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**ANALYZING COMMUNITY'S PERSPECTIVES TOWARD THE COASTAL RESOURCES
IN MUNJUNG AGUNG VILLAGE, KRAMAT REGENCY, TEGAL DISTRICT
OF INDONESIA**

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ABSTRACT

Coastal areas have typical natural resources that should be well-managed in order to provide give economic benefits for the community. Analyzing community's perspectives toward the condition of the coastal resources around them to plan effective management which will reserve the environment and improve the welfare of the community. The result of this research showed that the community shared positive perspectives toward mangrove and reef resource seen from the aspects of knowledge, condition, support and regulation. This research also indicated that community-based management was the most appropriate management to manage the mangrove and reef resources. Community-based management involves active participation form the society in the planning up to the monitoring activities. The outcome of this management will not only give positive contribution to the environment but it also improves the welfare of the community.

KEY WORDS

Community's perception, resource, coastal area, public service.

Coastal areas have typical characteristics and potential varied resource that positively contribute to the ecology, economy and social domains. According to Nelson (2018), coastal areas connect the land and the water. They also hold a considerable role as the majority of people around the world live in coastal areas. In addition, coastal areas often face rapid changes due to dynamic interaction between the land and the water.

The ecosystem of coastal areas brings a set of essential ecosystem functions both for the terrestrial and the marine system (Granek, et al., 2010). In relation the availability, the potentials of coastal resources can be categorized into three categories; renewable resources, non-renewable resources, and environmental services (Dahuri, et al., 2004).

Perception refers to active process of seeing, regulating and interpreting something that happens to some body. Interpretation occurs based on the observation done in the past, experience, assumption upon human behavior, others' behavior, condition, atmosphere, willingness and hopes (Tubbs and Moss, 2006). Within social context, perception is the assessment of a person or a group of people upon certain object, event or stimulus which involves relevant experience related to the object that is formed out of cognitive and affective processes (Dimiyati, 1989). Every individual has different perception based on how they interact with the environment around. Hence, environmental condition one of factors that affects one's perception.

Exploration and utilization of natural resources have been done by the community living in Munjung Agung village such as fishing and fish cultivation. Unfortunately, in fact, the focus of the exploration is often to obtain the maximum profit while the environment sustainability is set aside. In the long term, this kind of exploration will certainly threaten the sustainability of the resource and the environment. Therefore, it is necessary to design an integrated and responsible coastal resource management. In order to design effective coastal resource management, community's perceptions toward the condition of the resource should be taken into consideration.

METHODS OF RESEARCH

This research was conducted using a descriptive method. Research data were collected through surveys in the form of direct interviews with respondents to picture out community's perception toward the current management of the coastal resources. This research was administered from April – May 2018 in Munjung Agung Village, Kramat Regency, Tegal District.

In order to analyze community's perception toward mangrove and coral reef resources in Munjung Agung village, interviews were done to respondents using a set of questionnaires. The answer of each item in the questionnaires was scored and scaled using a four-point Likert scale.

RESULTS AND DISCUSSION

General Overview of Research Setting. Munjung Agung is a village located in Kramat Regency, Indonesia, that borders with north Java sea at < 100 m above the sea level. The village spreads in 197 ha land consisting of 90 ha rice field land, 48 ha fish pond, and 59 ha of other types of land. The community living in the village mostly works in fisheries field as fishermen, cultivator, producer, and salesperson of fish and some of them work as *pokmaswas* (*Kelompok Masyarakat Pengawas*). There were 6.171 population and 1.599 families living in the village, which 744 of them work in fisheries sector. Munjung Agung is located 3.0 miles on a line with the Larangan fishermen village and it has Orange Cup Coral area which was declared as a conservation area in 2010. The Orange Cup Coral area is geographically located in the coordinate point of 109° 11' 85"-109° 12' 15" East Longitude and 06° 48' 75" - 06° 48' 80" South Latitude. The waters around the Orange Cup Coral Area are where tiny anchovies are widely found and fishing can be done throughout the year.

Respondents' Characteristics. Respondents' characteristics were analyzed to see the variety of respondents' socio-economic conditions which were closely related to research problems and objectives. The respondents of this research included 97 fishermen and cultivators who utilized mangrove and coral reef resources in Munjung Agung Village.

Table 1 presents the data about respondents' age, vessel ownership, fish pond ownership and experience working as fishermen and fish cultivators. Respondents' age and work experience are closely related to their understanding about the condition of coastal resources in the past and how people have been utilizing them. In addition, age also showed whether respondents were in their productive age in running their business activities. Whereas, the ownerships of vessels and land relate with the ownership of production factors among the community. Table 1 presents respondents' characteristics that determine the perception and responses of the community upon the condition of the coastal resources in Munjung Agung Village.

Table 1 – Respondents' Characteristics

No	Respondent	Age		Ownership Status		Experience (year)		
		< 45	≥ 45	Private	Rent/Crew	< 5	5 – 10	> 10
1.	Fishermen	22	50	28	50	8	17	53
2.	Fish Farmer	9	16	19	-	4	5	10
	Total	31	66	47	50	12	22	63

There were 66 people (68.04%) out of 97 respondents aged over 45 years. The average age of the respondent is 49 years. At this age it can be assumed that the respondents have adequate knowledge about the condition of mangrove and coral reefs resources in the past. Those respondents still use the resources in traditional ways by only taking the resources to fulfill their daily needs.

Out of 78 fishermen, 35.90% of them owns vessels while 64.10% are crew members who fish around the waters of Karang Jeruk. 10.26% of the respondents are fishermen with

working experience of <5 years while 21.79% of them have work experience between 5 - 10 years and the rest 67.95% have been working as fishermen for > 10 years.

The ownership of land, fishpond and mangrove users data show that all of 19 fish farmers (100%) are land owners. 21.05% of them have <5 years of cultivation experience, 26.32% with experience of 5 - 10 years and 52.63% with experience of > 10 years.

The ownership of the ship / farm land and business experience / work are assumed to be the period or length of time the fishermen and farmers started to take the benefits from the mangrove resources and coral reefs in the village of Munjung Agung. In addition, the data also show that great amount of coastal resources can increase people's income.

Community's Perception upon the Condition of Coastal Resources. The data analysis done in this research shows fishermen and fish farmers' perception on mangrove and coral reef resources in Munjung Agung as presented in Table 2.

Table 2 – Community's perceptions towards the coastal resource condition

No	Aspect	Assessment Percentage	Scoring Criteria
A	Knowledge		
1.	Knowledge about the benefits of mangrove for daily life	57.52	Know
2.	Knowledge about the function of coral reef	62.39	Know
3.	Knowledge about how to preserve the environment	52.65	Know
B	Resource Condition		
1.	The declining amount of natural resource	56.86	Know
2.	Causes of the decline in the number of mangrove	63.50	Know
3.	Causes of coral reef damages	82.96	Truly Know
4	Opinions about pollution to the resources	56.64	Know
5	Transfer function of mangrove land for aquaculture	48.89	Disagree
C	Support		
1	Willingness to preserve the coastal resources	64.16	Agree
2	Community's support to coastal resource preservation	54.65	Important
3	Government support	60.40	Important
4	Supports from NGOs	56.42	Important
D	Regulation		
1	Village regulation on resources	54.20	No Idea
2	Imposing sanctions on violation of coastal resource exploration	53.54	Important

Table 2 shows that 57.52% of the respondents understand the benefits of mangroves and coral reefs and how to preserve these resources. Community knowledge about the importance of mangrove resources and coral reefs is seen in the planting of mangroves in milkfish ponds, along embankments, waterways and river mouths in Munjung Agung Village.

Seen from the aspect of resource conditions, 64.99% of the respondents knew that mangrove resources and coral reefs in Munjung Agung Village decreased in size and 48.89% of them did not agree with the conversion of mangrove land for aquaculture. The reduction of mangrove area occurred due to the transition of milkfish ponds owned by the community into shrimp ponds. The embankment and waterways of milkfish ponds were planted with mangrove trees in the ponds to strengthen the embankment from landslides caused by tidal flood and improve the quality of water. In addition, lush mangrove trees serve as a guardrail to keep fish in the pond. Whereas, intensive shrimp ponds do not allow the presence of mangroves around the ponds. This condition reduced the width of mangrove area in Munjung Agung Village.

In the aspect of support, 58.91% respondents consider support from the government important, including the one from educational institutions and NGOs as well as the willingness of the community to help maintain the preservation of resources for better resource management. The government and educational institutions provide support through socialization of activities to the community, especially fishermen and farmers related to the importance of coastal sustainability, planting mangrove trees along the coast and river estuaries on a regular basis and the introduction of coastal resources from an early age.

In the aspect of regulation, 53.54% of respondents considered it important to impose sanctions on violations committed, but as much as 54.20% of respondents were not aware of the regulations set by the local village regarding resource management. Regulations on how to use resources need to be made because there are still violations committed by the community such as using *arad* or *cantrang* in fishing which can damage the bottom of the waters.

Community's perception on the management of mangrove area has also been influenced by their level of education and knowledge. The resources in coastal area should be well-managed as it will support the sustainability of the resources (Nanholy, 2014). Analyzing community's perception on the resource condition is also important as it reflects how the community perceives the existence of coastal resources around them and how to utilize the resource and keep them sustainable.

The results of analysis on community's perception toward the management of mangrove and coral reef resources showed that the majority of the community have positive attitude and insights. This result is a positive beginning for the sustainable management of mangrove and coral reef resources (Ayunita, 2012). The government is expected to engage the community in the activities related to sustainable management of coastal resources because effective management of coastal resource will not only benefit the environment but it will also provide economic benefits for the community.

The Role of Community in Resource Management. According to Nikijuluw in Zaman and Darmawan (2000), community-based coastal resource management is an appropriate approach that involves cooperation between the community and the government in managing the resource together. In this context, the community will have active participation from the planning process up to the implementation process as follows.

- Improvement of social welfare through massive employment and business opportunities;
- Development of programs and activities that lead to optimal and sustainable utilization of coastal resources in coastal areas and in the sea;
- Enhancement community's participation in maintaining the sustainability of the coastal resources and environment;
- Improvement of education, workshop, research and regional development in coastal areas.

Community-based resource management implies that the management should not be only administered by the community as the ones that take the most benefits or only done by the government as policy makers, but it should engage all relevant parties and other local resources to give the community more benefits.

CONCLUSION

It can be understood from the results of this research that 57.52% of the respondents from Munjung Agung village were aware of the benefits of mangrove and coral reef as well as how to maintain the sustainability of those resources. Seen from the condition of the resources, 64.99% of the respondents were aware that mangrove and coral reef resources in Munjung Agung keep decreasing in number. In addition, 48.89% respondents disagreed upon the plan to transform mangrove area into embankment. For the aspect of support, 58.91% respondents perceived the supports from government, educational institutions and NGOs as well as the ones from community highly important in supporting the sustainable coastal resource management. In the aspect of regulation, 53.54% respondents also found it important to apply sanctions for violations, yet 54.20% of them had limited knowledge of the current regulations set by the village related to resource management.

Community-based coastal resource management has been found as the most effective way in managing the coastal resources of Munjung Agung Village. This management involves the participation of the community as the users of the resources and the government as policy makers to work together and actively participate in the planning stage up to the

implementation stage. This management model is also expected to preserve the sustainability of the coastal resources and improve the community welfare at the same time.

SUGGESTIONS

Regarding to the conclusions of this research, several recommendations that support the effectiveness of coastal resource management in Munjung Agung village are proposed as follows:

- Regulations should be set by local government related to enhance the responsible utilization of coastal resources that will reduce the probability of violations done by the community such as using non-environmentally friendly fishing tools;
- Counseling and trainings should be given to the community related to the importance of mangrove and coral reef resources for the sustainability of coastal areas in order to increase their awareness and willingness to participate preserving the environment;
- It is considered important to form a forum that connects the community, government, educational institutions, and NGOs related to the management of coastal areas;
- Cooperation with the stakeholders in coastal areas should be enhanced in order to find a red line in managing the sustainability of coastal areas.

REFERENCES

1. Ayunita, D.N.N.D., Trisnani D.H. 2012. Analisis Persepsi dan Partisipasi Masyarakat Pesisir Pada Pengelolaan KKLD Ujungnegoro Kabupaten Batang. Jurnal SEPA, 9 (1): 117 – 124.
2. Dahuri, HR, J.Rais, S.P Ginting, & M. J. Sitepu. 2004. Pengelolaan Sumber Daya Wilayah Pesisir Secara Terpadu. PT. Pradnya Paramita. Jakarta.
3. Dimiyati M., Mudjiono. 2000. Psikologi Suatu Pengantar. Yogyakarta: BPFE.
4. Granek E.F., Polasky S., Kappel C.V., Reed D.J. and others. 2010. Ecosystem services as a common language for coastal ecosystem-based management. *Conserv Biol* 24:207–216
5. Hozino, E., Elizabeth I.P., Wardis G., Budy P.R., Satoshi Y. 2017. Fishers Perceived Objectives Of Community-Based Coastal Resources Management in the Kei Islands, Indonesia. *Frontiers in Marine Science*, 4: article 141
6. Nanholy, H., Azis, N.B., Ambaryanto, Hutabarat, S. 2014. Analisis Persepsi Masyarakat Terhadap Pengelolaan Kawasan Mangrove Teluk Kotania. *Jurnal Wilayah dan Lingkungan*, 2 (1): 89 – 98.
7. Nelson, S.A. 2018. Coastal Zones – Natural Disasters. Tulane University.
8. Notoatmodjo, S. 2010. Metodologi Penelitian Kesehatan. PT. Rineka Cipta. Jakarta.
9. Nybakken, J. W. 1988. Biologi Laut Suatu Pendekatan Ekologis. PT. Gramedia.
10. Tubbs, S.L. & Sylvia M. 2006. Human Communication: Principles and Contexts 10th edition. Published by McGraw-Hill Humanities/Social Sciences/Languages.
11. Zamani, N.P., Darmawan. 2000. Pengelolaan Sumber daya Pesisir Terpadu Berbasis Masyarakat. Prosiding Pelatihan untuk Pelatih Pengelolaan Wilayah Pesisir Terpadu, Bogor 21 – 26 Februari 2000. Pusat Kajian Sumber daya Pesisir dan Lautan IPB, Bogor.
12. Zamlawi. 1997. Etika Lingkungan Dalam Pembangunan Berkelanjutan. Direktorat Pendidikan Tinggi, Departemen Pendidikan & Kebudayaan. Jakarta.