

# **Integrated Coastal Zone Management in Ecological Planning**

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**Abstract**-Functional relationships between ecosystems is a form of environmental harmony. The strategic location owned Indonesia provide "PR penting" for planners with insight-led development planning. Coastal and delta have an important function in ecological planning. Because most of Indonesia is maritime zone. Marine nature itself has a functional purpose. For example, as a livelihood for fishermen, tourism opportunities, even the industry can take advantage of the presence of the sea. Development in Indonesian waters turned out to impair the function of the ecological integrity of the beach. It causes environmental degradation and decline in socio-economic welfare of the surrounding community. Similarly, river or sea border with the delta area will experience anxiety existence. Integrated coastal zone management can be a solution to these problems in the long term sustainable development. Its construction was substantially approach such an ecological approach, fungsioanl approach, approach to social-political, and cultural approaches. While the instrumental approach including economic approach, the approach of the program, legal approaches, and alternative approaches. Step sequential process of development with that of the planning-implementation-evaluation.

**Keywords:** integrated, coastal, management, ecological, planning

## **1. Introduction**

Territorial sea area of 5.8 million km<sup>2</sup> or 63% of the total territory of Indonesia, with extensive Exclusive Economic Zone of 2.7 million km<sup>2</sup> and a coastline of 95 181 km (Numberi, 2009). Making the coastal areas of Indonesia has the potential of natural resources such high mangroves, coral reefs and sea grass beds. According Supriharyono (2007), this region is very productive with the existence of estuaries, mangroves, seagrass beds and coral reefs, so such a long coast of Indonesia is a potential major natural resources for economic development.

Ecosystem is divided into two types, namely natural ecosystems: coral reefs, mangroves forests, seagrass beds, sandy beaches, pes-caprea, bringtonia formation, estuaries, lagoons and deltas. Artificial ecosystems: ponds, tidal rice fields, the area of tourism, industrial zones, regional agro-industry and residential areas. Utilization of natural resources in the coastal as well as a variety of activities that take place in coastal areas then it is necessary for management in an integrated manner. Integrated planning is intended to regulate development planning activities in relation to the management of coastal and marine areas, harmonize and optimize the functional relationship ecosystems.

Efforts to support the sustainable development needs to be done any regional arrangement in accordance with the conditions of natural resources, utilization patterns and carrying capacity. This arrangement is part of spatial planning for the entire region. Environmental management of coastal areas, marine and small islands should be designed rationally and responsibly in accordance with its carrying capacity capabilities with emphasis

on the overall prosperity of the people and with regard to the preservation of the environment and the balance of coastal areas for sustainable development.

## **2. Metodology**

This paper not only focus on planning the attention of the construction sector alone. It gives value kesinanmbungan functions between the various sectors of life. So in this paper the design of the author not only focus on one area of science. Methods in writing this paper is to conduct a literature review and search reading sources over the internet. In the method of data analysis, the authors use qualitative data in analyzing the data. Qualitative data were analyzed with data reduction and data presentation. This process produces an empirical generalization that is the answer to the question the author.

Authors conducted all research activities at the end of January to mid-February, so the author can manage all stages of the research effectively and efficiently.

## **3. Results and Disscusion**

### **3.1 Conditions the Indonesian Waters**

The process of development in coastal areas freely will result in damage to the function and integrity of coastal ecosystems. Consequences arising is environmental degradation and reduced levels of social and economic welfare of the people of the region. Effective measures to minimize the negative impacts of economic development and the integrity of coastal ecosystems is emphasizing the conservation of natural resources to support coastal and long-term sustainable development. However, the management approach is not entirely politically flexible. Practical considerations of the various views should be sought to harmonize the interests of short-term oriented and long term.

Coastal and marine areas have a high productivity. A common issue in the use of coastal and marine resources is the result of the behavior of the user community resources, which are always based on the framework of "open access". Which means the idea that the use of resources can not be restricted because there is no system of ownership. Open access framework is causing unbalance rate of utilization and the rate of recovery of these resources. Thus, the management of sustainable coastal resources required concerted effort that takes into account the carrying capacity of the environment.

Human activities, in order to take advantage of natural resources, in many coastal areas are using tools that are less environmentally friendly, such as fishing with explosives and poisons. Practices that damage the marine ecosystem, for example taking coral, dead (for building materials) and living (for decoration aquarium) and other activities both on land and at sea, such as deforestation, industrialization, ports, mining, shipping and tourism.

### **3.2 Coastal and Marine Area Management Integrated**

Based on the characteristics and dynamics of the nature of coastal and ocean, potential and problems, the coastal development and the achievement of optimal and sustainable oceans seem to only be done through integrated coastal zone management (PWPLT). It is at least based on four main reasons:

1. Empirically there are ecological relevance (functional relationship), both antaraekosistem in the coastal areas and the coastal areas with top soil and the high seas.

2. In a coastal region, in general there is more than one group of people (people) who have the skills / expertise and preference of different works, as fish farmers, farmers seaweed, companion tourism, industrial and household craft and so on.
3. In a coastal area, usually there are more than two kinds of natural resources and environmental services that can be developed for the sake of development.
4. Both are ecologically and economically, the utilization of a coastal area in monoculture (single use) is extremely vulnerable to internal and external changes that lead to business failure.

### **3.3. Advantages of Coastal and Marine Area Management Integrated**

Some of the benefits (advantages or benefits) compared with its sectoral approach (IPPC, 1994):

1. Provide an opportunity for coastal communities to build sustainable coastal resources safely. Only an integrated management approach that can overcome conflict and the space utilization of natural resources which usually occurs in coastal areas.
2. Allows to include consideration of the needs and aspirations of communities to natural resources and environmental services coastal and marine areas both now and in the future, be able to minimize the negative impacts on coastal and marine ecosystems.
3. Provide a framework that can respond to all fluctuations and non-merit that are characteristic of coastal and marine ecosystems
4. Assist national and local governments with a process that can foster economic development and improving the quality of people's lives.
5. Although it requires the collection and analysis of data as well as a longer planning process of the sectoral approach, but overall cheaper than sectoral approach.

### **3.4. Coastal Development Planning Approach**

Integrated Coastal Zone Management is the key to solving the problems and conflicts in coastal areas are very complex. The integration in public management can be defined as the determination of goals and objectives simultaneously, perform together the collection of information, planning and analysis collectively, jointly use device / instrument management. In practice this is usually an attempt integrasi coordination between various instansi / institutions to harmonize the various interests, priorities and actions. Attempts to do this coordination can be done by using the mechanisms, procedures and plans. Thus, in addition to integrated coastal area plan serves as a guide for the development of the strategy pursued and actions to be implemented, it also serves as an instrument of coordination.

Conception of regional development can be done through several approaches, namely: (1) ecological approach; (2) functional approach / economics; (3) socio-political approach; (4) cultural approach. Ecological approach emphasizes the review space area as a whole ecosystem. This approach is very effective for assessing the impact of the construction of ecological, economic functional approach, emphasizing the region of space as a functional container activities, where the factor of distance or location is important. Political social approach, emphasizing the aspect of "control" area. This approach not only see the area viewed from a variety of means of production, but also as a means to accumulate power. Conflicts that occur seen as a conflict between groups. This approach is also viewed as a territorial area, namely linking chambers certain parts of the units of a particular organization. Cultural approach, emphasizing the links between the region and the people who inhabit the

human or utilize the space region. This approach emphasizes the need to understand human behavior and society in the development of the region. This approach sees aspects of norms, culture, psychology of different communities will produce a different conception of the region.

Besides approaches that are substantially as above, there are several approaches that are instrumental, namely: (1) legal instruments; (2) economic instruments; (3) instrument program; and (4) an alternative instrument. Legal instruments have a concept or idea of the basis of laws and regulations and their enforcement. These instruments include the form of laws and regulations such as location permit, building permit, and so on. Economic instruments have a concept or the basic idea of the influence of the market economy is very significant to the development of the region. Examples of the application of this instrument is the application of taxes, levies and incentives and disincentives related to the utilization of space. Instruments particular program implemented directly by the government based on the concept or the basic idea on basic needs and interests of the wider community. The application of these instruments such as infrastructure development for the region and the like. Alternative instruments based on the concept or idea of the basis for the empowerment of the partnership. Examples of the application of this instrument, among others, include training, education, community participation, the existence of pilot projects, acknowledged to the public and private actors or other development actors.

### **3.5. Planning Process**

Process and these measures can simply be shown as Process Planning - Implementation - Evaluation of Coastal Zone. Preparation of plans, in general stimulated by the presence of critical problems and conflicts in the region coast. This raises awareness of the need for integrated coastal area planning. This situation, followed by the initiative of the local and national governments to undertake the preparation of the plan. This planning process is iterative and allows for multiple feedback.

Processes and basic steps in planning consists of six steps: problem definition, define the evaluation criteria, identification of alternatives, evaluation of alternatives, comparing alternatives, and assessment of out-come. Such things are the general steps in the process, and each step can be translated into more detailed components. Keep in mind that in the planning, the planner may use a variety of pathways, dikarena-right differences in training, the time available for analysis, the complexity of the problem, resources available, and organizational affiliation.

### **3.6. Conclusion**

In running the Integrated Coastal Zone Management planning is necessary to pay attention to the conditions and effects that will occur both short term and long term. Defining problems is an attempt to know the positions and influence of various individuals and groups. Stated problems with the numbers, focusing on the central. Critical factors, and define problems by eliminating the things that are ambiguous. After this effort, will be known whether there are problems that can be solved, if able to develop problems with a detailed statement, and if able to estimate the time and resources required for analysis. determination of the evaluation criteria, please note when a problems resolved or when appropriate policies that are acceptable or identified? How policies that may exist will be compared? Is the policy of the proposed will have a variety of effects and affects different groups? The policies will

be accepted by the group, but may be rejected by other groups, or even harmful to other groups. Identification of alternative policies in the process planner must know the values, goals, and objectives not only for certain parties, but also to all parties involved. Identification of criteria is used for the consideration of alternatives and help to create an alternative policy. Evaluation of alternative policies in the planning process is the evaluation of alternative policies and policy packages into strategies and programs. What are the expected impacts of each policy? How much each policy meets the evaluation criteria? The evaluation may reveal alternatives that meet most or all of the common criteria, and can also reveal other things that can be disposed of with little additional analysis. Some alternatives need further examination. Additional data may be collected. During this stage is an important thing for an analysis to examine the differences between the economic feasibility or technical feasibility with politically acceptable alternative. Policy formulation - the design and evaluation of alternatives or policy options - aimed at defining the exact problem and find solutions that are feasible and effective. Are these solutions can be implemented is an essential political question.

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