

CO-MANAGEMENT DEVELOPMENT MODEL IN THE COASTAL REGION BASED ON BLUE ECONOMY

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ABSTRACT

Co-management is one of type fisheries resource management. Co-management is a resource management that government gives power and authority to coastal community. Co-management would like to accomplish the balance based on blue economic between economic and social so that the ecosystem and natural resource will be sustainable. Most of coastal community lives relying on extracting directly coastal resource. Direct access to coastal resource doesn't give a chance coastal community to quit from poverty. Coastal ecology condition is getting worse. The declining environmental quality will affect the fisheries production. Co-management is one of solutions to overcome the poverty of coastal community and environmental degradation. The success of co-management as the model of resource management will give positive impact to socio-economic conditions of coastal community. Local wisdom will be functioned as main reference to conserve coastal ecosystem. Community empowerment will increase economy activities to coastal community.

Keywords: blue economic, co-management, coastal development, fishery

INTRODUCTION

The potential of Indonesia's coastal resources is very wide ranging from the potential of biological resources, region, mineral and energy resources, industry, transportation and environmental services (Lasabuda, 2013). One of the great potentials of Indonesia's biological resources is fisheries. Sea area of 5.8 million km² (75 percent of the total area of Indonesia) consisting of 0.3 million km² territorial sea waters; 2.95 million km² of Nusantara sea waters; and 2.55 million km² of sea ZEEI (Indonesian Exclusive Economic Zone) is a great potential of Indonesia (KKP, 2013).

According to Law No. 1 of 2014, coastal management is a coordination of planning, utilization, supervision, control of coastal resources and small islands undertaken by the Government and Local Government, between sectors, between terrestrial and marine ecosystems, and between science and management to improve people's welfare. Meanwhile, coastal resources and small islands are biological resources, non-biological resources, artificial resources, and environmental services. Biological resources include fish, coral reefs, seagrass beds, mangroves and other marine biota. Non-living resources include sand, seawater, seabed minerals. Artificial resources include marine infrastructure related to marine and fisheries and environmental services in the form of natural beauty, seabed surface underwater

installation associated with marine and fisheries and sea wave energy contained in coastal areas (Act, 2014).

Management of coastal resources should be able to prosper the coastal community, especially the coastal potential of Indonesia is very much and can still be improved. Co-management is one of the concept of resource management that considers the three pillars of conservation, ecology, economy and social. In line with the concept of marine economic policy with blue economic model (KKP, 2012) ie where the sea serve as axis or reference in sustainable national development in the future. Sustainable development is a contemporary concept where utilization and protection must be balanced by taking into account future sustainability. The fundamental principle of sustainable development is to pay attention to intergenerational sustainability and to consider sustainability in the generation itself (intragenerational). Co-management management model in the coastal area is considered capable to achieve the objectives of the blue economic model because in its approach there is a division of tasks and responsibilities between government and society so that the community as the main actors in economic activity can play an active role in it (Widodo, 2006).

CO-MANAGEMENT MODEL

Management of coastal resources

One of the greatest potentials of coastal resources is the fisheries sector, it requires long-term and sustainable resource management to ensure ecological conditions of coastal resources are maintained. According Widodo (2006) in his study stated that the factor of unsustainability of fisheries management are:

- a. Limitations of the increasing fish resources.
- b. Ship capacity and over capacity.
- c. Different social, cultural and governmental aspects of geography.
- d. Lack of incentives for conservation and management of fishery resources.
- e. Demand for unsustainable fish resources, such as fish eggs.
- f. Limitations of government systems in support of sustainable fisheries (legitimacy).
- g. Capture technology that reap the conflict
- h. Low opportunity costs and limited availability of alternative employment.
- i. Internal and external threats to the ecosystem.
- j. Limited government attention to the sustainable fisheries agenda.
- k. Uncertainty on fisheries and limited data on fisheries.
- l. Fisheries psychology, such as motivation and trust.
- m. Government accountability in resource management efforts

Resource management is not only based on natural resources based development but also must be community based development. If only based on natural resources so often the tendency of marine resource utilization is excessive, inefficient, concentrated in certain groups and oriented to short-term interests resulting in uncontrolled extraction.

Management of fishery resources by the government or commonly called command and control. The government is in charge of managing resources and realizing justice in the distribution of resources (Nikijuluw, 2002). Based on the unsustainability factor of management according to Widodo, there are five of the thirteen key factors of government fisheries unsustainability. The five factors are: lack of incentives for conservation and management of fishery resources; limited legitimacy and functioning of government systems; limited government attention to the sustainable fisheries agenda; limited data on fisheries; and government accountability in resource management efforts. This means that there needs to be a correction of the approach model undertaken by the government to manage resources especially in coastal areas.

Management of fishery resources by the community or so-called community based management (CBM). Resource management is done in a bottom-up manner. Coastal communities, especially fishermen, play an important role in the management. The main characteristic of fishery resource management is community participation management model is high community participation. The advantage of this CBM model (Satria 2002) is the high sense of community ownership over resources; rules are made according to field conditions and; low transaction costs because the management process comes from the community.

Table 1. Management of Fishery Resources

Management of Resources	Examples of Resource Management in Indonesia
Command and Control Model (Government)	Coastal and Small Islands Conservation Area (KKP3K), Maritime Conservation Area
Community Based Management Model (Society)	Sasi, Awig-awig, Panglima Laot, Mane'e (Adrianto <i>et al</i> 2011)
Co-management Model (Government and Society)	Mina Bada Lestari at Maninjau Lake and Management of Marine Protected Areas (DPL) Irwor Ikwan Iba and Sea Farming in Panggang Island (Adrianto <i>et al</i> 2011)

Co-management

Co-management is the management of resources where the government shares power and responsibility to coastal communities. Co-management tries to realize the economic and social balance for the realization of ecosystem and resource sustainability. Co-management stands for collaborative management which means that collaboration between government and society.

The management of fishery resources of the co-management model is a combination of the command and control model and community based management model (CBM) (Satria, 2002) as shown in Figure 1. The model of co-management is considered the most effective fisheries resource management model ensure the relationship between the public, private and public sectors (Widodo, 2006). Without government involvement in its implementation, there are many disparities in the management of the CBM model. According to Bengen (2004), co-management differs

from community-based resource management (CBM) because government elements are also involved in decision-making processes related to fisheries and marine management.

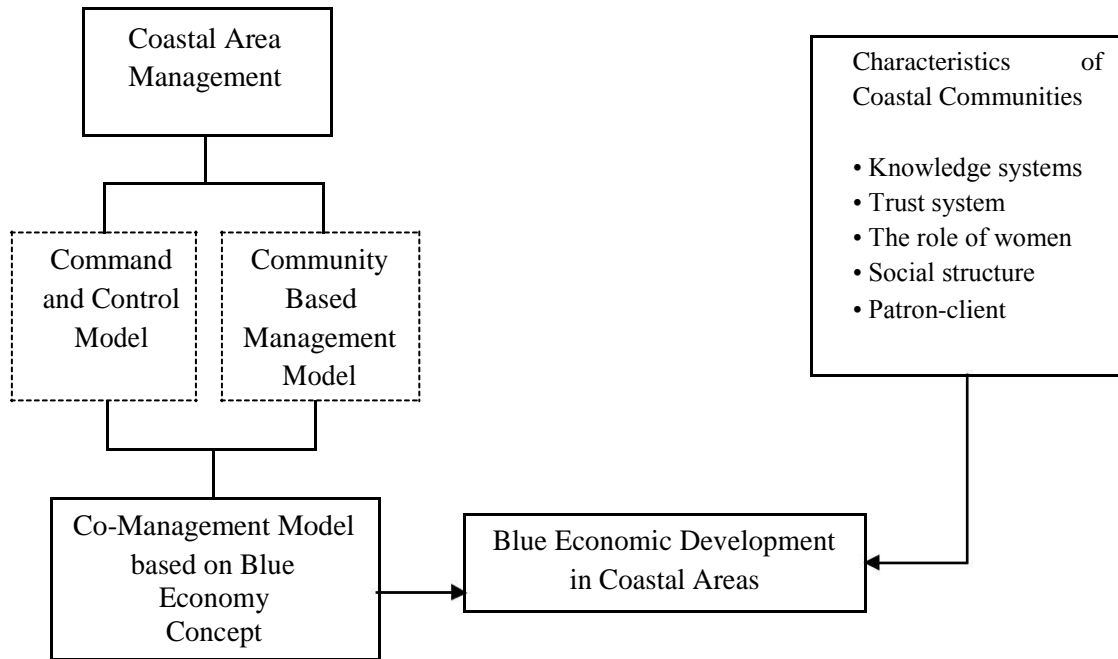


Figure 1. The concept of developing a co-management model in coastal areas

The concept of developing the co-management model in the coastal area as illustrated in Figure 1 explains that in order to implement the blue economy in the coastal areas it is necessary to know how about the characteristics of the community. Coastal communities can be classified into economically dependent communities on coastal resources and community life. Here are the characteristics of coastal communities as communities of various aspects according to Ramadan (2006):

a. Knowledge system

Knowledge of fishing techniques is generally derived from the inheritance of parents or their predecessors based on empirical experience. The strength of local knowledge that further menjadis alah one factor causing the survival of them as fishermen.

b. Trust system

Theologically, fishermen still have a strong belief that the sea still has magical powers so that special treatments in fishing activities need to be done so that safety and catch are guaranteed.

c. The role of women

Female economic activity is a symptom that has been common to lower strata of society, not to mention women who have status as a fisherman's wife. Generally, in addition to a lot of wrestling in domestic domestic affairs, the fishermen's wife still runs also economic functions in catching activities in shallow waters, fish processing, as well as service and trading activities. According to Pollnac (1988) in Satria (2002), the division of fishermen's families is men catching fish and female family members selling the fish.

d. Social structure

Social structure is a pattern of repetitive behavior that raises relationships between individuals and between groups in society. In studying the social structure, there are two important elements that must be considered namely the status and role.

e. Social position of fishermen

The social position of fishermen relates to the role and status of the fishermen so that the social structure and social position of the fisherman are closely related. In coastal societies, a commonly recognizable public feature of coastal community relationships is patron-client relationships.

THE IMPACT OF THE BLUE ECONOMY WITH CO-MANAGEMENT MODEL

The co-management concept evolves on the understanding that community-based model management (CBM) resource management has some disadvantages. The limitation of funds is one of the weaknesses of fishery resource management of this model so that the synthesis between the blue economic concept and the co-management model is echoed for the creation of environment-based economic activities involving the government and the community directly. Co-management will not run well without community support as well as government support. Implementation of the blue economy on the management of fishery resources will affect the socio-economic conditions of the community. This modeling approach is based on the idea of ecological economics with the aim of providing a framework in conceptualizing the impact of various development strategies, especially economies on a time scale of several decades. (Patterson, 2003: 122) Here is the impact of the blue economic concept with the co-management model of socio-economic conditions of coastal communities.

Table 2 The impact of blue economy with a model of co-management on coastal communities

Social Impact	Economic Impact
Awareness of the importance of education to the community is higher	Increased types of economic activities
Increased public awareness of destructive fishing practices	Income increase is quite significant
The movement of livelihoods from fishermen to tourism providers as the implementation of blue economic development	The communities involved in co-management have a higher level of welfare than those who do not follow
Increased public awareness in the management of coral reefs to conserve ecology in economic activities	Increased fishery resources
The community's traditional view of the sea has changed since various government regulations and regional autonomy laws	

The success of co-management as a model of resource management has a positive impact on people's income, the diversity of economic productivity of coastal communities and increased stock of fishery resources. The diversity of blue economic activities will increase income for coastal communities and is one of the economic strategies undertaken by coastal communities a double living (Pranoto 2013). The management of sea farming in Panggang Island, Kepulauan Seribu is one example of co-management to improve the welfare of coastal communities while increasing the stock of fish resources (Adrianto 2011). People in Panggang Island have economic problems due to reduced fish stocks. Government and PKSPL IPB initiate agribusiness system in sea farming. The community gets cultivation training and sell their fish directly in Jakarta. Problems such as the selling price to a low container can be completed. The case of the management of sea farming in Kepulauan Seribu proves that co-management affects the income level of the community.

According to Mustamin (2013), the level of community welfare that participates in co-management programs is higher than those who do not participate. In addition, interruptions in the form of legislation from the government shifted the traditional view of the community on the "sea of the common property". Access restricted by law aims to protect certain species and the efforts to combat the use of explosives in fishing.

The following is an important factor in the success of co-management in relation to the blue economy in the fisheries sector as a livelihood for coastal communities:

a. Clear boundaries

The boundaries of the managed areas should be clear so that fishers and fish farmers can have an accurate knowledge of the resources they manage. Regional boundaries must be based on ecosystems where fishers and fish farmers can easily observe and understand them.

b. Membership

Fishermen who have the right to utilize and manage resources in a region must be clearly defined. A clear membership amount will facilitate the communication and decision-making process.

c. Group cohesion

Members of the organization should live near the area. The proximity of the residence allows for high levels of homogeneity (in familial, ethnic, religious and other types of gearing equipment among group members).

d. The current organization

Fishermen should have prior experience with traditional management systems and community-based organizing. Membership of the organization should accommodate all stakeholders.

e. Benefits exceed costs

Benefits earned exceed the costs incurred. Co-management administration costs can be higher because the process of formulating more policy takes time and involves many interest groups.

- f. Participation of the parties involved
All parties involved in resource management should be included in the group and all parties have rights in decision-making.
- g. Enforcement of management rules
Management rules should be simple. Monitoring and enforcement of rights can be done by all members of the group.
- h. Legal right to organize
Groups of fishermen and organizations have the legal right to make rules binding on their members.
- i. Cooperation and leadership at the community level
There are incentives and willingness of the fishermen to actively participate both in time, effort and money.
- j. Decentralization and delegation of authority (authority)
Governments have formal policies and laws relating to the decentralization of administrative functions and delegations of management or authority responsibilities to local government and local organizational levels.
- k. Coordination between government and society
An external coordinating institution should be established. The existing group should place its representatives in this coordinating body. The coordinating agency is tasked to monitor local management arrangements, resolve conflict issues and enforce agreed rules.

CONCLUSION

Ko-management is a resource management where the government divides power and responsibility to coastal communities. Ko-management tries to realize the economic and social balance in order to realize ecosystem and resource sustainability based on blue economic concept. This development model involves the government and the community directly, co-management will not run well without community support as well as government support. Implementation of the blue economy on the management of fishery resources will affect the socio-economic conditions of the community.

The success of co-management provides benefits to the socio-economic conditions of coastal communities. In addition, coastal ecosystem protection is also the main objective of co-management resource management. The maintenance of ecosystem sustainability on the basis of cooperation between the government and the community will provide an endowment to the coastal community. Stake income is income that will be obtained not at once but a continuous income due to sustainability of coastal ecosystems. In addition, the recognition of the ulayat rights of coastal communities is legally recognized by the government. Communities with local wisdom can use it as a rule in the management of combat resources. Therefore, the management of fishery resources of the co-management model has applied the conservation pillar that is ecological, economic and social balance.

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