

Research Article

Community Perceptions on Conserving Watershed Areas

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Abstract.

Conservation is one of the actions taken to maintain biodiversity and improve ecosystems. This study aimed to analyze the community's view of conserving watersheds. The research method used is descriptive quantitative, involving the community as respondents to identify and analyze the proposed research instrument. Data were collected through a questionnaire, and community interaction data were collected through field observations and secondary data. The empirical data obtained was then analyzed and interpreted according to the research findings. The results of the research found that the community did not know much about conservation of biodiversity. Based on the community's perception of conservation, it is necessary to emphasize to the community the importance of biodiversity as the basis for conservation to achieve disaster preparedness.

Keywords: conservation, biodiversity, ecosystem

1. INTRODUCTION

Watershed management (DAS), especially watershed ecosystems can be used as a systematic, logical and rational planning, implementation and evaluation unit [1]. Watershed management principles need to be supported by integrated data management [2]. The increasing degradation of watershed functions encourages the growing awareness of the importance of maintaining the watershed functions. This is because land use in the watershed will significantly affect its function, namely water quality, water discharge, erosion control and downstream sedimentation. According to the general director of PDASRH KLHK in 2021 there are 42,210 watersheds that have been classified throughout Indonesia. Watersheds are classified according to several criteria such as land conditions (critical land, land cover, erosion), quality, quantity and continuity of water, socio-economics, investment in land and water conservation buildings, and utilization

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of regional space. Based on the classification, 37,721 watersheds are maintained with 4,489 watersheds being restored with 108 watersheds prioritized for restoration in 2020 to 2024 [3]. The social system is the main component, because it plays a role in managing and improving watersheds. Watershed management is important as an effort to maintain watershed sustainability, especially the management of upstream areas that function as water absorption. This section is important to be maintained and managed so that its utilization does not exceed its carrying capacity.

Conservation has largely depended on national protected areas controlled by the central government over the last century [4]. The basis of effective conservation is public involvement [5]. Conservation effectiveness is an urgent global concern [6]. Environmental conservation is focused on watersheds, both watersheds and riverbanks. Monitoring public perceptions of conservation is critical to ensuring successful conservation outcomes. The commitment of local communities to protected areas is very important to preserve biodiversity. The basic objective of protected area planning is to be effective in protecting, developing and maintaining samples [7]. The role of the community around the watershed is important as an effort to preserve the function. This is because public attitudes towards environmental programs affect biodiversity [8], and is a key factor in successful implementation [9]. Community perceptions will affect the type of interaction and the effectiveness of conservation. Another important factor in efforts to maintain watershed sustainability is a good perception from the community. In addition, the community's perception of watershed conservation (DAS) greatly determines the sustainability of the watershed function [10]. Therefore, research on the level of public perception is important to describe the level of public perception of the use of natural resources around the watershed.

2. RESEARCH METHOD

The location of this research was carried out in one of the villages in Bengkulu City, Bengkulu Province, namely Rawa Makmur Village. Collecting data through interviews and observations. The interview involved 15 people as respondents. The research instrument consisted of a questionnaire. The questionnaire contained data on employment, length of stay and responses to perceptions of watershed conservation. Watershed conservation perception indicators include understanding, function and role, ecological function, management and rehabilitation. Quantitative descriptive analysis was used in this study. This analytical technique aims to describe phenomena that examine forms, activities, characteristics, changes, relationships and others [11].

3. RESULT AND DISCUSSION

3.1. Community interaction in the use of natural resources in the watershed

The watershed (DAS) is an ecosystem unit that has demands for its ability to support life systems, both upstream and downstream communities [12]. The Air Bengkulu River Basin has an area of 51,500 ha and is located in two regencies, namely Central Bengkulu and Bengkulu City. The watershed acts as a unified system of transforming rain into streams with various properties [13]. Biogeophysically, the upstream, middle and downstream watersheds have different characteristics. The upstream area is a conservation area, not a flooded area, with vegetation in the form of forest and high drainage density. The downstream area has a small drainage density, there is a puddle/flood area with vegetation dominated by agricultural crops except for estuarine areas. The middle area is a transition from the two regions, namely the upstream and downstream areas [1]. Figure 1 is a map of the watershed area in Bengkulu Province.

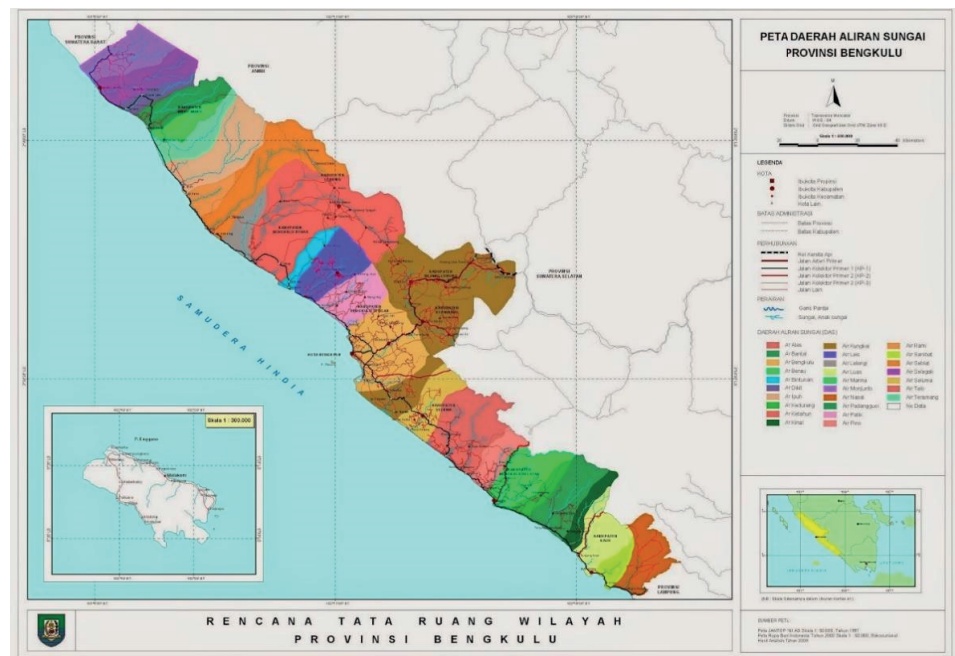


Figure 1: Watershed map of Bengkulu Province (Source: <http://www.walhibengkulu.org>).

Community interaction with watershed areas in various community activities, namely land use for fields and rice fields, settlements and micro-economic business activities. Land use in the downstream watershed area, especially the Bengkulu sub-watershed, is oil palm plantations with an area of 10,322 ha. Open land area is 2,514.9 ha, farm area is 1,926.8 ha, residential area is 1,443.4 ha [14]. Almost every family head uses the fields to

plant seasonal crops, especially rice (*Oryza sativa*), vegetables and corn (*Zea mays*) and oil palm. Agricultural products are generally used by the community to meet their needs and are sold. This is what makes the land cover high are oil palm and rubber plantations by the company. Meanwhile, the land cover of fields, mixed gardens and rice fields is classified as medium land productivity. Land cover in the form of young shrubs, shrubs, old shrubs, swamp scrub and mixed gardens are classified as low land productivity. For open land and settlements, productivity is very low. The residents also use the river as a settlement. However, it is clear that this activity is prohibited by law. This activity will have implications for river water pollution. From the results of observations in the field, activities related to waste and waste processing in the equivalent of the river are still being carried out. It can be seen that under the bridge there is still garbage. Of course, these community activities have implications for the sustainability and function of the watershed.

3.2. Community perceptions of natural resource management and conservation in watersheds

The results of the research on people's perceptions of their knowledge of watersheds are strongly influenced by the level of education and knowledge. Regarding the term watershed, it was stated that 45% of the people had understood and had heard of the term watershed. They get this knowledge from various parties who have provided counseling and news in the mass media. However, the community has not been widely involved in watershed rehabilitation activities. In addition, 50% of the community understands that watersheds hold water and the rest do not understand the importance of watersheds in disaster prevention. This is because in general the community has a relatively low educational background, which is dominated by elementary to junior high school graduates. In addition, the public generally does not have in-depth information related to watersheds. Because they are busy working in the fields or rice fields. Perceptions related to watershed conditions in Rawa Makmur 70% of the community agreed that the watershed had changed a lot. Changes related to riverbanks that have approached settlements due to erosion, trees around riverbanks have started to disappear, water is getting dirty and water discharge is rapidly rising along with the rainy season. This condition almost occurs in all areas around watersheds in Indonesia, due to land degradation. Regarding the ecological function of the watershed, 75% of the community stated that they understood the ecological function of the watershed in maintaining water, water cycles, water distribution/water reservoirs. The water gets dirty

and the water discharge rapidly increases along with the rainy season. This condition almost occurs in all areas around watersheds in Indonesia, due to land degradation. Regarding the ecological function of the watershed, 75% of the community stated that they understood the ecological function of the watershed in maintaining water, water cycles, water distribution/water reservoirs. The water gets dirty and the water discharge rapidly increases along with the rainy season. This condition almost occurs in all areas around watersheds in Indonesia, due to land degradation. Regarding the ecological function of the watershed, 75% of the community stated that they understood the ecological function of the watershed in maintaining water, water cycles, water distribution/water reservoirs.

As many as 80% of the people agree that by using the river commensurate with the social-economic function for them. And 60% of the public perception states that the government has the right to manage and regulate the use of natural resources. 30% stated that they quite understand that it is the right to manage the government and the land owner. The rest know 10% do not understand who really manages government land or land owners. Regarding public perception in the effort to rehabilitate and maintain watersheds, 85% understand that the community plays a role in the rehabilitation and maintenance of watersheds. This shows that the community does not fully understand rehabilitation. In addition, 30% of the community does not understand what conservation is and the goals of conservation in the watershed. The community understands that the biodiversity around the watershed has an impact on the sustainability and function of the watershed.

So it can be concluded that public perception is still 45% low perception, 15% moderate perception and 40% high perception. A person's view or value of an object produced by the ability to organize the senses of observation is known as perception [10]. People's perceptions and attitudes towards the environment need to be known, because natural resource management related to conservation and management will not work well [15]. Many factors influence the perception of protected areas held by residents living on their periphery. This includes the history of park management, level of awareness of the existence of protected areas [16], level of education [17], a reference for future generations [18] and gender and ethnicity [19, 20]. This is a factor in different perceptions in society even though they are in the same situation. Understanding all these factors is important to improve the relationship between local people and protected areas and will increase public awareness about the conservation of biodiversity within the area. Community interaction in utilizing the potential of the

watershed (DAS) will certainly affect various perceptions and implications of the function of the area.

The results of public perception can be concluded that the community is aware of the importance and dependence of the function and role of the watershed. However, they do not understand the concept of watershed conservation or conservation. Humans play an important role in determining the quality of interactions between watershed systems. Community activities in the watershed cause various problems such as disruption of water quality, high erosion rates and frequent floods and landslides [21]. Community activities related to the use of natural resources are certainly related to the perceptions formed. This will certainly greatly affect the sustainability of the watershed function. Collecting information related to this perception will help provide input for various parties in watershed conservation so that their functions and roles are maintained. Integrated management planning and conservation techniques are needed in an effort to protect the watershed in the future.

4. CONCLUSION

The community has a lot of interaction with the watershed in terms of use as agricultural land and plantations. Whether it's rice fields and fields, as well as oil palm and rubber plantations as well as the use of residential land. Community interaction will definitely affect the function of the watershed itself. Community perceptions related to watershed natural resource management and conservation concepts are still 45% low perception, 15% moderate perception and 40% high perception. So the concept of planning and integrated conservation techniques is needed to maintain the sustainability of the watershed in the future.

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