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# STRATEGY FOR IMPROVING ENVIRONMENTAL QUALITY THROUGH WASTE MANAGEMENT IN THE BAJOE COASTAL AREA COMMUNITY, BONE REGENCY

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#### **ABSTRACT**

This study aims to discuss the evaluation of waste management in the coastal area of Bajoe, Kab. Bone. The approach used is a qualitative and quantitative approach from a methodological aspect, and an environmental, economic, religious approach from a scientific aspect. The research design used is an evaluative research design. The required data were collected by observation, questionnaires, interviews, and documentation. The data that has been collected was analyzed by descriptive analysis. The results of the study show that first, the results of the assessment of waste observers really want to make a change to the people in the Bajoe coastal area by providing assistance in waste management. The Bajo people are said to have minimal attention to waste management even if they are given counseling on waste management. Second, the participation of the Bajoe coastal community in waste management based on Community-Based Resource Management (CBRM) theory. Third, the making of the module through the input-process-output stage through several stages in terms of revising the adjustment of environmental conditions in the Bajoe coastal area which must be harmonized because during the observation and distribution of questionnaires the researcher only focused on identifying types of waste and knowing how they manage waste. The module development stages consist of module creation, FGD Review Module and Module Implementation.

#### INTRODUCTION

Many people in the coastal areas of Bajoe and Kampung Bajo throw rubbish into the sea because they believe that sea water will wash away the rubbish. They consider rubbish to be discarded, of no value, and are simply thrown away, either in the sea or burned.

However, recycling mechanisms allow the creation of new, valuable products. Because of this, people's negative perception of waste is gradually disappearing. They start to think that rubbish is just a source of disease, endangers the environment and human life because some rubbish can be used to make profitable art or compost. (Observation & interview, 2022).

Finding benefits from waste is a creative act and even has economic value because it gives valuable meaning to waste. However, people do not have sufficient knowledge about waste

utilization, both in terms of management, assistance and management, so they do not know how to process waste. The absence of socialization about waste processing and utilization means that people are unable to develop and recycle existing plastic waste. Making changes is not as easy as turning the palm of your hand. To support it, society, government and third parties must work together. Building awareness takes quite a long time. Consistency is needed from policy makers in a region, as well as good examples and role models. (Observation & interview, 2022).

There is several previous research that is related to the research carried out. For example, Prastyo et al., (2021), Ari Atu Dewi, (2018), Busono, (2017) Pinto, (2016), Dwiyanto, (2011a), Manik et al., (2016), Suryani, (2014), Elamin et al., (2018) who focus on the methods of using and managing waste above, discuss waste banks and differentiate between organic and nonorganic and inorganic waste based on the creative economy with six waste bank programs. Apart from that, there are researchers who concentrate on community-based coastal area development, which is considered an ideal and appropriate model to be implemented to realize community independence.

Research—This research was conducted with the assumption that waste management is a systematic activity. As a result, this research does not pay enough attention to empowerment aspects related to assistance, creation and development of comprehensive and sustainable waste management training module materials in Coastal Areas which include waste destruction and management. In the Bajoe coastal area of Bone Regency, waste management still requires further supervision because many people throw rubbish carelessly. This makes local communities overwhelmed in managing waste because the environment around the sea has a lot of unmanaged waste, which causes the quality of life of the Bajoe coastal community to become worse. With the waste management module and rewards, the Bajoe coastal community can improve their quality of life.

In line with what was mentioned previously, the aim of this research is to answer three questions. First, how is waste managed in the Bajoe coastal area of Bone Regency? Then, how can waste management strategies improve the quality of the environment in the Bajoe coastal area of Bone Regency? Finally, how are waste management training materials created?

#### Waste Management in The Bajoe Coastal Area.

Cultural viewpoints and community actions are components that influence the waste management system. This is related to people who live in Bajo tribal fishing settlements. They admit that the waste transportation service by the sanitation service is not optimal due to a lack of waste transportation facilities and people who do not care about environmental cleanliness.

The results of the field survey showed that the TPS provided one trash container and the settlement previously received assistance with a waste motorbike from the Spatial Planning Service. However, people who had managed the aid said that the trash motorbikes had stopped operating because the community's monthly fees continued to be in arrears, which were used to pay salaries and operate the trash motorbikes. As a result, people in Bajo tribal settlements in land areas throw rubbish directly into the TPS or burn it in their yards. However, there are still many people who do not care about environmental cleanliness, especially those who live in water areas.



Source: Observation Results, 2022.

**Figure 1** Non-Permanent Buildings with the Most Trash Conditions Around Under the Water of the House



Source: Observation Results, 2022

**Figure 2.** The Condition of the Bajoe Coastal Area is Full of Garbage

There is one trash container in this settlement at the TPS at the research location, but people in the mainland area, because there are no rubbish dumps, throw rubbish in their yards. In water areas, people immediately throw rubbish into the sea, which is their yard.

The TPS3R concept can be applied to handle waste management by providing rubbish bins in every resident's house. Furthermore, waste is transported indirectly through individual patterns, namely cleaning officers visiting waste sources in residential areas. The rubbish is then transported every day to the TPS provided at night using rubbish carts or rubbish motorbikes. Organic and inorganic waste is then sorted to make compost and handicrafts. After being sorted, the remaining unused waste or B3 waste is transported and taken to the TPA (Final Disposal Site) using a rubbish truck every hour a day and a maximum of two hours a day.

Waste is usually divided into two categories: organic waste that can be processed through composting and inorganic waste that is difficult to compost. The goal of composting is to reduce the mass or volume of biodegradable organic material by converting it into biologically stable material. (TPS3R Technical Instructions for 2017).

Waste Management Strategy in Improving Environmental Quality.

To realize an integrated waste management system, all parties and elements must work together. One important aspect of this problem is the lack of legal regulation of waste management. This means that Bajoe coastal communities, especially the Bajo tribe, do not know how to manage waste and do not care about the surrounding environment because they throw rubbish into the sea and burn it directly.

As shown in the image below, the waste management methods used by the Bajoe coastal community, especially the Bajo tribe, show that almost 88% of the population throws rubbish into the sea, and the rest burns it. There are some people who do not want to throw their waste

into TPS or TPA. (Interview with N&K, 20220). There are rubbish dumps available at every rubbish dump, but some people on the Bajoe sea coast, especially the Bajo tribe, prefer to throw their rubbish directly into the sea. Any waste, whether organic or inorganic, is sometimes burned and can cause pollution around the sea coast, as we know from the location of houses on the Bajoe sea coast and the nearby Bajo tribe.



Source: Research Data Observation Results, 2022

Figure 3. Waste Management Services for Bajoe Coastal Communities

According to the Minister of Maritime Affairs and Fisheries Regulation Number: KEP.10/MEN/2002 concerning General Guidelines for Integrated Coastal Management Planning, coastal areas are defined as transition areas between interconnected land and sea ecosystems, with district or city administrative boundaries on land and 12 miles from provincial coastline.

The complexity of economic activities such as fisheries, tourism, settlements and transportation puts significant pressure on the ecological sustainability of coastal areas such as mangrove ecosystems, seagrass beds and coral reefs. If this pressure is not managed well, it will reduce the quality and quantity of resources in coastal areas. (Waluya, 2007).



Source: Research Data Observation Results, 2022

**Figure 4.** Environmental Complexity and Economic Activities of the Bajoe Coastal Community, Especially the Bajo Tribe

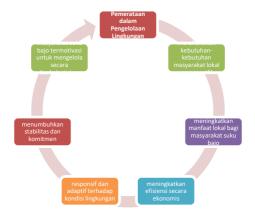
Bajoe social values, habits and customs differ across coastal communities. There are

differences in the way environmental management is carried out. As a result, society and its culture are included in the subject or object of management. It is hoped that land reclamation will be leaner, more effective and acceptable to the wider community by emphasizing this and the physical and psychological conditions of coastal and coastal environments. The land reclamation process must be carried out with a better understanding of local circumstances and conditions so that the results are appropriate to local conditions. The customs and values adhered to by the Bajo tribal community are local wisdom used by the Bajo tribal community in managing their environment. Overall, the description of the discourse above shows that management involving elements of society is very important to study and experiment with. (Interview with AZ, 2022).

AZ (Tanete Riattang Extension Officer), R (Ecobrick Originator), and AT (NGO and Bajoe Waste Management Observer) said that the Bajoe coastal community, especially the Bajo tribe, really needs support, especially in terms of waste management. They only know that rubbish is just discarded goods and does not have any value. This extension lady started working with the Waste Bank in stages because the Bajoe coastal community needed a more in-depth approach if they wanted to make a difference. The daily life of the Bajoe coastal community consists of fishermen who are heads of families and housewives who only take care of their homes.

These waste observers really want to change the Bajoe coastal community by supporting waste management. Even if they are given instructions about waste management today, tomorrow, or a few weeks later, the issue of waste management is no longer important to the Bajoe community. They need more help than just a guidebook that covers modules, types of waste, and stages of waste management for various types of waste on the Bajoe coast, especially. Because some Bajoe coastal communities do not understand how to manage their environment, they cannot increase the quantity and quality of the Bajoe coastal area environment in terms of expenditure, but the Bajoe coastal area is also a tourist spot that can increase economic activity through fisheries and settlements, which is very attractive to foreign communities. to visit. because of the fresh seafood.

Community participation in this management is better known as community-based management (PBM) or community-based management (CBM). According to Carter (1996), Community-Based Resource Management (CBRM) is defined as a strategy for achieving human-centered development, where the center for decision making regarding the sustainable use of resources and the environment in an area is located in the hands of organizations in society. in that area. Furthermore, it is said that in this management system, the community is given the opportunity and responsibility to manage its resources and environment, where the Bajoe coastal community, especially the Bajo tribe, defines their needs, goals and aspirations and the community also makes decisions for their welfare. The concept of community-based management of natural resources and coastal and marine environments has several positive aspects, namely;



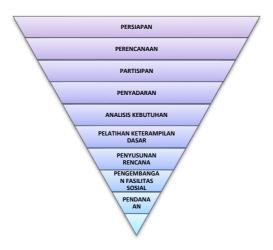
Source: Research Data Observation Results, 2022

Figure 5. Bajoe Coastal Community Environmental Management Process

To optimize resource and environmental management, the task of the government, especially the Environmental Service (DLH), and the community must be balanced, coordinated and connected. This is important to do considering that the government has an obligation to provide services to the community, including supporting resource and environmental management. for the greatest benefit and welfare of the community.aOn the other hand, the community also has a responsibility and participates in maintaining the preservation and sustainability of natural resources and the environment (Interview with AZ, 2022).

In consultation with the relevant government authorities, especially the environmental department, regarding the condition of the waste management map in the Bajoe coastal area, the Bajo tribe has several of their staff or employees developing a waste buying and selling system and offering the Bajo tribe community in the form of Waste Bank savings in the future, according to them, this is not easy to do. with the condition of coastal area communities which have monotonous customs, norms, values and habits, so there is a need for assistance in managing or improving the Bajoe coastal environmental area, especially the Bajo tribe. Providing assistance is not as easy as turning the palm of your hand in the current conditions due to the habits of those who do not understand the benefits of managing waste, recycling waste and even that waste can generate valuable money to improve their economic standard of living in the future (Interview with AN, 2022).

The specific objectives of dealing with community-based coastal and marine environmental damage in this case are to (i) increase public awareness regarding the importance of dealing with environmental damage; (ii) increasing the community's ability to participate in the development of an integrated environmental damage management plan that has been mutually agreed upon; (iii) helping local communities choose and develop more environmentally friendly economic activities; and (iv) provide training on the system for implementing and monitoring community-based coastal and marine environmental damage mitigation efforts. Community-based natural resource and environmental management activities often focus on developing, transforming or strengthening community institutions, so that the process of identifying existing local institutions and analyzing them is to determine the extent to which these institutions are related to efforts to manage natural resources and the environment. Community-based management is a system of managing natural resources and the environment in a place where the local community in that place is actively involved in the process of managing the natural resources contained therein. Management here includes various dimensions of activities as follows:



Source: Research Data Observation Results, 2022.

**Figure 6.** Waste and Environmental Resource Management Based on Community Empowerment



Source: Research Data Observation Results, 2022

**Figure 7.** The Waste Management Process for the Bajoe Coastal Community is Effective and Efficient

Aspects of coastal communities are as follows:

#### Knowledge System

Knowledge is generally obtained from inheritance from parents or their predecessors based on empirical experience. This strong local knowledge is one of the factors causing their survival as fishermen. Local knowledge (indigenous knowledge) such as fishing techniques, canoe maintenance techniques and diving techniques is their intellectual property which continues to be maintained to this day.

#### Belief System

Theologically, fishermen still have a strong belief that the sea has magical powers, so special treatment is needed in carrying out fishing activities so that safety and catches are guaranteed. These traditions include the tradition of suwonke Suhu or shamans in order to obtain safety when going to sea and get a good catch. This belief system still characterizes fishing culture to this day. However, with theological developments and increasing levels of education or the intensity of deepening religious values, these ceremonies for some groups of fishermen are just ritualism. That is, a tradition that continues to be maintained even though it has lost its true meaning. So, this tradition is carried out only as an instrument of social stability in the fishing

#### The Role of Women

With the exception of women who have the status of fishermen's wives, women's economic activities are common among the lower strata of society. Apart from facing many household problems, fishermen's wives continue to carry out economic activities in the fields of fishing, fish processing, and services and trade. Men in fishing families catch fish, and female family members sell the fish they catch. Because men can only fish occasionally, women work all year round, the role of women is very important to stabilize the economy of some fishing communities. Fishermen's wives generally only carry out domestic and economic functions, and do not extend to the socio-political area. However, fishermen's wives are actually also creative in creating social institutions that are important for social stability in fishing communities. This can be seen, for example, in religious studies, social gatherings and savings and loans which also have important meaning in helping to overcome uncertainty in economic income (Satria, 2015).

#### Social Position of Fishermen

The social position of fishermen in society is also interesting to observe culturally and structurally. This is because many fishing communities have relatively low status. The low social position of fishermen is also caused by fishermen's isolation. This isolation causes non-fishing communities to not know more about the world of fishing and there is little time and opportunity for fishermen to interact with other communities. This is due to the large amount of fishermen's time allocated to fishing activities rather than socializing with non-fishing communities who are geographically relatively far from the coast. The residential environment of coastal communities, especially fishermen, is still not well organized and seems slum. With the socio-economic conditions of the community being at a relatively low level of prosperity, in the long term the pressure on coastal resources will be greater in order to meet community needs. (Pinto, 2016)

### Development of Waste Management Training Module Material in the Bajoe Coastal Area, Bone Regency

At the input-process-output stage, module creation is carried out through several stages. Because when conducting observations and distributing questionnaires, researchers only focused on identifying types of waste and knowing how they manage waste, researchers experienced several difficulties when looking at the results of the questionnaire from an educational perspective for coastal communities, especially the Bajo tribe, in the process of filling out the questionnaire and several lists of questions were 1.8 % who have completed elementary school education, 0.4% have completed junior high school, 0.4% have completed high school, 0.6% are illiterate, and 1.4% have not completed elementary school. This is also a weakness of our researchers in conducting research because almost some Bajoe coastal communities, especially the Bajo tribe, have very minimal education.

#### CONCLUSION AND SUGGESTION

Based on the results of the research and discussion, the following conclusions can be drawn: First, the results of the assessment of the waste observers really want to make a change in the communities in the Bajoe coastal area by providing assistance in waste management. The Bajoe community is said to have minimal attention to waste management, even if they are given counseling on waste management today, tomorrow and a few weeks after that, it will no longer be something important for the Bajoe community because they really need assistance, not just a guidebook in the form of a module, type -types of waste and stages of waste management from

various types of waste around the Bajoe coastal area, especially the Bajo tribe. The Bajoe coastal area is also a tourist area that can increase economic activity both in terms of fisheries, and also residential areas (restaurants) which really attract foreign people to visit because the food served is fresh seafood directly from the sea. Because some people in coastal areas do not understand how to manage their environment, they are unable to improve the quantity and quality of the Bajoe coastal area environment in terms of waste management.

Second, the role of the Bajoe coastal community in waste management using the Community-Based Resource Management (CBRM) theory is defined as a strategy to achieve human-centered development, where decision-making centers regarding sustainable use of resources and the environment in an area such as The Bajoe coast is located/in the hands of organizations in the community in the area. It goes on to say that in this management system, the community is given the opportunity and responsibility to manage its resources and environment, where the Bajoe coastal community, especially the Bajo tribe, defines its needs, goals and aspirations in managing waste to improve its living environment.

Third, making the module through the input-process-output stage through several stages in terms of revisions for adjustments to environmental conditions in the Bajoe coastal area which must be harmonized because when conducting observations and distributing questionnaires, researchers only focus on recognizing types of waste and knowing how they manage waste. The module development stages consist of module creation, Module Review FGD and Module Implementation.

The implications of waste management for improving the environment in coastal areas as shown in the conclusion above are, among other things: (1) Each coastal area has different principles, norms and customs so that if you want to make improvements to their environment you must through several stages of the coastal community empowerment process, (2) The results of observations and interviews regarding the implementation carried out in coastal areas must be in accordance with the needs of the Bajo tribal community in particular, (3) There is a need for a more in-depth approach to the community to carry out this stage of waste management step by step. by step. (4) The low level of education of the Bajo tribal community, some of whom are even illiterate, makes it difficult for us to provide questionnaires and during interviews, (5) The high level of curiosity and cooperation of coastal communities provides opportunities to find out material about waste management, (6) Increasing community knowledge because when it comes to the implications of waste management, our researchers present a Waste Bank which provides them with education about waste management so that earning money can lighten the burden on their families due to sorting waste and then selling it.

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