

COASTAL COMMUNITY PERCEPTIONS OF CONSERVATION AREAS IN SUMALATA DISTRICT, NORTH GORONTALO REGENCY

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ABSTRACT

This research aims to analyze public perceptions regarding coastal conservation areas in Sumalata District, North Gorontalo Regency. Conservation areas have an important role in protecting marine ecosystems, but effective management requires the support of coastal communities. This research uses survey and interview methods to explore the community's understanding of the benefits, challenges and their role in managing conservation areas. The research results show that community attitudes towards area conservation are generally positive, with a good understanding of the importance of conservation. In addition, the public's awareness of marine conservation regulations is high, especially regarding the implementation of protection regulations which have a direct impact on their daily activities. This research recommends increasing education and active community involvement in the management of conservation areas as an effort to increase the effectiveness of marine conservation in Sumalata District, North Gorontalo Regency.

Keywords: Community perception, Conservation areas, North Gorontalo.

INTRODUCTION

Indonesia, as an archipelagic country with a very long coastline, has abundant marine ecosystems, including various types of coral reefs, mangrove forests, seagrass beds, and marine biota with high economic value (Rahim et al., 2024). These coastal and marine areas are not only ecologically important but also act as the main source of livelihood for coastal communities (Rais et al., 2024). In coastal areas, people directly depend on marine products for economic needs, such as fisheries, tourism and other natural resources (Pepriyana et al., 2024). However, uncontrolled human activities often

cause damage to the marine environment, such as overfishing, pollution and habitat destruction which ultimately threatens the sustainability of these resources (Sondakh et al., 2019; Ukas et al., 2023)

To overcome this problem, the Indonesian government has made various efforts through policies and the establishment of marine conservation areas (Muharara & Satria, 2018). Conservation areas aim to protect marine biodiversity, maintain ecosystem balance, and support the sustainability of marine resources for future generations (Kome et al., 2024; Nova & Semesta, 2024). This conservation area also

provides long-term economic benefits for coastal communities through efforts to protect marine habitats which are their source of income. One of the coastal areas that has been designated as a conservation area is Sumalata District, North Gorontalo Regency. This area was chosen because it has high potential for marine biodiversity and high community dependence on marine resources.

However, even though it has been designated as a conservation area, the success of its implementation is highly dependent on the perceptions and attitudes of local communities towards the marine environment and the regulations governing its conservation. This public perception includes understanding, awareness, and compliance with existing conservation policies (Komalawati et al., 2024). Many communities have a large dependence on marine resources and tend to prioritize short-term economic needs over long-term conservation, so education and effective approaches are needed to increase their awareness and participation. Apart from that, the lack of socialization regarding conservation regulations means that people do not understand the importance of protecting marine ecosystems and the long-term benefits of the existence of conservation areas.

This research focuses on analyzing the perceptions of coastal communities in Sumalata District towards marine conservation areas which

includes two main indicators: attitudes towards the marine environment and awareness of marine conservation regulations. People's attitudes towards the marine environment reflect how much they care about the sustainability of the ecosystem and the impact of their activities on the environment. Meanwhile, awareness of marine conservation regulations illustrates their understanding and level of compliance with the rules set by the government to preserve the area.

By understanding community perceptions regarding these two indicators, it is hoped that more appropriate conservation management strategies can be formulated, which not only protect marine ecosystems but also meet community needs. This research is expected to contribute to the formulation of policies and preparation of educational programs as well as participatory approaches that can encourage coastal communities to be actively involved in preserving the marine environment in Sumalata District.

MATERIAL AND METHOD

This research was carried out in May-June 2024 in Sumalata District, North Gorontalo Regency. This research uses a quantitative approach with survey methods to collect data from coastal communities in North Gorontalo Regency. The sampling method uses Simple Random Sampling, where respondents are randomly selected from coastal villages in or around conservation areas. The main instrument

used in data collection is a structured questionnaire designed to measure three main indicators of perception, namely:

1. Attitudes towards the marine environment - includes people's views on the importance of preserving marine ecosystems and their actions in supporting the sustainability of the marine environment.
2. Awareness of marine conservation regulations - measures the level of public knowledge and understanding of the rules and regulations that apply in conservation areas, including compliance with activity restrictions in these areas.

Data was collected through direct interviews using a questionnaire containing closed and open questions to obtain a more comprehensive perspective. The Likert scale is used to measure the respondent's level of attitude and awareness of each indicator, with a value between 1 (strongly disagree) to 5 (strongly agree) with the following formula:

$$P = \frac{\sum x}{\sum xi} \times 100\% \quad (1)$$

Information:

- P** = Validity Percentage
- Σx** = Total score
- Σxi** = Maximum score
- 100%** = Constant

Guidelines for percentage criteria with a Likert scale are as follows:

- **Visible 0% - 24.99%** : Low participation
- **Visible 25% - 49.99%** : Medium participation
- **Visible 50% - 74.99%** : High participation
- **Visible 75% -100%** : Very high participation

RESULTS AND DISCUSSION

Respondent Characteristics

Characteristics Based on Gender

Based on the results of data collection, the profile of respondents in Sumalata District, which consists of Sukamaju Hamlet and Pantai Hamlet, has a relatively higher number of women. The total number of people recorded was 185 people, consisting of 88 men and 96 women. In this case, it is known that the total male population is 47.57%, while the total female population is 52.43%.

NUMBER OF RESPONDENTS BASED ON GENDER IN SUMALATA DISTRICT

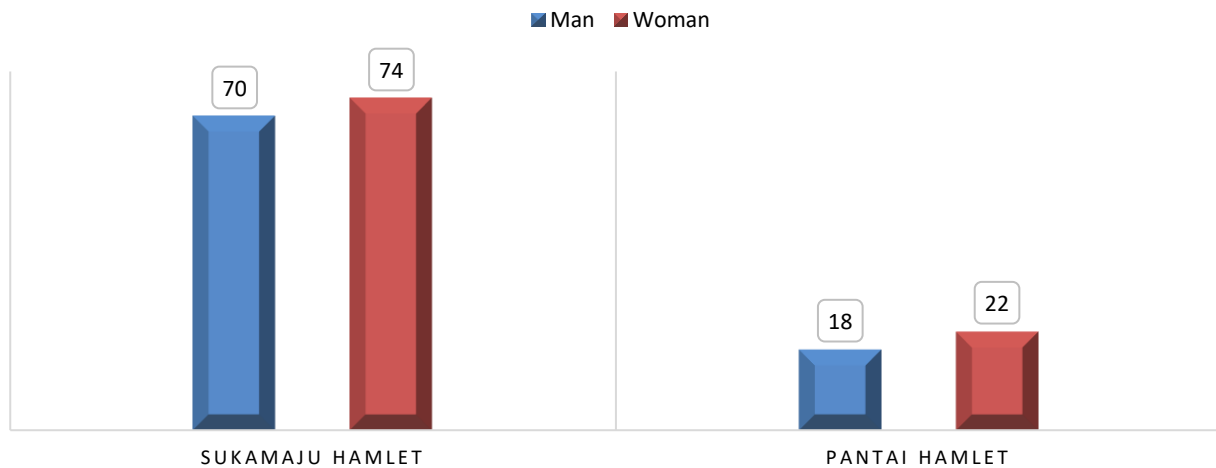


Figure 1. Number of Respondents (including family members) Based on Gender in Sumalata District.

Characteristics Based on Last Education

Based on the picture above, it is known that the number of respondents with primary

school education was 29 people, 6 people from junior high school, 8 people from high school, and 1 person from bachelor's degree.

NUMBER OF RESPONDENTS BASES ON LAST EDUCATION IN SUMALATA DISTRICT

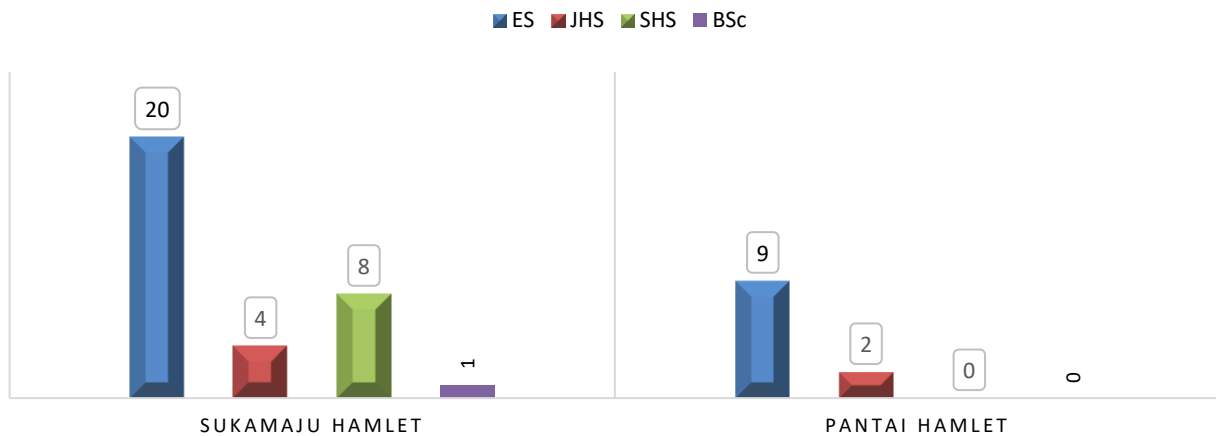


Figure 2. Number of Respondents Based on Last Education in Sumalata District.

Public Perception

Attitudes towards the Marine Environment

Community attitudes towards the marine environment are one of the factors that influence the sustainability of aquatic resources (Rizki, 2024). The sea, which is the great hope of coastal communities to meet their daily needs,

certainly needs to be managed well. Optimal management cannot be separated from the community's own attitude towards preserving the marine environment (Subair, 2024). An overview of community attitudes towards the marine environment in Sumalata District can be seen in the table below:

Table 1. Community Attitudes towards the Marine Environment (A)

No	Question	Number of Respondents (100%)				
		STS	TS	TT	S	SS
1	The coral reefs around my village are in good condition and do not need special protection	40.91	45.45	9.09	0.00	4.55
2	The mangroves (perepat, nipah) around my village are in good condition and do not need special protection	38.64	50.00	6.82	0.00	4.55
3	For me, it is more important to earn a family income even if it damages the sea	40.91	50.00	6.82	0.00	2.27
4	Most people in my village don't care about the sea	34.09	43.18	2.27	13.64	6.82
5	Most people in my village do not believe that protecting the environment around them is a useful effort	20.45	47.73	13.64	11.36	4.55
6	Even if everyone in the village tried to improve environmental conditions, the community's conditions would still worsen	15.91	68.18	13.64	0.00	0.00
7	There is little that village communities can do to protect the coastal and marine environment	18.18	45.45	18.18	15.91	2.27
8	As an individual, I can do many things to protect the marine environment, including the coastal resources around the village where I live	2.27	4.55	36.36	31.82	25.00
9	By working together, the people in my village can do many things to protect the marine environment, including resources in coastal areas	0.00	2.27	6.82	54.55	36.36
10	People who pay attention to the protection of coastal and marine areas care more about fish, turtles, mangroves, coral (marine resources) than humans (society)	0.00	11.36	20.45	47.73	20.45
11	People who destroy the marine environment must be punished	2.27	0.00	4.55	54.55	38.64
12	People who take/capture protected animals must be punished	0.00	0.00	4.55	54.55	40.91
13	The current damage to our coastal environment will make our lives more difficult in the future	0.00	6.82	11.36	45.45	36.36

Source: Primary Data After Processing, 2024

Table 2. Community Attitudes towards the Marine Environment (B)

No	Question	Number of Respondents (100%)				
		STS	TS	TT	S	SS
1	Coral (rock) reefs are important for protecting beaches and villages in coastal areas from storm waves	0.00	0.00	4.55	54.55	40.91
2	Protection of coral reefs now will ensure the sustainability of future generations' livelihoods in my village	0.00	0.00	2.27	59.09	38.64
3	Fishing around coral reefs needs to be regulated to give fish and coral the opportunity to grow and develop	2.27	0.00	4.55	56.82	36.36
4	In the long term, fishing results will be better if all coral rocks are destroyed	59.09	27.27	9.09	2.27	2.27
5	Only people whose profession is recreational fishing or diving would think that it is very important to protect coral reefs	20.45	27.27	27.27	25.00	0.00
6	Seagrass (unas) has no benefits for society	29.55	27.27	29.55	6.82	6.82
7	Mangroves (perepat, nipah) have no benefits for society	36.36	29.55	25.00	6.82	2.27

Source: Primary Data After Processing, 2024

Based on the results of data collection, it was found that the perception of the community in Sumalata District was that the coral reefs in the village were in a damaged condition. As many as 45.45% said that the condition of the coral reefs in the village was damaged and needed special protection. According to the community's view, the cause of the damage was caused by several foreign/immigrant fishermen who used non-environmentally friendly fishing gear such as bombing. As many as 54.55% agreed that people who damage the marine environment should be punished. Therefore, the people in this village really care about the sea and believe that protecting the surrounding environment is a useful effort. With this awareness, 50.00% said they did not agree to carry out activities that could pollute the sea, even to meet their daily needs. In fact, 47.73% of

people agree and care more about fish, turtles, mangroves, coral (marine resources) than humans (society) because according to their understanding the damage that occurs to the marine environment will create difficulties for human life in the future with the percentage results 45.45% agreed. Moreover, 54.55% of people agree that coral reefs are very important for protecting beaches and villages, especially in coastal areas.

The community also assumes that coral reefs that are given protection from an early age will guarantee the digestion of livelihood sources for future generations with a percentage of 59.09% agreeing. The community agrees that by doing several things that are useful and balanced with cooperation by the community or village officials, they can provide protection for the condition of the marine

environment with a percentage of 54.55% agreeing. One example is that the community agrees to provide management or regulations regarding fishing around coral reefs by providing opportunities for fish and coral to grow and develop with a yield percentage of 56.82%. In this case, the parties referred to include the village community itself, the Village Head, the Fisheries and Maritime Affairs Service, NGOs, and security forces.

Awareness of Marine Conservation Regulations

Regulations related to marine conservation are made with the aim of preserving the life of marine ecosystems which are expected to protect them from damage due to irresponsible human activities. The regulations that are made certainly need to be understood by the community as subjects. One of the regulations that needs to be understood

is related to marine conservation areas. It was found that 25.00% of coastal communities in Sumalata District knew the term marine conservation area and 65.91% did not know or have heard of the term. As many as 25% understand that marine conservation areas are marine/coastal areas that are protected and stated in regulations (law). The public knows that fishing activities are regulated in regulations with a percentage of 68.18%. These regulations are regulated in the Regulation of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia Number 27 of 2021 concerning Fish Catching and/or Fish Cultivation in the Fisheries Management Areas of the Republic of Indonesia for Non-Commercial Purposes (Subair, 2024). The knowledge regarding whether or not the community is allowed to use fishing methods can be seen in the table below:

Table 3. Community Knowledge regarding Fishing Methods in Sumalata District.

No	Question	Number of Respondents (%)		
		Allowed	Not Allowed	Don't know
1	Fishing	81.82	6.82	0.00
2	Bubu	77.27	9.09	2.27
3	Tiger Trawl	0.00	84.09	4.55
4	Mini Trawl)	2.27	70.45	2.27
5	Gill Net	65.91	11.36	11.36
6	Ring Seine	56.82	11.36	20.45
7	Explosives	2.27	84.09	0.00
8	Fish Poison	4.55	77.27	0.00
9	Stow Net	13.64	13.64	61.36
10	Long line	50.00	6.82	31.82
11	Sero (Mendari)	68.18	11.36	9.09
12	Bagan	68.18	18.18	2.27
13	Rakkang (Ambo Kepiting)(Trap)	54.55	6.82	27.27
14	Spear/Arrow	68.18	20.45	0.00

Table 4. Community Knowledge regarding Fisheries Activities in Sumalata District.

No	Question	Number of Respondents (%)		
		Allowed	Not Allowed	Not Known
1	Kimah, Sea Cucumber,	36.36	29.55	9.09
2	Catching Turtles	0.00	86.36	0.00
3	Catching Sharks	6.82	75.00	2.27
4	Taking Rocks	9.09	77.27	0.00
5	Taking Sea Sand	9.09	77.27	0.00
6	Using a Compressor for Fish Potassium	0.00	88.64	0.00
7	Catching Sea Crabs	77.27	4.55	0.00
8	Swimming Or Diving	77.27	4.55	0.00
9	Taking Mangrove Wood (Perepat, Warat, Nipah)	13.64	25.00	0.00
10	Playing on the Beach	72.73	0.00	0.00
11	Catching Manta Rays	40.91	29.55	0.00
12	Taking Turtle Eggs	11.36	75.00	0.00

Source: Primary Data After Processing, 2024

Based on the data collection results, in general, the public knows that fishing methods are not permitted, namely using mini trawls, trawls, explosives and fish poison with respective percentage results of 70.45%, 84.09%, 84.09% and 77.27%. Several methods of catching fish such as fishing, using traps, gill nets, purse seines, longlines, sero, chartreuse, and rakkang and spears/arrows are known to the public that these methods are permitted. However, 61.36% of people do not know how to catch fish using togo/kelong/splint. Togo/kelong/belat is a passive fishing tool that is environmentally friendly and is permitted to be used.

Apart from that, in general the public knows that several fishing activities are permitted, such as catching crabs in the sea, swimming or diving, playing on the beach, with

the respective answer percentages being 77.27%, 77.27% and 72.23%. Fishing activities that are permitted are activities that are not permitted according to public understanding, namely, catching turtles, catching sharks, taking coral, taking sea sand, using a compressor for fish potash. Taking mangrove wood, catching manta rays, and taking turtle eggs. As many as 86.36% and 75.00% of the public understand that catching turtles and sharks is not allowed because they are protected from marine biota. Meanwhile, based on the results of interviews, a small number of people do not know whether some fishing activities are permitted or not.

Below are presented in graphic form several warnings and punishments that have been heard/known by coastal communities in Sumalata District.

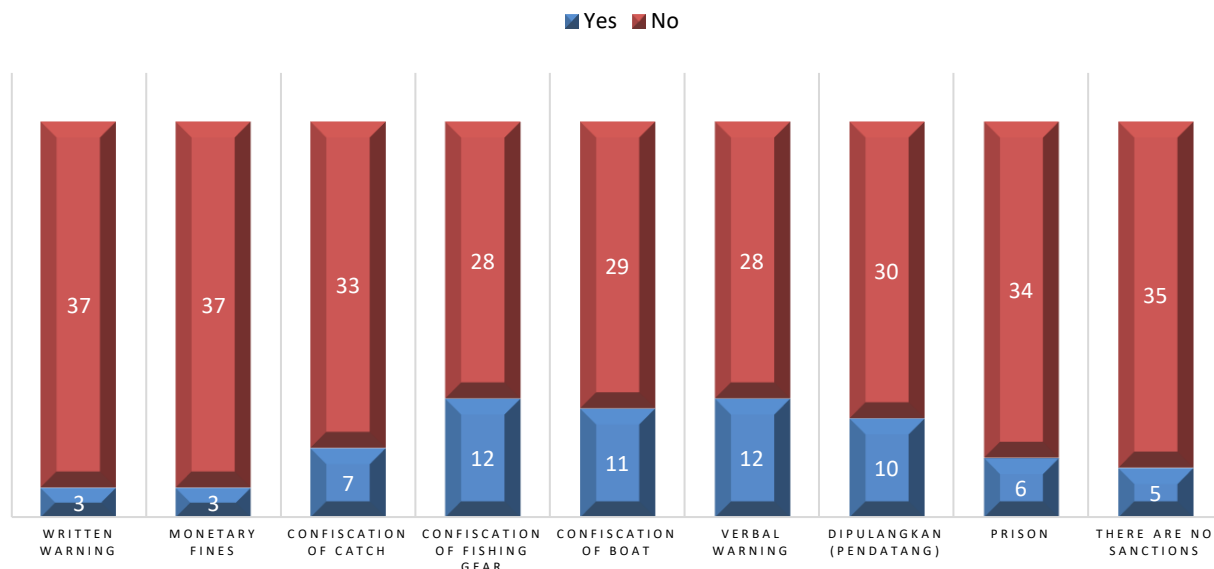


Figure 3. Number of Families Who Have Heard/Know of Warnings and Punishments Related to Violations of Coastal Communities in Sumalata District

Based on the picture above, in general the warnings/punishments that are most often heard and known by coastal communities in Sumalata District are confiscation of fishing gear and verbal warnings with 12 respondents each. Meanwhile, based on the data collection results obtained, only a few people know the regulations regarding the marine environment (34.09%) and some people comply with these regulations (31.82%).

CONCLUSION

The research reveals a generally positive perception among the public regarding conservation areas, supported by a robust understanding of the importance of marine ecosystem preservation. High awareness of marine conservation regulations, especially those directly affecting daily livelihoods, further highlights the community's engagement.

Differences in perception are influenced by variables such as educational attainment, occupational roles, and prior exposure to conservation practices. These findings underscore the need for targeted educational programs and community-driven conservation initiatives to bridge perception gaps and enhance participation.

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