

LOCAL WISDOM OF NATURAL RESOURCE MANAGEMENT IN COMMUNITIES AROUND THE MINE IN CENTRAL HALMAHERA REGENCY

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ABSTRACT

The main problems of this research include two things, namely: (1) what local wisdom is related to the management of natural resources owned by the mining circle community in Central Halmahera Regency, and (2) how is the existence of the local wisdom of the mining circle community in managing natural resources? nature in Central Halmahera Regency. This study uses a qualitative approach that collects through document studies (literature review), observations, and in-depth interviews. The results of the study show that the communities around the mines in Central Halmahera Regency classify natural resources based on where or where the resources are located, namely resources that are on the mainland. In managing these various natural resources, communities around mining have various traditions that can be seen as a form of local wisdom. The entry of the mining industry into Central Halmahera Regency has no more positive impacts than the negative effects it produces. Mining companies are seen by residents as 'giants' that destroy water sources that are vital for residents' lives so that they can no longer be used. In its development, the presence of mining companies, especially PT. IWIP, influences the existence of local wisdom in the communities in the study locations related to the management of their natural resources.

INTRODUCTION

Basically, natural resources can be categorized into two groups, namely: renewable resources and non-renewable resources (Chowdhury et al., 2014). Various types of natural resources are included in the renewable category, although with limited capabilities. Over-exploitation, in which resources are used beyond their recovery capacity, will eventually lead to a decline in these resources (Sadovy, 2005). If the depletion activity continues in the long term, the resource will become extinct.

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This view of renewable resources and their availability divides experts and practitioners into two groups. One of the parties stated that the (renewable) resource is still quite abundant. Based on the assumption of abundance and self-renewal of these resources, it encourages continued utilization of certain resources in order to achieve economic (development) interests (Simarmata et al., 2021). On the other hand, he views this belief in abundant resources as excessive, if not wrong. For them, the phenomenon of the marine environment and the resources in it have actually experienced changes in a direction that is increasingly degrading from time to time.

For example, the phenomenon of the increasingly threatened sustainable capacity of coastal and marine ecosystems has been widely discussed by experts. Damage to coastal areas and their ecosystems is increasingly widespread over time (Indrasari, 2020). Natural processes and human activities, including the impact of development policies in the past, were pointed out as causes (Utina, 2015). Coastal reclamation, use of fishing gear that is not environmentally friendly, and others are increasingly degrading the quality of the coastal and marine environment and its resources (Siombo, 2013). This has implications for the loss of various endemic biota and other rare animals (Indrasari, 2020). According to the LIPI report, only 7 percent of Indonesia's coral reefs remain of very good quality, while another 30 percent is said to be in a badly damaged condition (Nuridin, 2010). Coral reefs with serious levels of damage due to reef fishing practices by fishermen in the Padaido Islands, Biak. Likewise, the area of mangrove forests also decreased from 4 million hectares to 2.5 million hectares during the period 1982-1993 (Dahuri et al., 2008).

Management of natural resources actually considers the sustainability of the environment and the resources associated with it (Saad et al., 2022). In addition, achieving an increase in people's welfare through the utilization of natural resources is a development goal in itself. Good management in this case, of course, is directed at achieving these goals. In other words, there is a close relationship between natural resource management and community welfare.

One of the concepts of natural resource management known so far is Community Based Management (CBM). The basic concept of this management approach places local community environmental knowledge and awareness as the basis for its management (Nikijuluw, 1994). Through effective resource management, it is hoped that social and economic values can have a positive impact on improving people's lives. The problem is that often local knowledge from a group of people (community) is seen as "unscientific" (Winarto & Choesin, 2014), tends to be destructive, not environmentally friendly, and various other negative connotations.

Natural resources basically include everything that comes from nature and can be put to good use by humans for their survival (Christanto, 2014). Natural resources are grouped into two categories, namely: renewable and non-renewable resources. This view of renewable resources and their availability divides experts and practitioners into two groups. One of the parties stated that the (renewable) resource is still quite abundant. Based on the assumption of abundance and self-renewal of these resources, it encourages continued utilization of certain resources in order to achieve economic (development) interests.

Basically, the people of Central Halmahera Regency classify natural resources based on where or where the resources are located. Based on this method, the Sawai

people in Central Halmahera divide natural resources into two categories, namely resources that are on land and on the coast or ocean. Resources on land are further divided into two categories, namely resources that are above or on the surface of the land and resources that are in the ground. Resources above the ground in the form of forests and agricultural land/ plantations. Meanwhile, the resources that are in the ground are in the form of mineral mining resources.

The grouping of types of resources above is mainly based on the reasons for the place where these resources are located. Resources that can be found on land will be included in the agriculture or plantation category. While the resources found in the sea are referred to as marine and fishery resources. In addition, the communities in the study locations also classify the resources contained in the soil and are referred to as mining resources (mining).

METHOD

A. Research sites

The location of data collection is more centralized in the Central Halmahera Regency. The research locations include two sub-districts, namely North Weda and Central Weda. The villages that were chosen as study locations were purposive sampling, namely Kobe, Sawai Itepo, Lelilef Waibulan, Lelilef Sawai, Kulo Jaya, and Gemaf. These locations were chosen because they are directly or indirectly related to mining activities by mining business actors. They are also often referred to as the mining circle community.

Since the research was declared approved for funding by the Institute for Research and Community Service (LPPM) Khairun University from April to July 2022, the Research Team has been slowly designing research instruments for the topics that have been submitted. Furthermore, a field visit was carried out to Central Halmahera to observe community activities and mining business actors, the social environment, and the physical environment. Visits were also conducted to interview informants at the study locations, all of which totaled 17 people. Some of the interviews were continued by telephone after returning from the field and the researcher realized that some data needed to be added.

B. Sample and Informants

Informants were determined purposively (purposive sampling) based on the initial information obtained (Creswell, 2009). Furthermore, the snowball sampling technique was carried out in order to deepen and enrich information relevant to the research topic. Informants include community leaders, traditional elders, youth groups, and formal figures in government. They represent both men and women.

Based on the information obtained from the local government, the researcher then visited certain informants, mostly in the afternoon. The generosity and readiness of village officials made it easy for researchers to reach informants by accompanying and showing residents' houses directly. And so on from the first informant to the last informant in this study.

Interviews with these informants included primary data regarding knowledge and practice of environmental management, including the resources in it. The natural environment here includes land and beaches/sea so that the characteristics of the informants also include farmers and fishermen.

C. Data collection technique

Considering that the characteristics of the research are exploratory and the data sought is narrative-qualitative in nature, the method that is considered appropriate is the qualitative method. There are many qualitative data collection techniques commonly used in sociocultural anthropology, but for the purposes of this study, the data collection techniques used were in-depth interviews, observation, and documentation.

In-depth interviews were carried out in a semi-structured manner through an interview guide that had been prepared beforehand (Sugiyono, 2014). Observation techniques are carried out by directly observing the activities of residents and the condition of the physical environment. All data collection activities by researchers and activities and objects that are considered to support research are documented as part of the data collection technique.

D. Data analysis

Qualitative data analysis in this study started from data collection to the completion of data collection. In this stage, there are three things that must be done, namely: data reduction, data presentation, and drawing conclusions (Miles & Huberman, 2007).

RESULTS AND DISCUSSION

A. Agricultural Resources: Forest as an Important Resource for Communities Surrounding Mines

The Sawai people in Gemaf, Lelilef Sawai, and Lelilef Woebulan villages cultivate their own agricultural land. The land was obtained by clearing the forest or inherited from their parents. However, it can be said that all land was originally a wilderness (*banga*).

In the past, the forests in the mining area in Central Halmahera Regency were owned communally based on ethnicity. Sawai is one of the native peoples (indigenous people) in Central Halmahera. Although currently the Sawai people are scattered into several villages, the rights to access the forest and the resources in it are considered the same. For example, the Sawai people who are residents of the villages of Gemaf, Lelilef Sawai, and Lelilef Woebulan, are considered as just one group: the Sawai people. Because of this, they can access forests that are considered to belong to their ethnic group.

Based on the ownership category as above, there are also forests belonging to the Kobe people or the Lokulamo people. The Sawai people are not allowed to access the forests belonging to these groups, and vice versa. Informants told that since time immemorial there has never been any appropriation of forest areas among community groups or ethnic groups in their territory. Each of them had a good understanding of which forest areas belonged to them and which forests belonged to other groups. However, when compared to ancient times, today there is almost nothing that can be called a forest.

"Each of these ancestral barrels has inherited the forest for them. So you can't maso in dong have. They also can't maso in the forest casks. This forest is wide. So

there's no maso in people who have. If so before. If you don't know now. But which forest are you going to enter now, while the forest is gone."

In order to process the forest into gardens, the Sawai people work on it together, which is known as the raw ambetangan, the rawuxiliaries, or the raw pangge. The three terms have the same meaning, namely helping each other in a group to complete a job in a certain field, for example in agriculture. Regarding land clearing activities, informants stated:

"Tong, if you want to clear the forest, you have to do it by hand amb or by helping or by panggel. If so, disassembling it can only become hollow. Tong the Sawai people say 'mbet', barrel mamaras. The tool uses tamako and pedals. If you use the senso later. Baku ambe can hold up to 10 people. Usually with Tong Pe one village or family or relatives."

Based on the information above, it can be seen that the Sawai people have traditional cooperative institutions in agricultural activities, namely the raw ambetangan, the bakuux, or the bakupangge. As an institution of mutual cooperation, this is considered to lighten the work. Forest (banga) is understood as an expanse that has not been individually owned and overgrown with dense plants or trees. To turn a stretch of forest into a garden requires a lot of energy. Therefore, they involve quite a lot of manpower. These workers are not paid or paid, but are rewarded through a reciprocity mechanism. This mechanism can be described as explained by the following informant.

"If Tong Bakobong means that everyone who participates in the group also has a plan for Bakobong. So if one is finished, then they move again to another kobong with other members. If it's not land clearing, maybe someone has a kobong that needs work. So please just help in Dong Pe without that. If for example there are 10 people, it means that the staff will help until all 10 people are gone. It just finished. If for example we are sick it means we have to be replaced with another family, it will be considered as having joined. So it's the same calculation. If it doesn't work anymore while Tong has it, so biking, that's not allowed. Must go to work for someone else, I mean tong pe the group earlier. No need to pay pa dorang, or I ask for payment. Nothing like that. Just have to go to work. Because if not, you will be angry. Or just shy like that."

From inside the forest, the community uses various natural resources, such as sago, agarwood, fruits, etc. These various plants are understood as plants that grow freely in nature and are not planted by someone. Some of these plant species are understood to be self-sustaining plants when feeding birds drop the seeds and reproduce. In other words, these plants are not grown by anyone. There are also plants that do not grow from seeds which are understood to grow on their own because of the fertile (loose) soil conditions that allow the growth of various types of plants naturally. Everyone in the same ethnic group can use everything in their forest. They only need the strength and ability to reach forest areas.

The distance between settlements (village) and forest areas is quite far. To get to the forest, the community members travel on foot across swampy and muddy fields. Although it was not possible to measure with certainty, the informants knew that it took hours to get to the forest. Residents usually leave in the morning and

arrive at the forest location when it is noon. From there, they just came home when it was late afternoon.

The forest is not only understood as a profane area, but also as a sacred area. Therefore, in its utilization, forests must be managed very carefully. Taking something from the forest or turning the forest into land, everything must be attempted with vigilance. In the forest it is believed that there is a spirit that controls the forest. This spirit can be good or bad, depending on human attitudes and behavior. The good spirit of the ruler of the forest can protect humans from danger. On the other hand, a spirit can become evil if it is angry so that it can cause death for the person concerned.

The efforts of the Sawai people, both those living in the mining area and those far from the area, have rituals as a tradition to establish harmonious relationships with the spirits in the universe. The belief in the existence of landlords or ghosts (guo) as the spirits of ancestors who have long died is common in anthropological studies of ethnic groups, for example in Africa (Eriksen, 2009). This belief, as Eriksen quotes Robin Horton, is a dramatic re-creation of the past by demonstrating the loyalty of posterity to the various values and practices taught by their ancestors. Thus, the wrath of the ancestors through their spirits against the current generation can be avoided. It is through this ritual that wisdom is found in treating nature, including the practice of utilizing the resources in it.

Ancestral spirits have an indeterminate place in the forest, because they are invisible. Therefore, all behavior and actions while in the forest must be maintained in such a way as to remain within the framework of the spirits of the ancestors' wishes. The most obvious place where this occurs is the Lagai Cekel tomb. As the ancestor of the Sawai people, Lagai Cekel is very sacred in their beliefs. The offering ritual at the Lagai Cekel tomb is carried out by reading a prayer, serving dishes such as roasted chicken and yellow rice similar to a tumpeng, placing tobacco (tabako), money, etc. Visitors who come later may not take anything that has been served by previous visitors. Likewise, there is a prohibition (boboso) to cut down the trees around the Lagai Cekel tomb.

"If the barrel is in the forest, it is not allowed to be patient. Will you be angry with someone again? Tong must take care of Tong Pe talk, Tong Pe behavior. Barani Ngoni speaks patiently or ambe patiently, I will be angry already. Tong, you can't see it, but you can see or know people. Yes... maybe you really do have an advantage or something like that anyway... for example... if you're the one who says it's Slow, you can't be patient at all. Ngoni cannot ambe that dong so save it as food or anything in dong pe jere. Ngoni akang sake or die said. Never mind the amb of food that Odng put, while the wooden bricks there near Dong Pe's grave are tara bole."

By understanding religion as a cultural system, Geertz (1973) defines religion as a system of symbols that functions to convey strong, pervasive and long-lasting feelings and motivations in human beings by formulating various understandings of a general order of existence and covering these various understandings with an aura of factuality in such a way that the various feelings and motivations seem realistic and unique. From this definition, the Sawai people's belief in spirits contains a system of symbols and their meanings. It is also through this belief, by following Geertz's way

of thinking, that the Sawai people are able to understand the world, including understanding the direction of life and human existence itself.

The tradition of the Sawai people above can be understood through the idea of [Ahimsa-Putra \(2009\)](#) that socio-cultural phenomena are manifested by humans because of the awareness possessed by humans, having knowledge about what they are doing. This awareness or knowledge is used to deal with the situation at hand. To be able to "understand", socio-cultural symptoms in the form of various patterns of human behavior and actions, we must pay attention to aspects of knowledge regarding views, opinions, meanings, values, knowledge possessed by individuals or members of a society.

From the description above, the local wisdom of the Sawai people in utilizing the forest and its resources can be found in several ways, as shown below.

B. Preserving the universe for future generations

Believing that the universe is inhabited by the spirits of the ancestors is a mechanism for the Sawai people to protect nature so that the forest remains sustainable. Thus, nature and its resources can be enjoyed by posterity. Ancestral spirits must be maintained in harmony with living humans by maintaining attitudes, behaviors and actions within the framework of their interactions with the natural environment. Doing or acting to damage nature by taking prohibited forest products (boboso) is something that is considered disgraceful.

The spirits of deceased ancestors become controls for humans who are still alive. The existence of this spirit is very feared by the Sawai people. It can not only wreak havoc, but can even cause death after a long and incurable illness. This invisible spirit poses a threat to the continuation of human life along with extraordinary fear for the residents. This control mechanism through ancestral spirits is very effective compared to restrictions by the government or certain actors. Ancestors themselves are understood as wise humans who have a high preference for virtue.

"Tong pe, the ancestor actually still sees this old man who is still alive. But please, you can see them, kang. what you know about that, is what you have heard for a long time or have known from old people. If you say you can't be full-back, don't be full-back. What's called tong pe adat-adat, tong must take care of that stuff. That means you have to be backed up by trada. Because dong is (ancestor) bae all. Don't be greedy. It's the same as tong, for example e... if you're so old, you're more aware anyway. Increasing control is lust, tra kse iko depe just want it. So that Tong and Dorang will still be okay, take care of being backed up, don't you want to trade. If it's not backed up, well it can be dangerous. That's ngon maso my debt will be a lot ngon get a lot of trials. Or later it can be sake-sake ka... even can pass (die) it."

C. Take care of nature by taking what is necessary

The natural environment in which the forest is included is God's gift for human life. Everything from the environment can be used for human welfare. However, activities that use natural resources must be limited in such a way that nature has the opportunity to take care of itself. Greedy humans are considered to destroy life by taking more from the universe.

"Tong bole ambe anything from the forest. But don't even let anyone give you leftovers. If everyone is so ambe, how else do you want to grow later. Means all gone. If the dong runs out, it means there are more barrels so you can't eat anything. Meanwhile, Tong Ba Kobong is biking kobong from the forest. The logs of the new tabang casks are made in kobong. The holes in the casks just left ambe, I didn't plant them because the cauldrons grew on their own anyway. So don't come to Tong Ambe, all that is in the forest. That would make my ancestors angry. Sake keg sake. Even dead."

D. Maintaining loyalty to ancestors by continuing traditions (rituals)

From the various interviews that have been conducted in this study, it can be stated that there are very many things in the culture of the Sawai people that reveal that they are very loyal to their ancestors. Loyalty or adherence to messages passed down verbally implies maintaining environmental sustainability. These messages are kept in tradition by socializing them from generation to generation.

"Tong is able to live to where he is today because of his ancestor Tong. Without them, would you be here now? Trada! Tong, all of this was born and lives like this because of you. All things, all these forms, Tong Pe, the ancestors, arranged everything so that Tong Pe could live. That's why you need to take care of that custom. These traditions are inherited from those ancestors. Who wants to create that stuff ka? Let's ask, who do you think is bebekeng? No one can answer, say so and so or that ka. Trada is... so what Tong only knows is that, all of that is inherited from our ancestors. So if you say don't take the patience (in the forest), iko is done, jang in malawang again."

Local wisdom that is firmly embedded in beliefs and subsequently guides the behavior of Sawai residents has a positive impact on the activities of utilizing natural resources in their environment. This attitude is actually unconscious and not directly related to environmental preservation in the life of the Sawai people. However, the ancestral message that emphasizes obedience and loyalty actually has implications for the existence of the environment. Without being covered by obedience to the ancestors, nature will be exploited in such a way without any restrictions. Therefore, the existence of an attitude of obedience to ancestors should still exist in the Sawai community. Without this compliance, the community's wisdom in managing resources in their environment will also become extinct.

E. Land as Main Source of Income

Most of the Sawai people work as farmers. They grow a variety of monthly crops that are primarily meant to meet daily consumption needs. Monthly crops include bananas, cassava (kasbi), taro (batata), beans and various other vegetable crops. Apart from that, they also cultivate annual crops such as coconut, cloves, nutmeg, cocoa, etc. Coconut is the most widely cultivated plant and continues to this day. Apart from coconut, there are also other commodities, although they are said to be relatively new, such as nutmeg, cloves, and cocoa. To plant these various types of commodities, the Sawai people cultivate agricultural land (kobong).

Agricultural lands (kobong) belonging to the Sawai people were originally obtained by clearing forest areas. Forests that have been cleared (baparas) of

various plants or trees that are considered to interfere with the growth of staple crops. After that, the land is then planted with various types of plants, as mentioned above. Privately owned land will then be passed on to children and so on to posterity. Because of this, the existing lands were obtained and owned in two ways, namely (1) through inheritance and (2) by clearing forests themselves that were not owned individually by other residents.

"Tong pe kobong is obtained from tong pe heir. Parents kse pa torang to. So if in the past parents were strong at breaking up forests, it means that there will be a lot of things that will be passed on to their children. We still have heirs from our parents' barrels. That's what's tong bage with all the basudara. Apart from the ones that the barrels got from the heirs, there are also those that dismantle the barrels themselves. Tong maso new forest for making kobong yourself. Baku pangge with the people here already with family again anyway. If there is no kobong, what do you want. Tra batanam? Kong what do you want to eat? Meanwhile, this person eats from the results of the kobong."

Both inherited land and self-cultivated land will be planted with as many plants as the owner can afford. As residents who depend on agricultural/plantation resources for their living, land is an important resource in the process of producing their agricultural products. Initially, land was considered as an abundant resource for the needs of local residents. All areas in the forest can basically be cultivated under the control of any person/individual. As long as the land is not owned by anyone else. On that land, the owner can plant anything according to their needs and wishes. Plants that are considered productive and can support the sustainability of life through fulfilling the consumption needs of daily life, will be planted or cultivated on the land. Related to this,

"Tong must have planted a lot of them in the pit. If there's a lot of land, why don't you want to plant it? Anyway, plant everything! If he wants to grow up or not, that's the back's business. You don't need to feed it too, do you? At best, water it if you just planted it, but if it gets too wet, there's nothing more. It's just clean, it's grass. In the past, if someone said that they were starving, that's not true anymore. That's just lazy. It's different compared to the current situation. Now it's really kobong so trada, so sell it to the company. What do you want? Batahang is not selling? brother dong still ambe. Forest me so finished again. All dong (companies) are so ambe."

The information above shows two things. First, that the Sawai people basically have a high ethos for farming. This is indicated by "planting anything, everything, because the land is abundant." Second, that at the same time it also reveals the existence of awareness among residents about the loss or depletion of their agricultural lands due to force-buying by companies. A village head in the mining area of Central Halmahera stated that an estimated 60% of the residents had sold their land to mining companies. Starting in 2008, mining companies began asking residents to sell their land to the company. At that time, as many as 80% of residents persisted in not selling their land. After the company's negotiations with residents, In the end, the remaining 20% released their land to the company because they considered the price to be quite fantastic. In 2018, it is estimated that 40% of the residents will survive, and as many as 10% will still defend their land. Until 2022

almost all land has been paid for by the company. However, from 2008 to 2018, people's lives in general are considered not to have changed much. The community was described as difficult at that time. It is encouraging that one of the informants, who is a village head, said that since IWIP entered in 2018, life has started to improve. people's lives are generally considered not to have changed much. The community was described as difficult at that time. It is encouraging that one of the informants, who is a village head, said that since IWIP entered in 2018, life has started to improve. people's lives are generally considered not to have changed much. The community was described as difficult at that time. It is encouraging that one of the informants, who is a village head, said that since IWIP entered in 2018, life has started to improve.

CONCLUSION

The people of Central Halmahera Regency, especially those who live in the area around mining, classify natural resources based on where or where the resources are located. Based on this method, they divide natural resources into two categories, namely resources that are on land and on the coast or ocean. Resources on land include resources that are above or on the ground and resources that are in the ground. Resources above the ground in the form of forests and agricultural land / plantations. Meanwhile, the natural resources that are in the soil are in the form of mineral mining resources. Fishery and marine resources include all resources or biota that live or are on the coast and oceans.

The entry of the mining industry into Central Halmahera Regency has no more positive impacts than the negative effects it produces. Mining companies are seen by residents as 'giants' that destroy water sources that are vital for residents' lives so that they can no longer be used. In its development, the presence of mining companies, especially PT. IWIP, influences the existence of local wisdom in the communities in the study locations related to the management of their natural resources.

Through mining companies, as part of the industrial development process in Central Halmahera Regency, local wisdom in the communities around the mines erodes or even disappears. Some of these can be found in the phenomenon of loss of land owned by residents due to being taken over by mining companies, even through compensation. Acquisition of land by these companies has resulted in the loss of local traditions associated with agricultural traditions, such as land clearing customs, beliefs about landlords, bebeto, baku assist, profit sharing, and the breaking of the transcendental relationship between residents and their ancestors.

In addition, mining activities in the Central Halmahera Regency area have also caused a decline in the carrying capacity of the physical environment for the sustainability of the lives of the residents in the vicinity. Some of the things designated as part of this phenomenon are the increasingly dusty environment, waste that is not managed properly, and the loss of clean water sources and rivers due to pollution.

Cracks in local wisdom in the social life of residents around mining in Central Halmahera Regency are also found in several phenomena such as the breaking of the sacred bond between residents and their land. Land is not only a place to live the daily life of local residents. More than that, land that is no longer owned or controlled by the residents actually breaks the bond between the residents and their land. In addition,

the process of compensation for land by the company through its field officers has evoked mixed responses among residents. The behavior of certain individuals representing mining companies is considered by residents to take opportunities to benefit themselves. In addition, the land compensation process also created divisions among the residents. Some residents agree, while others refuse and choose to keep their land at a higher value than the price offered to be paid by the company. Another impact of mining company activity on local communities is the collapse of life based on communal values and the strengthening of individualistic symptoms of society.

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