

Community-Based Local Wisdom for the Preservation of Gumuk in Jember, Indonesia

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Abstract. Gumuk is a special term given by the community to a hill in Jember. With a height ranging from 1 meter to 57.7 meters, the main elements of the gumuk are rock and soil. However, over time many gumuk have been exploited by local residents, especially the owners of the gumuk, which have an impact on environmental damage. Lack of public knowledge about the importance of the existence of gumuk needs to be given education for conservation based on local wisdom of the Jember community. This study aims to develop the concept of community education based on local wisdom in the preservation of gumuk in Kaliwates District, Jember. The research method that will be used is qualitative research with ethnographic and phenomenological approaches to analyze the local wisdom of the community. Data was collected by observation and in-depth interviews with several informants relevant to the research objectives. The results of the research are 1) Products, the concept of community education based on local wisdom in the preservation of gumuk, 2) a book with the title: 'Local Wisdom in preserving the gumuk.

Key words: community local wisdom; education; conservation; gumuk; jember.

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INTRODUCTION

A trip to the east of Java Island is incomplete if you don't visit one of the largest agricultural and plantation areas in Java, namely Jember Regency. Besides being famous for its pandhalungan culture (Javanese-Maduran assimilation culture), tobacco fields, and its suwar-suwir souvenirs, Jember is also known as a city of a thousand mounds, which reflects the condition of its hilly landscape.

These hills, which in other words are referred to as dunes, are geologically known as hillocks. When observed, the hillocks are composed of fragments of lava, pyroclastic and lahar fragments mixed into one which indicates the material comes from the body of the volcano. Based on the pattern and distribution, the dunes or hillocks in Jember originate from a landslide in the western part of Mount Gadung (an old volcano in the west of Mount Raung).

Gumuk for the people of Jember is certainly not a foreign thing. The topography of Jember is known to have many dunes spread over several sub-districts. We find more dunes in the North Jember area and have a relatively large and tall size compared to the dunes in the South Jember area. Gumuk seems to be a characteristic of Jember district. Even some regional names in the Jember district use the word gumuk, for example Gumuk Mas, Gumuk Rase or Gumuk Bago. In Balung sub-district there are also several dunes.

One of them is Gumuk Lateng which is so popular and legendary for the residents of Balung Lor and its surroundings.

Jember Regency has an area of 3,293.34 km² and has approximately 76 small islands with the largest island being Nusa Barong. Based on its geographical position, Jember Regency has the following boundaries:

- North : Bondowoso Regency and Probolinggo Regency
- South : Indian Ocean
- East : Banyuwangi Regency
- West : Lumajang Regency.

Jember Regency is one of the cities that has many mounds or hills which is given the nickname "City of a Thousand Gumuk" is one of the nicknames for Jember Regency which has a unique natural wealth, namely dunes. Until now, the existence of the dune is still found. Unfortunately, now the number does not match the nickname attributed to it because of the large number of exploitation and mining carried out by the community.

Besides being dubbed the City of a Thousand Gumuks, Jember is also dubbed the City of Tobacco because it is the main commodity and the largest producer of tobacco. Jember is also known as the City of Carnival thanks to the Jember Fashion Carnival (JFC) which has become worldwide and has been imitated by

many other regions. In terms of typical food or souvenirs, it is known as Kota Suwar Suwir which is a typical food made from tape which is processed in such a way that it produces food like lunthead but harder.

Gumuk is a special term given to a hill. With a height ranging from 1 meter to 57.5 meters. The main element of the Gumuk is rock. Because the dune comes from a volcanic eruption. The top of the dune becomes fertile soil. This is because thousands of years of changing dune formations and weathering processes occur. The types of rocks in the dune are padas, foundation stones, coral, plate stones and sword stones. That invites the exploitation of Gumuk for the economy.

There are several factors that cause dunes to be exploited, such as: 1. The dune contains excavation element C, which is composed of plate stone, sand, and foundation stone, 2. The dune is exploited due to the expansion of the land to be used as land or housing. Of these several factors, which resulted in the dune being exploited by investors, individuals, and the surrounding community in the dune environment.

The survey results from the Department of Hygiene and Environment (DKLH) Jember in 2005, the number of dunes in Jember reached 997. The largest number is in Kalisat sub-district, which is 349 units, with the widest area of 120,100 square meters, namely Kardjo Gumuk. These dune lands are privately owned. Not infrequently, one person can have more than one pile.

Data from DKLH shows that as many as 204 dunes have been identified as having water sources. Most types of vegetation that grow in the dunes are bamboo, mango, banana, randu, areca nut, coconut, sengan, rambutan, and some dunes are planted with teak. Gumuk is also a habitat for various types of birds.

According to the Jember Regency Public Works Office (2016), explaining that in general the type of soil in the dune area is regosol. The land is loose and fertile. The soil texture in the dune tends to be sandy clay loam. The soil is alluvial soil submerged from the results of volcanic rock processing (Utomo et al. 2015). Regosol soil has a tendency to be sensitive to erosion so that vegetation cover plays an important role in maintaining the stability of soil aggregates. Based on the above description related to the interaction of the dune ecosystem on the hydrological cycle, it is necessary to manage the environmental services provided by the dune and the natural resources obtained from

the dune. Basically, the damage to the dune can disrupt the hydrological cycle which will have a bad influence on nature and humans.

Some recommendations as a solution to the problem of managing dunes as water catchment areas and one of the hydrological components are affirmation of regulations on the use of dunes with conservation efforts, community participation improvement, mapping of the function of dunes as water catchment areas as well as recreation and education facilities.

The environmental impacts caused by overexploitation of dunes must be socialized to the community with the aim that the community participates in maintaining the preservation of the dunes through local wisdom that applies in Jember Regency. This is done because the impact will directly or indirectly affect the community around the dune in the form of ecological problems and the availability of clean water. Indirectly, these efforts are mitigation and adaptation to global warming around the dune. Alternative management of dunes from the above description generally describes a sustainable component, namely strengthening the role of institutions in making policies and implementing regulations, technical studies related to functions and dunes as natural resources, referring to cultural conditions and efforts to improve the community's economy. Cantlon and Koeing (1999), sustainable aspects must pay attention to the integration between economic, social, environmental and institutional.

Based on the description above, that in the past, Jember City was a city that had approximately 1666 Gumuks or hills, now it is a memory as a result of the many exploitations of existing dunes. As a result of the large number of missing dunes, it has a negative impact on the environment, including reduced water sources, especially the loss of windbreaks from the Indian Ocean which can lead to hurricanes.

The information obtained regarding ownership status is that almost 100% of the gumuks in the Jember area have individual land ownership status, so they are far from government supervision. According to Mr. Fauzi from the National Land Service, "The existence of gumuks in the Jember area is difficult to identify in terms of number and ownership status. This is due to the exploitation of dunes that can occur at any time, which can reduce the number of dunes in the Jember area".

The city of Jember, which was formerly known as the city of a thousand dunes,

specifically aims to maintain the preservation of the dunes with existing local wisdom. This effort should continue to be carried out in order to survive in the midst of the times and not only be known as an object of art. Various problems that exist, the researchers intend to conduct research with the title "Community-Based Local Wisdom for Gumuk Preservation in Jember Regency".

METHODS

This study uses a qualitative approach. A qualitative approach is a research that examines the perspectives of participants with interactive and flexible strategies. This approach was carried out to obtain direct data from the community, especially the owners of dune land in Kaliwates District. This research was conducted using phenomenological methods and descriptive analysis. This means that the researcher immediately sees the phenomena that exist in the dune area to be studied, while descriptive analysis is a research procedure that produces descriptive data, in the form of words (speech), writing, and behavior from people who can be observed. This method is expected to be able to interpret the behavior and actions of individuals and groups, including an organization, both formal and informal. Through this approach, researchers conduct intensive interaction or communication with the parties being studied, in order to be able to understand and develop patterns of analysis of social processes that occur in the community under study.

The research location was conducted in three sub-districts, namely: Tegal Besar Village, Mangli Village, and Talangsari Village, which are located in Kaliwates District, Jember City. Researchers chose this location, because in this area there are still many mounds that still exist and are sub-districts located in the city center.

Communities around the Gumuk area need to be given education and understanding about the existence of Gumuk which has been standing firmly so that it will continue to be preserved and not exploited for their own interests. Lofland (Moleong, 2013: 157) reveals that the main data sources in qualitative research are words, actions, and the rest is additional data such as documents and others.

RESULTS AND DISCUSSION

The value of local wisdom can be understood as local ideas that are wise, full of wisdom, of good value, which are embedded and followed by members of the community. Therefore, the value

of local wisdom has an important role for the community wherever the community is located. The value of the wisdom of the Jember community regarding the preservation of the dunes is still poorly understood by local residents and the benefits of the dunes are still considered as ordinary land that is not very useful for the lives of the wider community.

Local wisdom contains values and forms of unification that are harmonious and in harmony with nature, that conservation cannot be separated from the local culture and beliefs of the local community. Likewise, the preservation of dunes in Jember cannot be separated from the culture and beliefs of the local community.

The environment is a place where living things live, look for their life needs, and form characters including humans who have a more complex and real role in environmental conservation. Law Number 32 of 2009 concerning the protection and management of the environment is a unity of space with all objects, forces, conditions and living things including humans and their behavior that affects nature itself.

One of the uniqueness of the environment of the Jember community is marked by the existence of dunes scattered throughout the Jember area, both in the city and village areas, and the mixture of cultures from various ethnic groups such as: Madurese, Javanese, and Chinese and Arabs. Which of the several tribes must carry the values of their respective cultures in living social life.

Decrease in the number of miniature urban forests that function as oxygen-producing areas and carbon storage. The reduced population of animals that live in the dunes, such as civets, owls, turtledoves and dragonflies, the potential for flooding and landslides is quite high due to the reduced amount of vegetation and which results in high runoff generation and unstable soil conditions. The reduction in water catchment areas increases the potential for flooding and landslides due to disruption of one of the components of the hydrological cycle.

Global climate change also affects the risk of natural disasters that arise. In addition, global climate change will affect the geographical conditions and microclimate of a region as well. According to the Meteorology, Climatology and Geophysics Agency (2017), in general the weather in Jember Regency has conditions, namely temperatures of 23 – 31 oC; Rainfall 47 – 55 mm/hour in the medium – heavy category and the wind speed 4 – 22 m/s in the medium – strong category. Therefore, the function of the dune

indirectly plays an important role in maintaining the natural stability of the geographical conditions, macro climate and ecosystem of Jember Regency, both the function of the dune as a wind breaker and as a water catchment area.

According to the Jember Regency Public Works Office (2016), explaining that in general the type of soil in the dune area is regosol. The land is loose and fertile. The soil texture in the dune tends to be sandy clay loam. The soil is alluvial soil submerged from the results of volcanic rock processing (Utomo et al. 2015). Regosol soil has a tendency to be sensitive to erosion so that vegetation cover plays an important role in maintaining the stability of soil aggregates. Based on the above description related to the interaction of the dune ecosystem on the hydrological cycle, it is necessary to manage the environmental services provided by the dune and the natural resources obtained from the dune. Basically, the damage to the dune can disrupt the hydrological cycle which will have a bad influence on nature and humans.

We can imagine how to move a rock block in the form of a pile with a mass of more than 1 ton that far if it does not use a lot of energy. The process is thought to be not just an ordinary avalanche, but also indications of additional forces from side eruptions and flash flood flows, so that they are able to move material longer distances than usual. Then the question is, when did the giant avalanche occur? Of course, before human civilization lived in Jember, because Mount Gadung was active approximately 100,000-40,000 years ago, long before Mount Raung is now active. This extraordinary phenomenon has now become an icon of the landscape in Jember as a city of a thousand dunes. The existence of an extraordinary geological phenomenon, which currently stretches to color the City of Jember, namely the dunes or hillocks is an implied message from nature, that something beautiful begins with a difficult and dangerous process.

However, now the condition is quite alarming because many dunes have changed their geomorphology into plains due to changes in land function. We must protect this valuable geological heritage, because its function is very important for the natural balance in Jember. The most crucial function is the dune as a water catchment area and a barrier to natural wind currents that blow along the Argopuro-Raung valley through Jember City. If these dunes disappear, there will most likely be a big wind

that can hit the city of Jember.

CONCLUSION

The knowledge of the residents gained from their experience in conserving the dune becomes the basis for the government to make conservation policies. This knowledge produces actions in the form of local wisdom that is community, namely the community's way of working together, helping each other, and reducing the workload, both for public and private interests. Keeping the dunes is a natural manifestation of the implementation of the local wisdom of the people in Jember which must be preserved and maintained continuously and sustainably. Therefore, local governments will be assisted in formulating policies based on local wisdom of the community.

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