

The Development of Marine Resource Conservation In Indonesia

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Abstract. The Indonesian government has committed to establishing marine conservation areas, each of which has an important role in supporting sustainable fishery management and the human resource having the local wisdom. This writing is aimed at analyzing the local wisdom for the establishment of marine resource conservation at the coastal communities in the western region of Indonesia. This research is conducted in West Sumatra. To collect data, observation and interview are applied. The result finds, that there are four values of Minangkabau local wisdom could be used and potentially good impact on the marine conservation area and the coastal livelihoods generally, namely (1) spiritual wisdom; (2) environmental sustainability wisdom; (3) cultural traditions wisdom; and (4) economic wisdom.

Keywords: Local wisdom, Minangkabau, Marine Conservation Area, Local Fishermen

1. Introduction

Conservation is a global concern today and for many nations, including Indonesia, a strategic issue. Indonesia must be able to manage these resources effectively and sustainably for the benefit of its people, with a large fish resource potential [1]. Indonesia's fish resources management was introduced in 1990 under the Indonesian Law No. 5 on the conservation and security of biological resources and their ecosystems [2]. Since the development of that legal framework, fish resources conservation has intensified in Indonesia. By the end of 2012, national and local government initiatives in the conservation of fish resources had created no less than 16 million hectares of marine conservation areas. The Indonesian government pledged 20 million hectares of marine protected area by 2020. This commitment is in line with the commitment to increase the performance of management in those fields. The conservation area, which is effectively managed, is in accordance with the Indonesian Minister for Marine and Fisheries program aimed at generating socio-economic and cultural benefits for human beings and resource sustainability [3]. In addition, conservation areas can be developed to embrace blue economy principles such as poverty eradication, social inclusion, and sustainability of resources.

Marine resources also have social and cultural values, such as local people's wisdom. Marine resources are in many cases the foundation of everyday life, cultural identity and material support [4]. Small-scale fishing may be a risky job, but fishers enjoy independence and working outdoors [5] and sometimes it is difficult to change their job [4]. Fishing in uncertain conditions has an impact on fishers' behavior through ritual and magic [5] and social control in the community [6]. Customary marine resource ownership structures and related customary legislation are essential features in the Pacific that preserve the most advantaged children's network and exclude external individuals [7]. Moreover, maintaining strong social relations with intermediaries also contributes to risk reduction [1]. The province of West Sumatra also retains social and cultural values for local citizens as marine resource areas. Marine resources are in many cases the foundation of daily life, cultural identity and material sustenance for people. The West Sumatra Province as one of Indonesia's main industrial fisheries.

The province of West Sumatra is the homeland of the Minangkabau ethnic group. They constitute the world's largest matrilineal society [8]. Coastal villages were specialized as well, but some villagers engaged in marine fish trade and women assisted. Most coastal villages have fish ponds. Fish is normally sold. The smallest village of government, called Nagari/Desa, typically includes a number of hamlets (Jorong/Kampung), and also has a substantial population, a very large village with some 10,000 inhabitants [9].

Figure 1. Coast along the Province of West Sumatra



What I want to explore here is the creation of a marine conservation zone that has an important role to play in promoting sustainable fishing management on the west coast of Sumatra, Indonesia. They also acknowledged the local expertise of marine conservation at the local level. The local wisdom is likely to protect marine resources in coastal communities in the western Indonesian region for poverty reduction strategies. Through this method, local fishermen took the governmental image of the citizens of Minangkabau and tried to demonstrate their place in the state management system. Combining the connection between local wisdom and marine conservation based on the picture of an outsider.

2. Method

This paper is intended to examine local awareness for the protection of marine resources in coastal communities in the west of Indonesia. Research was carried out in South Tiku, Tanjung Mutiara, Agam Regency, West Sumatra Province, Indonesia, across the Tiku coast. This area is selected for the conservation of marine resources and for the place where the local window in the Minangkabau fishermen is maintained and implemented in their social life in practice. The data was obtained through observation and in-depth interviewing [10]. The informants include 41 traditional leaders, religious leaders, scholar leaders, fishermen and wives. The information is analyzed using the ethnographic method, as the data are associated with culture and tradition. The product of the study is descriptively qualitative.

3. Findings and Discussion

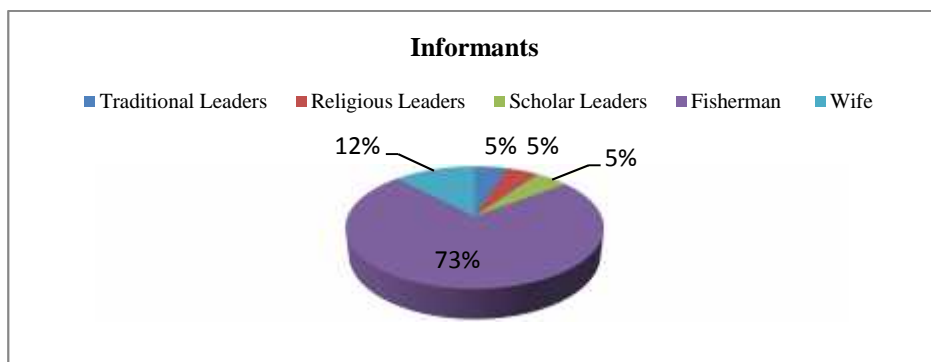
Local knowledge can be interpreted as local concepts, beliefs, and opinions which have a wise and intelligent character, which have a good meaning that their societies embed and obey. Local wisdom is a local idea with a wise characteristic and full of wisdom that embeds and supports its members [11]. Local wisdom can be found in Indonesia in the following areas. (1) Papua, it's got a low lako tea aro trust (nature is me). Erstberg and Berg Grasberg are thought to be the head of the mother and the land a part of human life. It is therefore essential to make careful use of natural resources. (2) Searawai, Bengkulu, has a celako kumali belief. The sustainability of the environment stems from their beliefs, a tabu in their farming system, and tanjak tradition. (3) The tradition of tana'ulen is in Dayak Kenya, East Borneo. The territory of the forest belongs to the common law community. It is therefore the customary rule that regulates land management. (4) Undau Mau community, West Borneo. They develop environmental knowledge by classifying and using the forest for their settlement pattern. They cultivate shifts with the fallow period but reject the use of modern technology and use only simple, eco-friendly technology. (5) Pancer Pengawinan community of Kesepuhan, Dukuh Village, West Java. They recognize traditional ceremony, myth, tabu and use the forest carefully. You can use it as permitted by the elders. (6) Bali and

Lombok 's society is awig-awig. By understanding the importance of local knowledge, local wisdom values must be exploited and used to develop civilized society [12].

The conservation and preservation of nature, as the adage, confidence, ethics and moral meaning, which can be controlled and integrated elements of foreign culture into the indigenous culture, are some of the tasks of local wisdom [6]. Local awareness is the principles of life transmitted from generation to generation, the sources of religion , culture or customs, and typically orally in the context of community in a social system [13]. The existence of local wisdom in the community is the result of a very long process of adapting to a normally inhabited environment or situations in which there are often interactions. Some areas of Indonesia already have a lot of local knowledge, such as Phanglima Laot in Aceh and Awig-awig in Bali [14] as an example of environmental management. Coastal societies in the village of South Tiku-most of the fishermen's livelihoods, whose people are Muslims-may have local knowledge. The dominant Islamic religion is able to use as a reference in pro-environment management as a profile indigenous coastal natives of the Tiku fishing community. In the village of South Tiku society lives economy, religion and sustainability, with no one left out. However, it has gradually developed into the main livelihood for most of them as a fisherman who is perceived as only a secondary livelihood. However, the ancestors of the fishing community in the village of South Tiku began to live as farmers who depended heavily on the heritage of customary soil, which was totally linked to local knowledge [15].

It is explained primarily in the local wisdom and traditions that the choices of living as a farmer can not be replaced entirely by fishing. The numbers of informants include 41 traditional leaders (5 percent), religious leaders (5 percent), scholar leaders (5 percent), fishermen (73 percent), and wives (12 percent).

Chart 1. Number of Informants



Aspects of local wisdom expressed in fisheries in southern Tiku village to use the natural environment;

a. Spiritual Wisdom

Beliefs of surnatural forces which relate exclusively to the local wisdom are very important to Tiku fishing community members regardless of their ethnicity [16]. However, this belief is rather deeper among fishing communities in the South Tiku village. They believe that ecology is like the sea, mangrove; there are souls or spirits in the river. This belief signifies your belief that your economic lives are not simply determined by how well you use your skills, boats and fishing gear to exploit the sea, but also by how well you interact with the supernatural forces that are an essential part of your world. The other convictions still held by the fishermen are that they condemn misfortune (penolak bala). This tradition continues when sea conditions do not permit fishing or going to sea. Sea weather is always unpredictable and a storm lasting longer, up to several months is always followed. These conditions prevent fishermen from reaching sea and influence the economic conditions of household fishermen automatically. In these conditions we conducted a ceremony to ask God for help, starting refurbishments to perform recitals and killing a cow in the same word as material sacrifices to the sea. Institutional, traditional life in the South Tiku village is a social community recitation in homemakers and a religious gathering and gathering (yasinan), which are both going well. Household participation in social groups is also good. Nearly all mothers participated in these groups' daily activities. The religious meeting and the gathering recitals and every week, during the two-week meeting, took place from house to house.

b. Environmental Sustainability Wisdom

Two positions exist on the Tiku coast, an attempt to improve coastal environmental protection by improving local wisdom. In this case, the government favored the local community, such as the labor contracts system and the results are also on the migration of fishers affected by the Exclusive Economic Zone [17] and the government's objective is to undertake structural changes in the laws and political practices of natural resource management. The other is that the role of non-government is to strengthen local institutions, including investors in maritime tourism, and to rehabilitate capital and market information for small-scale fishers. Local knowledge, traditions and cultures in the society of the Tiku coast have a great chance of being managed and empowered once again so that everyday people and environmental standards and norms can be regulated, within the context of the management of coastal and marine resources. According to several informants and sources met by the author, the communities in this study were enthusiastic about the traditional event. It is also not much different from conditions of adherence to property rights, although it is open to the public. The presence of institutions which have established a strong and secure community would help to take the best advantage of the natural environment. Such people should therefore become a wealth of culture and tradition and the most beneficial for community management. It can be one of the key tools in building social forces for managing and using coastal and marine resources [6]. On the Tiku coast there is still a tradition of the traditional community. Fishermen in the South Tiku village use coconut leaves (Daun Kelapa) as a fishing house. The fishermen have also built up a place for fish on the shore of the Tiku, but there are still no numbers. Through their ability, the fishermen took the initiative to build their own fishing houses. The traditional fish houses are usually not far from the shoreline. Traditionally, the number of fish in the neighborhood could help.

c. Cultural Traditions Wisdom

In addition to the above traditions, the cultural traditions of animal slaughter (Babantai Festival). South Tiku village is a routine after a happy religious holiday after fasting (Idul Fitri), with around 300 cattle buffalos and cows killed every year. The cows and buffalos for the South Tiku slaughter, including the festival of sacrifice (Idul Adha) reached 321 tails. The weight range ranges between 200 and 500 kilograms and IDR 16,000 to IDR 20,000 for each fish at IDR 120,000 for each kilograms. The other tradition is the Pesta Nelayan Fisherman's Band. In the village of South Tiku, a hundred heads have been handed over from ancestors under the slaughter word. Tradition seeks to show appreciation for the favors that God has given to fishing communities in particular for the blessings of plentiful catches. It did not require any group to eat meat each year on the day of the sacrificial festival. It is the innate dignity of the ancestors of the village to kill as much animal and birds as possible. This tradition has a positive value which enables citizens to obtain high-quality, affordable meat and a crowd-friendly atmosphere can build a sense of community residents. The fishing communities in Tiku retained a village tradition because this is a multifunctional tradition, which, besides being very useful to prevent the presence of meat shoots, also unifies the community at the same time, particularly among kids with a uncle.

By using the social links found in rural areas the social strategy is either a local social welfare agency, a relationship between production and social networks based on family relationship or friendship. Trust among people is very high [18]. Citizens have high confidence that this contributes to a debt trend among households. The value of personal belief in social capital preservation. Debt has become one form of low-income family livelihood strategy. To benefit from existing social networks, such as relationships or friendships. Debt used to meet the needs of everyday life or urgent needs, for example if a family member is ill. Rare loans used to purchase consumer goods. Social capital is one of the cornerstones of deprived households. The strong neighborhood of relationship and friendship provides enough room for needy families to gain access to social capital. Poor households are very interested in local welfare institutions. No part of discrimination for poor households in social life. Egalitarian patterns of relationships that appear to lead families in need can easily access different aspects of this local institution. Social capital is a very important asset for poor households because it can access a number of other forms of money through social capital.

The level of participation of the community, particularly mothers in the group, is generally high [19]. The level of trust and solidarity among people is very high. This was shown by the existence of conventional organizations such as mutual assistance. Confidence levels between high citizens also appear from accounts between smoothly running residents. People from the villages in the village of South Tiku employ social groups. Access to external resources and information is limited. Social capital

remains restricted to the needs of the short-term user and does not contribute to a long-term sustainable fulfillment. Due to limitations on human capital and financial capital, social capital was not used to support productive activities. Group activities are limited to the social dimension of the need for religious development towards the economy. The public should collectively establish successful practices. Confidence levels between citizens are very useful for starting savings and lending and pioneering efforts with a common capital.

In all activities associated with the social gathering, in addition to loans or credit, almost every resident of the fishermen in South Tiku village has the typical symptoms. The village of South Tiku, which has a social gathering of millions, is no less than the 20 's group. Fishermen membership in the group could be more of a social event. The results of this gathering include this lottery group again in another group, so that it can take capital to start a small business food store, make a house, host applications and marriage, pilgrimage, and or purchase a boat or small nets, they were fishermen. The owner of the vessel / boat also prevails with higher turnover ranging from IDR 10 to IDR 50 million. A boat sailor therefore has not only over one fleet of boats worth hundreds of millions of Indonesian currency, but can also develop other companies such as an open shop, but most invest in the procurement of passenger cars with colt diesel for business transportation of processed fish.

Local wisdom in the South Tiku village is one of the potential to promote their survival amid limited fishing capital and equipment. The tradition of slaughtering cattle (Festival Babantai), fishermen party (Pesta Nelayan), and knowledge of the fish season is the wisdom of the local fishermen of the village of South Tiku used to maximize seafood productivity. The resemblance of the socio-cultural background formed the attitude of mutual cooperation and relationship between fishermen. External factors also encourage family functioning to be reinforced as an effort of dual employee strategy. One way is to adapt, use local expertise to improve fishing efficiency and transform seafood into manufactured goods for the community's better economy.

d. Economic Wisdom

Debt as one of the characteristics of the traditional economic villages [1] is almost always economically disadvantageous for the debtor or the borrower in many respects (lender). This issue, apparently ignored in traditional fishing communities in the South Tiku village, is still heavily involved in debt and credit practices, in addition to being incorporated into groups in the South Tiku village. Debt or credit (ngredit) by local fishing communities is not usually covered by the relationship between fishermen and skippers. Debt or credit demand was commonly lent by the fishermen from their wealthy neighbours, who had little working relationship with it, but typically they were more likely to borrow money from the chiefs, many of whom kept money from surrogates.

It is important for a group of fishermen to have a movement or a force that can decide and control the actions of the community and its members to achieve the goals effectively, and then to achieve quality fishing. In other words, the community should work for its members effectively. A key factor in the formation of an active farmers' community is the transition from leadership of the chairman of the community of fishermen. The group chairman may regard it as the key agent of the group's inefficiency, due to its strategic role in controlling or moving the group members to achieve the group goals and its leaders. The group chairman with good or high-level leadership will provide an essential opportunity to achieve effectiveness in the leading party. It is likely that the leader of the leadership group is either very high or may control other members better or worse. It involves the structuring or alteration of systems which are in line with the group members' views and expectations of market performance. The group whose leadership is good or strong showed that the group's achievement of its goals, its moral standing and its level of members' happiness was better or higher than that of the group whose leadership was not well advanced.

Coaching from different agencies should be integrated and the interests of fishers should be given priority in the sense that the fishermen are not an object because they have a small institutional role in the management of the project. Lack of effective coordination among government agencies for the development of fishing communities can improve fisheries efficiency and productivity through business partnerships. The role of the Government underlined aspects of mediation, consultation and facilitation in the creation of alliances which energize fish production. The values of Southern Tiku 's fishing societies, the importance of tradition, have brought about unity, mutual interest, mutual assistance and an attempt to boost fishermen's household economy. Through some culture, a social institution deeply rooted in fishing communities in the South Tiku village, social group homemakers and religious meetings and meetings have a part to play in implementing those incarnations.

Social institutions [20] embodied in a religious tradition which can reinforce the relationship between the South Tiku village fishing communities. Time and thoughts are shared between them for economic and social change. When anything happens to one of the fishermen's households, the existing social structures supported the members of the problem. Closely related to volatile sea conditions, the functions of social revision have often led to fishing difficulties, and are typically supported by the savings and loan scheme. It has been happening in the Tiku fishing communities.

Local awareness can be a livelihood for people. The local wisdom widely used to improve production of seafood by people in the village of South Tiku is the rite of repudiation of misfortune known as *Penolak Bala* and of cultural practices like slaughtering cattle (*Babantai Festival*) and the fishing party (*Pesta Nelayan*). Locals claim that human activities will always coexist with nature which has provided sufficient resources to meet the needs of life. For fishermen, nature has a significant impact on their lives, in particular from water supplies such as fish, algae and other habitats that can be used for their everyday needs. The gratitude to God for the seafood given must be expressed. Besides the rituals, the community believes in the knowledge of adapting the natural environment to the fish season. This experience comes from a sensitivity-based heritage, including wind and fish season forecasts, so that fishermen can know for certain months when fish are abundant.

In addition, because of similarities between social-cultural backgrounds such as livelihood, family lines as and religion, there is a type of local wisdom in the form of mutual assistance and kinship among fishermen to allow them to live in harmony. Mutual support is provided both moral and material. The 4 types of local knowledge in the village of South Tiku may help the family of local fishermen survive. In the midst of weaknesses, external factors, including local information, may help to improve the functioning of the family. Furthermore, the fishermen's survival cannot also be separated from the internal factor, the family system. The management of the family system needs good cooperation, especially among husbands and wives working in the manufacturing sector. The traditional knowledge and family support of the poverty reduction policy cannot be isolated by fishermen in the village of South Tiku, based on the above description. Both social components are interconnected to support fishermen's survival. External environmental factors in the social system will also affect our actions, especially on the internal side of the family. When there is no external support or internal support within communities, a family with small economies and resources cannot survive. It can be said in the life of coastal communities as a social system.

4. Conclusion

The paper examined the knowledge of the people of Minangkabau as their local fishing community in the west coast of the island of Sumatra. The potential effects of local knowledge will be on the conservation of marine resources on the Tiku coast. Coastal communities in South Tiku village, a majority of the Minangkabau ethnic group and fishing livelihoods are Muslim, and local wisdom is possible on the basis of its citizens. Local knowledge in South Tiku village society has a great opportunity to be managed and empowered to regulate everyday people and the environmental standards and rules that benefit from marine resource conservation.

Local practice of knowledge as spiritual ceremony is like a cultural custom of animal slaughter or ceremonial rejection of hazards; cultural ceremonies are like village parties as the protection of marine resources requires the use of control devices, no hazardous equipment, the commitment not to capture and kill turtle and a commitment not to throw scrap in the sea and seed. Moreover, conservation measures can be roughly divided into two patterns in the coastal and marine environment of local fishermen in the village of South Tiku. Second, in the marine resources business, the control gear is included without harmful equipment, the commitment not to capture and kill the turtles and the commitment not to dump waste into the sea. Additionally, coral reefs are rooted in the oil sector. The local fishermen in the village of South Tiku perpetrate various types of marine and coastal conservation; not only catch fish, but also maintain and develop fish seedlings. Pinus tree reforestation and coastal reef cultivation. Specific practices are based on local wisdom principles and culture in the actions of local fishermen.

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