

## Social Adapter Model: Development of Coastal Resources Potential Through Empowerment of Coastal Communities in Watu Pecak Beach Lumajang District

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### ABSTRACT

Coastal areas and their natural resources have an important meaning for the economic development of the Indonesian people. This is reflected in the East Java region, which is one of the provinces rich in natural resources, both in the form of minerals and fishery products. For example in the area of Watu Coast Pecak there is potential for natural resources such as Pasir Pantai which has good quality sand for house building and this is an attraction for itself to develop. The purpose of this study was to identify the implementation of the management of Watu Pecak Beach in developing coastal resource potential at Watu Pecak Beach, identifying the role of stakeholders in the management of Watu Pecak Beach, analyzing the activities of the WatuPecak Coast community in utilizing coastal resources available at Watu Pecak Beach, and designed a Social Adapter Model for the development of coastal resource potential in Watu Pecak Beach. The data analysis used in this study used a qualitative descriptive method. The results showed that the implementation of the management of Watu Pecak Beach was still not optimal. The role of stakeholders in implementing Watu Pecak Beach is still not fully active because it is still constrained by administrative permits. The activities of the coastal communities of Watu Pantai Pecak have a variety of activities. The design of this ring circumference social adapter model is used as a frame to strengthen the institutions of coastal communities in Watu Pecak Beach.

Keywords: coastal; resources; communities; social; adapter

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### 1. Introduction

Coastal areas and their natural resources have an important meaning for the economic development of the Indonesian nation. The value and importance of the coast and the sea for the Indonesian people can at least be seen from two aspects, first, in terms of socioeconomic significance, coastal and marine areas are important because around 120 million (50%) of Indonesia's population lives in coastal areas (with average growth 2% per year), most of the cities (provincial and regency cities) are located in coastal areas. Second, biophysically, Indonesia's coastal and marine areas have an important meaning because Indonesia has the longest

coastline in the world after Canada (about 81,000 km), about 75% of its territory is water. (Dirhamsyah, 2006). Indonesia is the largest archipelago country in the world with 17,508 islands and has high biodiversity. Indonesia's marine and coastal areas are also areas that are important for the environment in the world. Indonesia is recognized as the world's center for biodiversity for marine and coastal biota, including coral reefs, reef fish, molluscs and mangroves. (*The Ecology of the Indonesian Seas - Tomas Tomascik - Google Buku*, n.d.). Uncontrolled exploitation has also caused damage to nearly 40% of the total mangrove forests owned by Indonesia (*Coastal Waters of the World: Trends, Threats, and Strategies - Don Hinrichsen - Google Books*, n.d.). However, it has almost become a problem regarding fishing communities who are still in a low income level, and this has led to the occurrence of poverty in

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fishing communities (Hamdani & Wulandari, 2013) where the factors that cause fishermen's poverty in a micro, first, poverty arises because of the inequality of resource ownership patterns, which causes an unequal income contribution. The poor have limited and low quality resources. Second, poverty arises from differences in the quality of human resources. *Third, poverty arises from differences in access to capital. Apart from that described* (Humaedi, 2017), the government responds to poverty caused by internal conditions in the production mechanism directly through its various programs. However, this is not the case with external causes of poverty, such as buwuh and bank titil that appear together in the life and cultural practices of the community, which are rarely considered as important factors of factual poverty.

East Java is a province that is rich in natural resources, both in the form of minerals and fishery products. One of these assets is fishery products, which are divided into capture fisheries and aquaculture. Aquaculture is relatively potential to be developed in any area, both coastal and land, so it is very flexible to be developed and explained (Radiarta et al., 2016), Aquaculture can be developed based on a Blue Economy, where there are several strategies that need to be considered so that their implementation can develop properly to spur the economy of coastal communities. (Zulkarnain et al., 2013) explains if aquaculture has an effect on the gross domestic product of the Indonesian fisheries sector, where the production value of marine cultivation, aquaculture, pond cultivation and rice cultivation has a partial effect on the gross domestic product of the fisheries sector. This shows that each cultivated fishery variable will affect the ups and downs of the Gross Domestic Product value of the fisheries sector.

The potential of natural resources in Lumajang district will support income for the region which is influenced by the location and characteristics of the area, so each natural resource has its own advantages. For example, in the Watu Pecak Beach area, there is potential for natural resources such as Pantai Sand which has good quality sand for house buildings and this is an attraction for development and management, but the management of these natural resources on Watu Pecak Beach is not fully maximized. Described from the research results (Pratama, 2017), sand mining in Selok Awar-Awar Village, Pasirian District, Lumajang Regency is illegal mining even though sand mining around the

coast has been legally prohibited, but it is carried out by unscrupulous people who want to utilize natural resources in order to improve quality and comfort quality of life they keep mining the sand illegally. Economic activities to increase income that are better in fact have a negative impact on the community and farmers in Selok Awar-Awar Village. Within one year the beach began to have large holes caused by continuous and excessive sand mining. If it happens continuously it will have an impact on the environment both physically and socio-economic impacts described in (Yudhistira et al., 2011), the impact of sand mining that occurred in the village of Keningan Mount Merapi, namely landslides, reduced water availability, changes in soil structure, decreased infiltration capacity and groundwater absorption, loss of soil organic matter.

In this case the resource management has not been carried out properly, according to (Susilo *et al.*, 2007) the problem of resource management institutions built in areas that have lost or no longer have customary law requires a long journey. The basic assumption of this research is that fisheries resource management institutions that are shown to carry out resource management in a balanced manner from an economic and ecological perspective can be used as a basis for increasing domestic food security. Stimulant community development projects by the government, efforts to strengthen economic institutions by non-governmental organizations, and studies of human adaptation in the ever-changing environment, which have been carried out previously can be used as a basic framework for institutional strengthening of fishery resources. During the regrowth period, the management system requires continuous efforts between resource management actors, both from the government, the private sector and the community itself. Explained (Wibowo, 2009), the authority to manage coastal and marine resources is spread out in various (sectoral) laws and regulations, such as tourism, environment, spatial planning, land use, mining, forestry and so on. As a result, the institutions or agencies that deal with marine and coastal issues are quite diverse. The large number of institutions that deal with the coast and the sea can potentially lead to disputes over authority between agencies, from an institutional point of view, inter-sectoral inter-related activities, overlapping activities, and the potential for conflicts of authority and interests, requiring an institutional system with integration as a characteristic. the main thing. Besides that,

for resource management, adaptive management strategies based on local marine resources institutions can also be used, explained (Nurhayati et al., 2018) The adaptive strategy carried out by local institutions is expected to be able to overcome the problems faced by all stakeholders involved in the management of marine resources, especially in the Cirata Reservoir so that it provides benefits both directly and indirectly to users and the community in utilizing the derived functions of public waters in Cirata Reservoir. In (Dahuri, 2001), The fisheries sector has the challenge of how to use internal resources better and efficiently to be able to sustain the regional and state economies, which supports two components, namely resource potential and market potential, only how can it be accommodated and supported by the central government.

This institutional development needs to be developed more broadly and dynamically in order to increase the accessibility of coastal communities in the development of Watu Pecak Beach. The term accommodative institution is then published as a social adapter or co-management (Susilo, 2004). The social adapter in the operationalization of the concept is an effort to combine national interests with the needs of local communities. The social adapter is an analogy model, like an adapter capable of connecting two electric currents AC (State) and DC (people). Social adapters are also analogous to plants that grow at the same time bear fruit, which is the result of grafting between plants that bear fruit but do not grow and plants that grow but do not bear fruit. Explained (Pomeroy, 1995) Co-manajemen involves various levels of delegation of management responsibilities and authorities between the local (resourceuser / community) and state (national, provincial / state) levels. Fishery business in co-management between local government and fishermen and the community can be an alternative to empower fisheries services and develop fisheries management. Fishery co-management may be based on local management practices primarily by commercial fishermen. It may also build on customary law and rights (Nikijuluw, 1995). According to (Feyerabend et al., 2004) *co-management* is a situation in which two or more social actors negotiate, determine, and guarantee among them the fair distribution of management functions, rights and responsibilities for a particular area, territory or set of natural

resources. Therefore, based on the previous theory above, it is necessary to research on how to model the social adapter development of coastal resource potential through the empowerment of coastal communities in Watu Pecak Beach. This study aims to identify the implementation of Watu Pecak Beach management in developing potential coastal resources at Watu Pecak Beach, identify the role of stakeholders in the management of Watu Pecak Beach for the development of potential coastal resources on Watu Pecak Beach, analyze the activities carried out by coastal communities of Watu Pecak Beach. utilize coastal resources available on Watu Pecak Beach, and design a Social Adapter Model for the development of coastal resource potential through the empowerment of coastal communities in Watu Pecak Beach.

## **2. Research Methods**

### **2.1. Research Sites**

This research was conducted at Watu Pecak Beach, Pasirian District, Lumajang Regency, East Java. The location selection is based on or considering the potential of natural resources that can still be utilized and managed.

### **2.2. Sampel Determination**

The technique of determining the informants of this research used snowball sampling. determine the key informant and then determine informant next from the previous informant. The key informants of this study were the staff of the Fisheries Service, and then the Department of Agriculture, Perhutani and the Head of the Fishermen Group. The sample of this study were 34 people.

### **2.3. Data Collection Techniques**

Data collection was carried out by in-depth interviews with informants and semi-structured interviews with fishermen groups. Observation and documentation techniques were also carried out to complement the data.

### **2.4. Data Analysis Techniques**

Data processing and analysis were carried out using qualitative descriptive methods, namely describing and explaining facts according to phenomena that occur in the field. The data analysis technique in this study used a qualitative descriptive analysis model (Miles et al., 2014) which consists of 3 (three) activities that occur

simultaneously, namely data condensation, data presentation, and drawing conclusions or verification

### 3. Result and Discussion

#### 3.1. Implementation of Watu Pecak Beach Management by Stakeholders

The implementation of Watu Pecak Beach management is still not optimal for the development of potential coastal resources because there is still no legal cooperation between stakeholders. The implementation of Watu Pecak Beach Management, which has played an active role, is the Marine and Fisheries Service of Lumajang Regency, the Culture and Tourism Office and the Perhutani KPH, while the Agriculture Service is only limited to providing counseling to farmers in Selok Awar-Awar Village, village officials are limited to providing permission for activities. The Ministry of Marine Affairs and Fisheries is only responsible for areas 0-12 miles from the coast to the high seas so it does not have authority over the management of Watu Pecak Beach. Meanwhile, coastal communities and tourists carry out activities in the coastal areas of Watu Pecak Beach. According to stakeholder theory Gonsalves et al. quoted by Iqbal (2007), Stakeholders are defined groups or organizations that have direct or indirect interest in an organization because they can influence or be influenced by the organization's actions, objectives, and policies. Even though the actors usually legitimize themselves as stakeholders, all stakeholders are not the same and have different positions.

Based on the definition above, it can be concluded that stakeholders are all parties related to issues and problems that are the focus of the

study or attention. If the resource management institution is able to carry out its functions, there will be a recovery process for the availability of coastal resources in the Watu Pecak Beach area. Small-scale fishermen will continue to run their business in the coastal area, if small-scale fishermen can optimize their business in a coastal area where the sustainability of coastal resources is maintained and stakeholders can carry out a written and legal collaboration, then the development of potential coastal resources through community empowerment can be fulfilled.



**Picture 1.** Visualization of the current management of Watu Pecak Beach

#### 3.2. The Role of Stakeholders in Watu Pecak Coastal Management

##### a. Identification of Watu Pecak Beach Stakeholders

Initial identification is useful for determining stakeholders according to their function or importance for the management of Watu Pecak Beach. Based on the results of research with interviews, researchers identified 10 stakeholders involved in the management of Watu Pecak Beach.

**Tabel 1.** Stakeholders in the management of Watu Pecak Beach

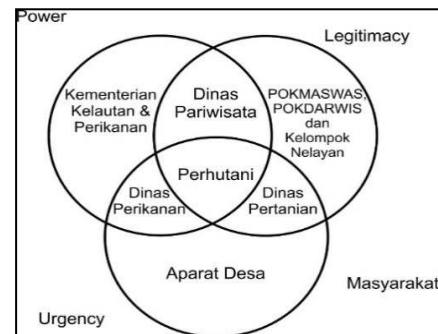
Group	Institutions	Interes
<i>Central Government</i>	Marine and Fisheries Ministry	Implementing, utilizing, and monitoring marine conservation areas with the aim of conserving fish resources and the environment
<i>Local Government</i>	Marine and Fisheries Office of Lumajang Regency, Culture and Tourism Office of Lumajang Regency, Agriculture Office of Lumajang Regency, Village Officials of Selok Awar-Awar	Assisting the governor, mayor and regent in carrying out some government affairs in their respective fields

Group	Institutions	Interes
BUMN (State Owned Enterprise)	Perhutani KPH Probolinggo	Conducting businesses aimed at public benefit in the form of providing goods and / or services related to quality forest and forest product management at prices affordable to the community based on the principles of sustainable forest management and the principles of good corporate governance.
NGO (Non-Governmental Organization)	POKDARWIS (Tourism Awareness Group) POKMASWAS (Community Supervisory Group)	Utilizing, Overseeing Coastal Resources and Tourist Visits
Fishermen Group	Mina Barong Samudera Group and Mina Selok Awar-Awar Group	Utilizing coastal resources
Local people		Utilizing coastal resources

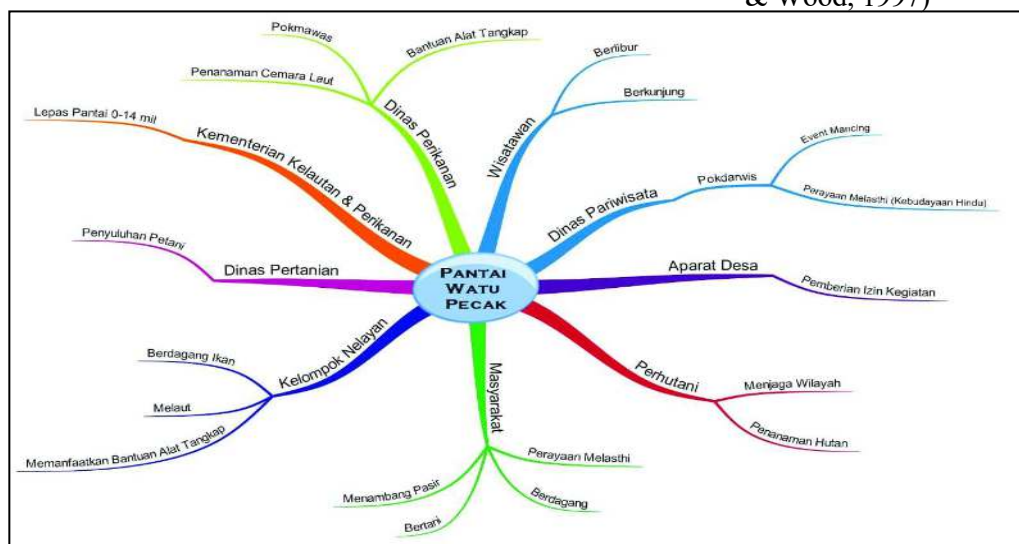
b. Category of Stakeholders of Watu Pecak Beach

To categorize the stakeholders on the coast of Watu Pecak Beach based on the relationship of 3 attributes: *power*, *legitimacy* dan *urgency*.

In the picture, the categories of stakeholders on the Watu Pecak Coast are explained based on 3 attributes : *power*, *legitimacy* dan *urgency* who are included in all circles and it can be seen that those who have administrative rights at Watu Pecak Beach are the KPH Perhutani Probolinggo.



**Picture 2.** Category of Stakeholders in Watu Pecak Beach (Adapted from the theory Mitchell & Wood, 1997)



**Picture 3.** Concept Map of the Role of the Stakeholder of Watu Pecak Beach.

c. Overview of the Concept Map of the Role of the Stakeholders of Watu Pecak Beach

From the concept map image, it is explained that the management of Watu Pecak Beach is still not maximized, the impact caused

has not yet had a major impact on the welfare of the community and others. It can be seen that every stakeholder with an interest only plays a modest role in the implementation of management because there is still no agreement

between them to build Watu Pecak Beach into a good resource management.

### 3.3. Activities carried out by the Watu Pecak Coastal Community

The activities of the coastal community of Watu Pecak Beach during 2017-2018 have various activities:

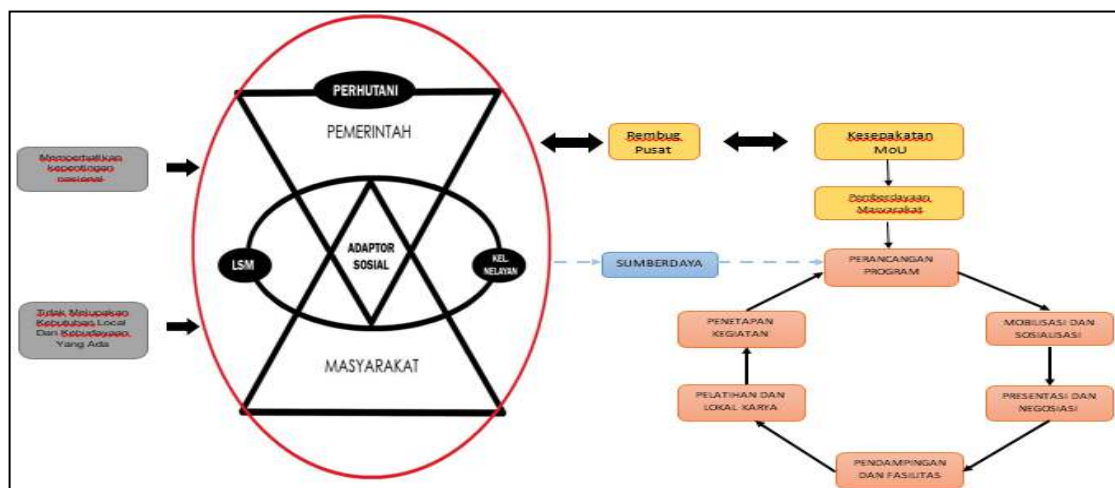
- Economic activities carried out by the community, namely by fishing for fishermen, trading, mining sand and farming.
- Visits of tourists who always come to visit every day, even if only for singga to relax and eat at fishermen's stalls and crowded during holidays.
- There is a fishing tournament activity that will be held in 2018 and will become a routine activity every year.
- Every year during the celebration of Nyepi Day, there is a cultural tradition of Hinduism on Watu Pecak Beach, namely the Melasthi ceremony. Even though the management is not yet optimal, the activities are still running. Watu Pecak Beach itself also needs cooperation between various interests for more optimal development and can be useful for many people, especially the coastal community

of Watu Pecak Beach.

### 3.4. The Design of the Social Adapter Model for the Management of Watu Pecak Beach in the Development of Coastal Resources Potential

Described in the implementation of the management of Watu Pecak Beach above, the Social Adapter Model in this implementation is used as a frame to strengthen the institution of the coastal community of Watu Pecak Beach due to the absence of legal cooperation between stakeholders and only doing management without maximum effort. This social adapter model is a substitute for the accommodative institution that was developed since 1996 by Susilo (1997).

From the implementation that has been carried out by the Culture and Tourism Office of Lumajang Regency, the Office of Marine Affairs and Fisheries of Lumajang Regency, the KPH Perhutani Probolinggo, the Lumajang Regency Agriculture Office and the Fishermen Group The role of these stakeholders and knowing the activities of coastal communities, the researcher tries to design a social adapter model that uses the social adapter model which is a concept that seeks to be integrated in order to obtain a practical benefit for the operation of an activity. Following is the Image of the Social Adapter Model:



**Picture 4.** The "Ring Circle" Social Adapter Model Development of Coastal Resources Potential of Watu Pecak Coast adapting the Adiplas Social Adapter Model (*Adaptasi Manusia: Ketahanan Pangan Dan Jaminan Sosial Sumberdaya* - Edi Susilo, Pudji Purwanti, Mochammad Fattah - Google Buku, n.d.)

Some things related to the design of this ring social adapter model are as follows:

- One of the components for coastal resource management. A concept that can be used to make a cooperation agreement between the

stakeholders who manage Watu Pecak Beach.

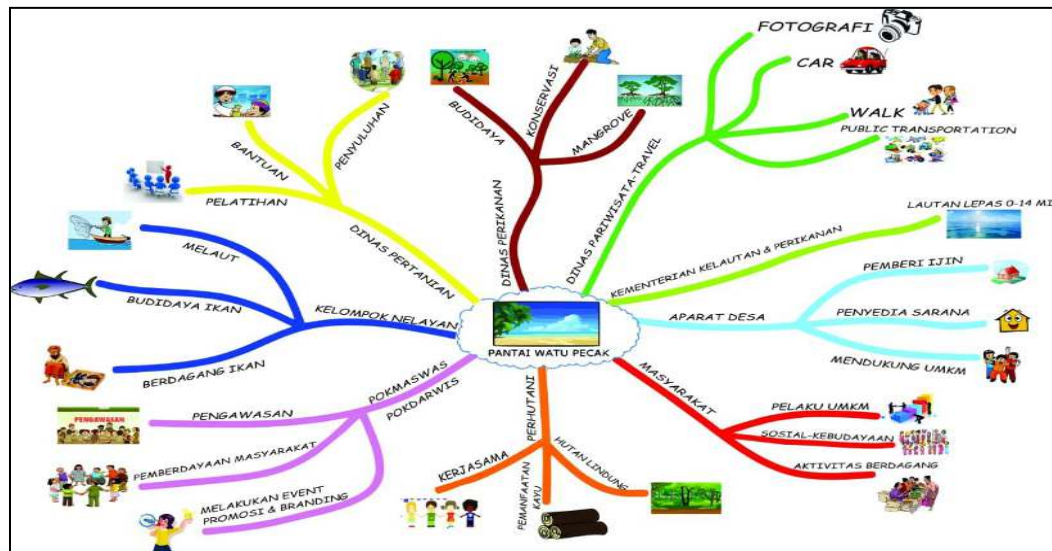
- Implementation of the ring social adapter concept can focus on economic security, especially on the availability of institutions



- capable of managing coastal resources and daily needs for coastal communities.
- c. Can be a strengthening of local community social organizations to carry out coastal resource management, so that it is an entry point for coastal communities in

community empowerment programs in the face of social change.

- d. The application of the social adaptation model will also face many obstacles, but if it is operated frequently it will accelerate the process of unifying social structures from two different cultural poles.



**Picture 5.** Concept Map of Watu Pecak Beach Potential Development Expectations

From the concept map hope of developing potential for coastal resources of Watu Pecak Beach, it can be seen that the implementation of Watu Pecak Beach Management is still not optimal for the development of potential coastal resources because there is still no legal cooperation between stakeholders. In the concept map, if the resource management institution is able to carry out its functions as described, there will be a recovery process for the availability of coastal resources in the Watu Pecak Beach area.

#### 4. Conclusion

Based on the results and discussion, the conclusions of this study are:

- The implementation of Watu Pecak Beach management is still not optimal for the development of coastal resource potential because there is still no legal cooperation between stakeholders.
- The role of stakeholders in the implementation of Watu Pecak Beach is still not fully active because holding their duties and authorities is still constrained by administrative permits.
- Activities carried out by the coastal community of Watu Pecak during 2017-2018 have a variety of activities.

- d. The design of this ring circle social adapter model is used as a frame for strengthening the community institutions of the coastal Watu Pecak coast.

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