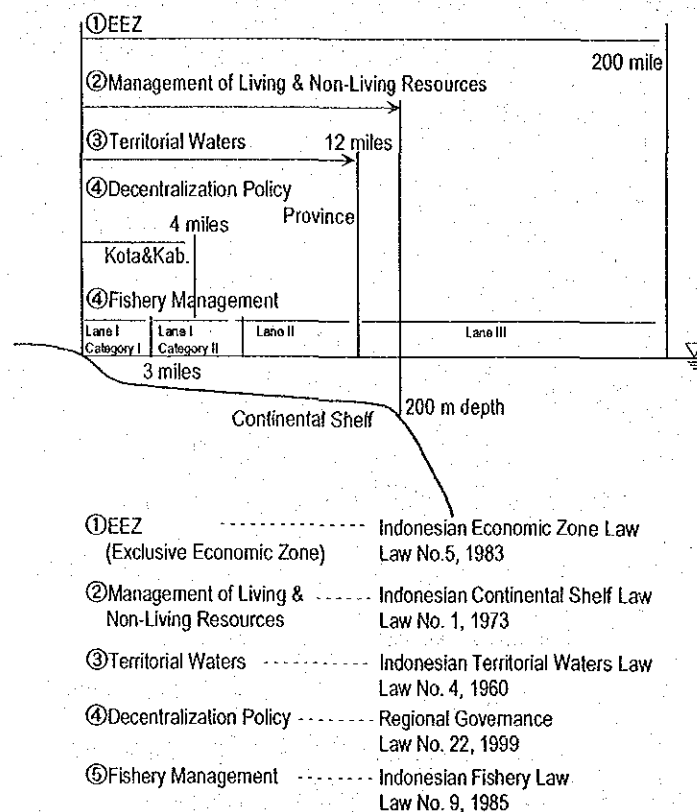


Figure 4.1 Indonesian Marine and Coastal Water Classification

Table 4.9 Classification of Indonesian Coastal and Marine Waters

| Water Area | Boundary | Area | Reference |
|-------------------------------|---|-----------------------------|--|
| Exclusive Economic Zone (EEZ) | <ul style="list-style-type: none"> 12 miles from shoreline up to 200 miles | 2.7 million km ² | Indonesian Economic Zone Law No. 5, 1985 |
| Territory Water | <ul style="list-style-type: none"> from the lower sea level up to 12 miles | 0.3 million km ² | Indonesian Territorial Waters Law No. 4 (1960) |
| Central Government | <ul style="list-style-type: none"> beyond 12 miles from shoreline | | Regional Governance Law No. 22 (1999) |
| Provincial Water | <ul style="list-style-type: none"> 4 miles and 12 miles from shoreline | 0.3 million km ² | |
| Kota Kabupaten Waters | <ul style="list-style-type: none"> from shoreline to one-third of provincial boundary or from shoreline up to 4 miles | | |

Source:

Note: Mile = nautical mile

Table 4.10 Categories of Fishing Activities in Coastal Water Area

| Category | Boundary | Fishing Gears | Fishing Boats |
|---------------------------|---|---|--|
| Zone-I (Channel-I) | From 6 miles from shoreline at lowest tide | <p><u>Category I</u></p> <ul style="list-style-type: none"> - Fixed fishing gear - Non-fixed and non-modified fishing gear <p><u>Category II</u></p> <ul style="list-style-type: none"> - Non-fixed but modified fishing gear - Purse seine, max. length 150m - Drift gill net, max length 1000m | <p><u>Category I</u></p> <p>From shoreline at lowest tide to 3 miles</p> <ul style="list-style-type: none"> - Fishing boat without engine. (length: not more than 10m) <p><u>Category II</u></p> <p>From 3 miles to 6 miles from shoreline</p> <ul style="list-style-type: none"> - Fishing boat without engine or outboard engine (length: max.12m,5GT) |
| Zone-II (Channel-II) | From zone I to 12 miles from shoreline at lowest tide | <p><u>Alternative I</u></p> <p>Purse seine max. 600m size, operation by using one fishing boat not in group or maximum 1000m, operation by using two boats but not as a group</p> <p><u>Alternative II</u></p> <p>Tuna long line (Tuna hook and line) max 1200 hooks</p> <p><u>Alternative III</u></p> <p>Drift gill net length max 2500m</p> | <ul style="list-style-type: none"> - Fishing boat with inboard engine, max 60 GT |
| Zone-III (Channel-III) | Out of zone II up to outside boundary of Indonesia's Economic Exclusive Zone (IEEZ) | <ul style="list-style-type: none"> - All fishing gear except large pelagic purse seine - All fishing gear except fish net - Fishing net | <ul style="list-style-type: none"> - Indonesian flag carrier fish boat max. 200GT - Indonesian flag carrier fishing boat max 200GT - Minimum 60 GT |

Source : Letter of Decree Ministry Of Agriculture No. 392/Kpts/lk.120/99

Note: 1) Foreign Flag Carrier Fishing Boat is Allowed operation at Channel-III on condition that boat size is only 350-800 GT, and if using purse seine the operation is only outside of 100 miles from baseline of Indonesian archipelago.

2) All fishing boats from Channel-I and Channel-II can enter Channel-III

3) Decree of Ministry of Agriculture No. 392/Kpts/lk.120/99 about Establishment of Three Categories of Fishing Activities

4.3.3 Conservation of Coastal Area

In the formulation of zoning and land use plans, conservation areas are delineated and conditions or restrictions are often imposed to any development near these areas. Special consideration is given to conservation areas because of their importance to human and natural environments. One word that sums up the manner of use in a conservation area is sustainability.

The terms "conservation areas" and "protection areas" are used interchangeably in the

following discussion. This difference in terminology stems from the fact that reference documents reviewed by the Study Team used the term “protection” to refer to areas which the Study Team assumed to be “conservation areas.”

The structure of regulation of Indonesian conservation areas is shown in Figure 4.2. Indonesian natural conservation is traced back to Law No. 5, 1990 regarding forest conservation management, which could be regarded as a pioneer law on conservation. Legal functions of Law No. 5 (1967) were revised by Law No. 5 (1990) regarding protection of natural resources and ecosystem. Based on Law No. 5 (1990), Presidential Decree No. 32 (1990) regarding conservation area management (*Pengelolaan Kawasan Lindung*) was established. Presidential Decree No. 32 (1990) regulates conservation areas. There are two regulations derived from Presidential Decree No. 32 (1990), one is Government Regulation No. 464 (1995) regarding forest conservation, and the other is Presidential Decree No. 68 (1998) regarding natural protection area management. Presidential Decree No. 68 (1998) shows seven types of protection areas from the viewpoint of forest functions as follows:

- Natural Preservation Area (*Kawasan Suaka Alam*);
- Nature Reserve (*Cagar Alam*);
- Wildlife Reserve (*Suaka Margasatwa*);
- Natural Preservation Area (*Kawasan Pelestarian Alam*);
- National Park (*Taman Nasional*);
- Grand Forest Park (*Taman Hutan Raya*); and
- Natural Recreation Park (*Taman Wisata*).

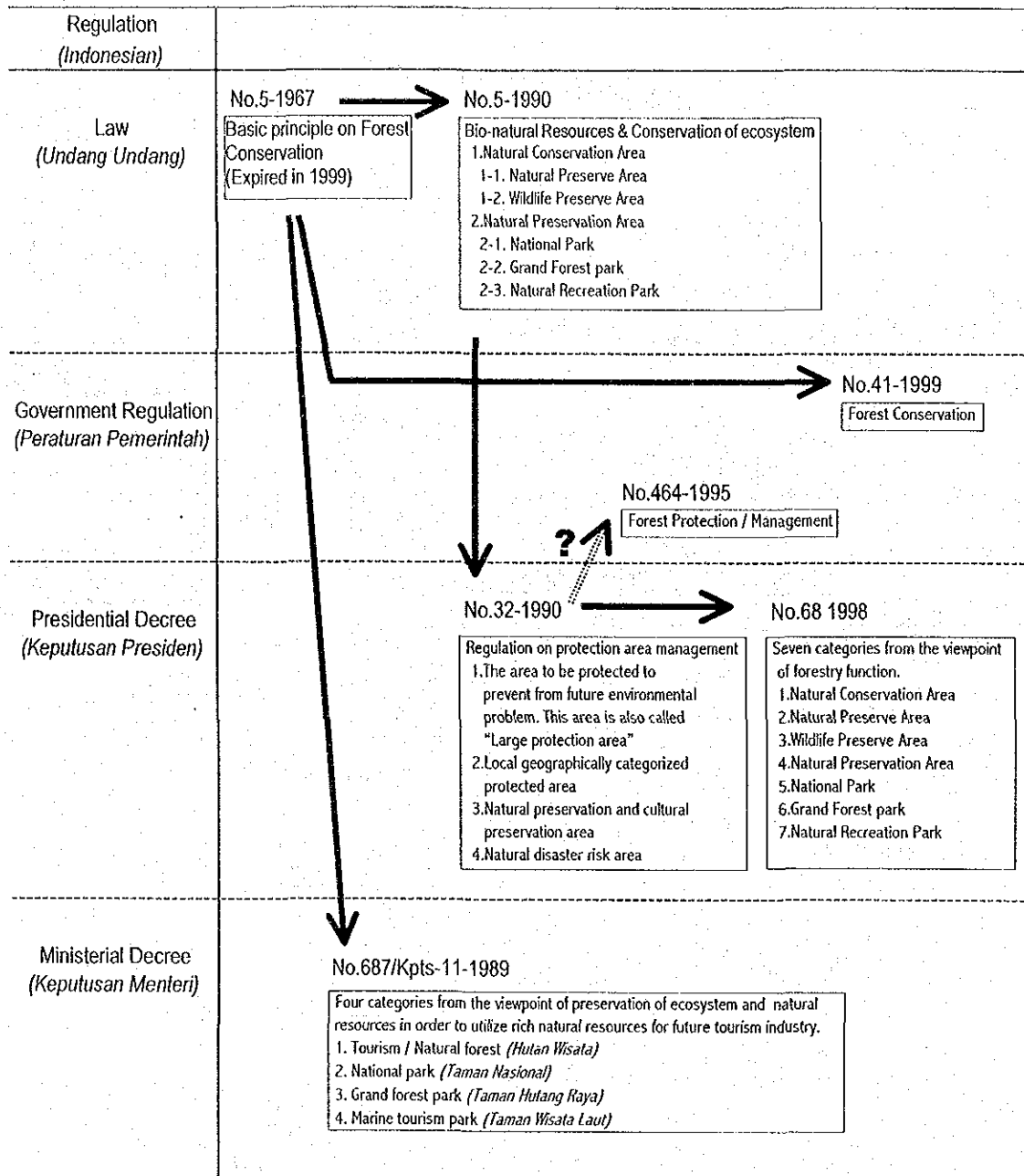


Figure 4.2 Structure of Indonesian Conservation Area System

Presidential Decree No. 32 (1990) pertains to conservation area management. Use of conservation areas and buffer zones, including coastal buffer zone, river buffer zone, surrounding lake and reservoir area and surrounding spring area are regulated by this decree (see Table 4.11). Regulated conservation areas and buffer zone should be considered for formulation of provincial and municipal/regency Spatial Development Plans (RTRW). Boundary of buffer zone for land is 100 m from high high sea water level (HHSWL) and low low sea water level (LLSWL) or appropriate lines based on natural conditions and proportional size.

Presidential Decree No. 32 (1990) classifies areas to be protected as follows:

- Area which should be protected from natural environmental problems in the future;
- Geographical protection area (*Kawasan Perlindungan Setempat*);
- Natural preservation area and cultural preservation area (*Kawasan Suaka Alam dan Cagar Budaya*); and
- Natural disaster potential area (*Kawasan Rawan Bencana Alam*).

Natural preservation area and cultural preservation area include the following:

- Natural Preservation Area;
- Marine and other Water Preservation Area;
- Coastal Mangrove Area;
- National Park, Grand Forest Park, Natural Recreation Park; and
- Cultural Preservation Area.

Table 4.11 Contents of Presidential Decree No. 32 (1990)

| No. | Description |
|--|---|
| Chapter 1 | General |
| Clause 1 Item 6 | Coastal buffer zone of coastline is areas which have important functions for maintenance of coastal conservation on the shoreline. |
| Clause 1 Clause 11 | Marine preservation area and other water resource reserve area are areas which have indigenous ecosystem for providing habitats for flora and fauna. |
| Clause 12 | Coastal mangrove area is to be identified as natural mangrove forest for conservation of marine and shoreline ecosystem. |
| Chapter 3 | (supplementary item) Regulation on conservation area (see Clause 3, Item 2 and Clause 5, Item 1-4) Note: In accordance with the conservation area described as follows, Government Regulation No. 5 (1990), called "fauna conservation regulation," also refers to definitions and measures from the viewpoint of sustainable ecosystem |
| Clause 3 Item 2, and Clause 5 Item 1-4 | The following conservation areas are regulated as follows: 1) Coastal buffer zone 2) River buffer zone 3) Surrounding lake and reservoir area 4) Surrounding spring area |
| Clause 6 Item 1-5 | Natural Preservation and Cultural Preservation Area as one of above-mentioned four areas is as follows: 1) Natural preservation area 2) Sea and the other water preservation area 3) Coastal mangrove area 4) National park, Grand forest park, Natural recreation park 5) Cultural preservation area |
| Chap 4 | Conservation area principle |
| Section 2 | Local Geographically Categorized Protected Area |
| Clause 14 | Coastal buffer zone is defined as the area which has some width, at least 100 m of physical conditions, and of proportional shape at inland side from the highest tide line. |
| Section 3 | Nature Preservation and Cultural Preservation |
| Clause 25 | Marine and other water preservation areas are defined as marine water area, inland water area, coastal area, estuary, coral reef with unique ecosystem, and coral island with typical characteristics. |
| Clause 27 | Coastal Mangrove area is defined as the area which is between the lowest tide line and the line distant from the figure multiplied 130 times(?) and the average of high high sea water level and low low sea water level. |
| Chapter 7 Clause 40 Item 1 & 2 | (Others) Within two years after this Presidential Decree No. 32 was enacted, each provincial government must legislate for the area conservation and make the municipal/regency government put the legislation into operation. |

Source: Presidential Decree No. 32 (1990)

4.3.4 Pollution Control

Efforts to control or to manage environmental problems, especially environmental pollution,

in Indonesia have been started since the 1970s. The Principle of Environmental Management in Indonesia, or Law No. 4, was established in 1982. It was subsequently revised by Law No. 23 (1997), and has since been used as the basis of restructuring regulations and programs according to control or management of environmental pollution in Indonesia.

Some important regulations with linkage to environmental control are as follows:

- Government Regulation No. 20/1990 on Water Pollution Control (currently being revised);
- Government Regulation No. 18/1999, GR No. 85/1999 on the Management of Hazardous Wastes;
- Government Regulation No. 19/1999 on Control of Marine and Coastal Pollution;
- Government Regulation No. 27/1999 on Environmental Impact Assessment;
- Government Regulation No. 41 on Air Pollution Control; and
- Government Regulation concerning the transfer of a part of Environmental Impact Control to the Regional Government.

The above-mentioned regulations still require implementing guidelines to be established by Ministerial Decrees. Within Law 22/1999, which concerns Regional Governments, there is a provision which states that the authority on environmental (natural resources) management is given to municipal/regency governance. However, this could mean some positive or negative consequences towards controlling environmental pollution.

The implementation of environmental management and pollution control measures can be done by some related agencies in a variety of regulations, but coordination and control are the responsibility of BAPEDAL (Central Government) and the Governor through BAPEDALDA since 1998 through Government Regulation No. 10 (1997).

Strategies developed in Indonesia for pollution control and management are:

- 1) Preventive strategy;
- 2) Control strategy, and
- 3) Management strategy.

With the establishment of Government Regulation No. 19 (1999), another strategy was developed – the strategy of sea damage and pollution control.

(1) Preventive Strategy

Measures to prevent pollution are based on Gov. Reg. No. 27 (1999) concerning

Environmental Impact Assessment. There are two basic strategies on marine environmental pollution: land-based and sea-based measures. The types of activities or operations subject to compulsory environmental impact analysis (EIA) study are defined by Ministerial Decree No. 3 Year 2000. Regarding the activities related with marine and coastal management, those requiring compulsory EIA study are given in Table 4.12.

(2) Control Strategy.

Emphasis of environmental control programs currently implemented is preventive action as well as environmental clean-up programs. Pollution control programs developed by BAPEDAL are as follows:

- a) Water pollution control: River Clean-up Program, Increase of Synergy Program;
- b) Air pollution control: Blue Sky Program, Alternative Energy Uses Program
- c) Coastal and marine pollution control: Port Clean-up Program, Beach Sustainability Program;
- d) Soil pollution control and domestic waste program; and
- e) Hazardous Waste Management: Collaborative Program on Hazardous Waste Management, *Emergency Alert System Program*.

Environmental control measures including environmental quality control by Ministerial Decrees KepMen No. Kep-02/MENKLH/I/1988 and KepMen No. Kep-51 as well as emission sources controls based on Kep-03/MENKLH/II/1991 are already implemented.

(3) Management Strategy

The purposes of waste management are as follows:

To minimize as far as possible all production and service activities that produce waste, and to recycle the waste whenever possible;

To keep the environment from being damaged or polluted through preventive actions;
and

To allow the recovery of already polluted environments to its normal condition so that they can perform their environmental functions.

Table 4.12 Type of Activities Requiring Compulsory Environmental Impact Analysis Study

| No. | Type of Effort/Activities Plan | Measurement Unit |
|---|---|---|
| I | Mining and Energy Sector : | |
| | - Mining at sea | All measurements |
| | - Submarine tailings disposal (STD) | All measurements |
| | - Oil and gas exploitation and production development at sea | Oil Field > 15000 BOPD Gas Field > 90 MMSCFD |
| II | Industry and Trade Sector: | |
| | - Industrial area | All sizes |
| | - Ship dockyard industry with graving dock system | 4000 DWT |
| III | Tourism and Culture Sector: | |
| | - Recreational Park | 100 ha |
| | - Tourism Area | All sizes |
| IV | Transportation Sector: | |
| | *Port with any of the following facilities: | |
| | - Pier | > 200 m long or > 6000 m ² wide with massive construction |
| | - Breakwater / wave breaker | > 200 m long |
| | - Port support infrastructure (i.e. terminal, warehouse, container, etc. | > 5 ha wide |
| | - Single mooring buoy | for ship > 10000 DWT |
| | *Dredging | |
| | - Capital dredging | Volume > 250,000 m ³ |
| | - Maintenance Dredging | Volume > 500,000 m ³ |
| | *Reclamation | > 25 ha wide or Volume > 5,000,000 m ³ |
| *Dredging product dumping activities | Volume > 250,000 m ³ | |
| *Dredging of fisheries port and or transportation channel in the port authority area and fulfills the following criteria: | | |
| - Dredging volume | > 500,000 m ³ | |
| - Dredging depth | > -4 LWS | |
| *Dredging/reclamation in the fisheries port authority area | > 25 ha wide | |
| V | Defense and Security Sector: | |
| - Navy installation | Class A & B | |
| VI | Agriculture Sector: | |
| | - Shrimp/fish mariculture (<i>tambak</i>) with or without processing unit | |
| | - Planned construction of fisheries infrastructure such as fisheries port located outside the jurisdiction of port authority and fulfills the following criteria: | |
| • length of pier | >300 m | |
| ▪ fisheries industry area | > 10 ha wide | |
| - Water depth at pier | -4 LWS | |
| No. | Type of Effort/Activities Plan | Measurement Unit |
| VII | Public Works Sector: | > 2000 ha |
| | - Swamp reclamation | > 500 m |
| | - Beach protection construction and improvement of river mouth, length measurement perpendicular to the beach | |
| | - Waste discharge area at tidal zone; large landfill area | > 25 ha |
| | - Removal of water from lake, river and watershed or other water resources; removal debit | ≥ 300 l/sec. |
| | Collection, use, processing and/or piling up of Hazardous Waste Material as main activity | All activities related to the development and management of Hazardous Waste Material (excluding small-scale businesses such as collection of used lubricant, used oil and sludge, tin uses and flux solder) |

Source: Government Regulation No. 27/1999

However, according to environmental impact monitoring principles, pollution caused by any production or service activities is the responsibility of the polluters (Polluter-Pays-Principle). Adhering to this principle, Law No. 23 (1997), chapter 35, states that those whose businesses/activities are responsible for pollution are also absolutely responsible for any losses or environmental destruction arising from such pollution, and are providing services for settling living environment disputes out of court.

To promote the success of environmental management, the process of community therefore obliged to provide compensation.

On the other hand, Government Regulation No. 54 Year 2000 describes the institutions partnership/participation has been started with the establishment of Law 23 (1997), and one of the components of community participatory education mentioned in chapter 7 of the said law is developing positive public opinion to zero waste management as well as the 4Rs (reduce, re-use, recycle and replace).

(4) Marine Pollution and/or Destruction Controls

Government Regulation No 19 (1999) is about marine quality protection, prevention of marine pollution, prevention of marine destruction, marine quality recovery, and so on. Nevertheless, other support regulations are not yet provided or ready up to now. Meanwhile, there are already some problems and cases that need to be addressed in advance, such as the submarine tailings disposal case in North Sulawesi Province.

The above-mentioned Government Regulation also describes the standard quality for sea water based on utilization, such as sea water standard quality for tourism and recreation (bathing, swimming, and diving) and sea water standard quality for living resources conservation and their ecosystem. Whereas the criteria for the standard of marine destruction are established based on the physical condition of marine ecosystem, such as coral reefs, mangrove, and seagrass bed.

While waiting for other support regulations, reference could still be made on former regulations, namely:

- Kep-02/MENKLH/I/98, concerning the guidelines for the establishment of environmental standard quality;
- Kep-51/MENLH/10/1995, concerning liquid waste standard quality for industrial activities; and
- Kep-03/MENKLH/II/1991, concerning emission sources controls.

Pollution Control

The Indonesian government has two tools for water quality control such as environmental water quality standards and effluent water quality standards. First, Indonesian coastal water areas are categorized based on use of water and water area in order to set up environmental water quality standards. Water quality standards were established by Government Regulation No. 20 (1990) on the Control of Water Pollution. The regulation prescribes the authority of the governor, license issuance, surveillance, monitoring and punishment. There are four categories as follows:

- Category-A : water that may be used directly as drinking water without any previous treatment
- Category-B : water that may be used as raw water for drinking water
- Category-C : water that may be used for fisheries and for livestock
- Category-D : water that may be used for agricultural purposes and may also be utilized for small business in cities, industries, and hydro-electric generation

Second, effluent standards (Ministry of Population and Environment, Kep-03/MENKLH/II/1991) from pollution sources are set based on environmental standards of water quality. The maximum permissible concentration was decided by type of industry. The purpose of this regulation is for achievement of environmental water quality standards. This policy is a source control, that is, the end of pipe control. In principle, the central government establishes effluent standards as national uniform effluent standards. The provincial government also establishes local effluent standards more stringent than the national uniform standards. However, the stringent add-on effluent standards have not been established yet in North Sulawesi.

Environmental water quality standards of domestic wastewater from households and the discharge of wastewater into the sea are excluded in Government Regulation No. 20 (1990). Domestic wastewater is regulated by regional regulation. On the other hand, the discharge of wastewater into the sea is regulated by a separate regulation from the central government. However, this regulation has not yet been established.

The Governor through the provincial BAPEDALDA executes water pollution control. Functions of provincial BAPEDALDA established in 1998 are defined by Government Regulation No. 10 (1997) as Water Pollution Control. However, after decentralization, BAPEDALDA has performed roles such as administrative coordination for municipalities and regencies.