

Analysis of the Activities of Mangrove Preservation in Bahowo Environment, Bunaken, Manado, North Sulawesi Province

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Abstract: *The city of Manado, North Sulawesi Province, especially in the Bahowo Neighborhood, Tongkaina Sub-District, Bunaken Sub-District, resides in coastal communities which predominantly work as small or traditional fishermen and are categorized into poor communities, but coastal areas in the Bahowo Environment are well maintained, especially mangrove forests. This is inseparable from the role of women living in the neighborhood. Therefore gender issues are important in developing efforts that support equality between men and women. Women's participation is not only demanding equality but also expressing its role in development. The purpose of this study was to analyze women's activities in mangrove conservation in the Bahowo neighborhood. This study used qualitative research methods. The study was conducted in the Bahowo neighborhood of Tongkaina Sub-District, Bunaken District, Manado City. Respondents were determined using a key person, because the researcher wanted to obtain initial information about the respondent and then use the snowball sampling, so that eventually the researcher could conduct observations and interviews with the research subjects (coastal women). Data collection techniques were carried out by in-depth interviews, observations, FGD and life history methods and documentation. This research concludes as follows: 1) Reproductive aspects carried out by coastal women, involving activities in the household, namely: caring for children, washing clothes, washing dishes, cooking, preparing food for the family, cleaning the house and yard. The socio-cultural / social aspects carried out by coastal women are fishing (manengkel), members of the mangrove conservation group, arisan / PKK, community service, religion, posyandu, death and marriage. 2) The socio-cultural / social aspects carried out by coastal women are fishing (manengkel), members of the mangrove conservation group, arisan / PKK, community service, religion, posyandu, death and marriage. Village meetings are also conducted, but are only limited to women who have involvement in community organizations, such as PKK administrators and farmer group administrators.*

Keywords: Mangrove preservation, reproductive aspect, socio-cultural

1. Introduction

Coastal areas are highly productive ecosystems that serve as the main support for economic growth. More than 55% of national fishery products come from capture fisheries in coastal areas. Coastal, marine and small islands are ecosystem areas that are rich in biodiversity, including coral reefs, mangroves, seagrass beds, lagoons and estuaries. This is also seen by Salakory, et al. (2017) after conducting an economic valuation of mangrove forest ecosystem in Teluk Ambon BagualaSubdistrict that the high utilization and preference of the community towards mangrove forest ecosystems shows the ability of mangrove forests to produce products that can be used to meet their daily needs.

But the abundant potential of coastal and marine areas, until now it has not been able to lift the welfare of the community, especially communities in coastal areas. Coastal communities are still struggling with poverty, low levels of education and poor quality of health and tend to be helpless in facing various problems. Poverty and the low level of understanding of environmental preservation, is one of the justifications for the high dependence of coastal communities on marine resources and does not pay attention to the sustainability of resources. This is indicated by the results of research, not only in Indonesia, but also in other countries.

Efforts to improve the welfare of coastal communities, especially fishermen have been carried out, but the condition of the fishing community has not changed, so there needs to be an alternative in its development policy. One alternative policy revealed by Garcia (2014) who conducted research on the Afro Colombia community, was that local communities must become partners of the government in developing coastal resources, because local people have a culture that can be combined with sustainable development. The same thing was expressed by Luciana et al. (2017), that local communities have high traditional knowledge of their environment, therefore they can contribute to sustainable mangrove conservation efforts.

This research is located in the Bahowo Environment, Tongkaina Sub-District, Bunaken District, Manado City, North Sulawesi Province. The location of the study was conducted purposively, with the following considerations: 1) Coastal areas, especially mangroves are well-maintained, whose management involves coastal women. 2) The development of mangrove forests is very significant, in the 1990s the area of mangrove forests was 26 ha and currently the area reaches 62.72 ha (KelurahanKelurahanTongkaiana, 2015).

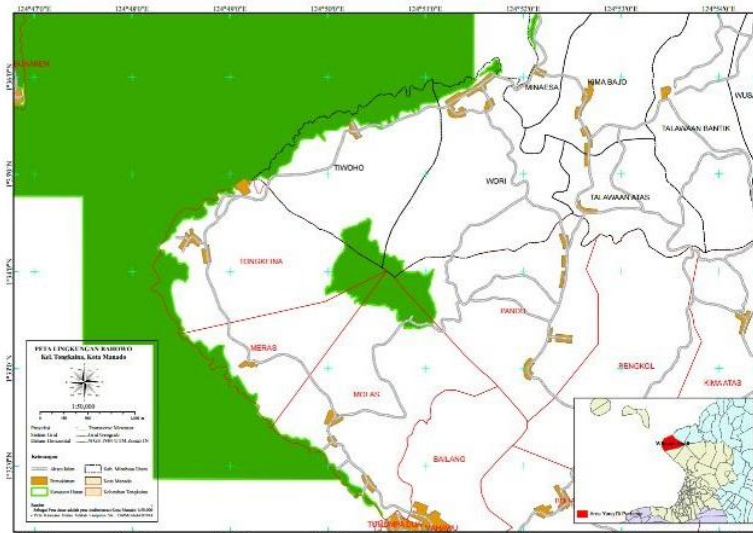


Figure 1: Research Location Map

The existence of mangroves is very beneficial for their survival, namely as a place to look for firewood, raw materials for making roofs, sources of traditional medicines, fishing grounds and other marine biota, and also as a buffer against the negative effects of sea water. But their life support began to break down in 1989 when the area was converted into farmland by PT. Wori Mas. About 20 ha of mangrove forest has been turned into shrimp and milkfish cultivation ponds for approximately 3 years and then abandoned by companies without any recovery. The adverse effects of land conversion are felt by the people in the Bahowo neighborhood. One of them is the drastic decline in fish production, even though fishing is the main source of livelihood for the majority of people who work as fishermen, if this is allowed to cause increasingly severe poverty (Government of KelurahanTongkaina, 2015).

The awareness and concern of the community for the benefits of the existence of mangrove arose when their livelihoods were lost from Bahowo beach, so efforts to rebuild the damaged mangrove areas were carried out by the entire Bahowo Environment community, including women in the Bahowo neighborhood. This mangrove conservation movement began with the mangrove nursery. The seeds they get by collecting seeds scattered along the coast of Bahowo. Then, working together to plant in locations of mangrove forests that have been damaged, the area of mangrove forests at that time, around the 1990s was 26 ha and currently the Bahowo Environment has the potential of mangrove forests covering 62.72 ha which is overgrown by 16 mangrove species (Government of KelurahanTongkaina, 2015).

The participatory context involving the community, including women in the mangrove conservation movement, is important to see more about how women are involved without releasing an analysis of the involvement of men in the mangrove conservation movement, so that women are no longer only seen from the sexual division of labor, but as a potential that must be taken into account in the preservation of coastal resources, especially mangroves. According to Moerpatomo (1999), women have potential that can be one of the basic capital of development and can be developed as

productive workers. Without planned development, the large amount can turn into a national burden.

The results of calculations carried out by the United Nation Development Programs (UNDP) also show that women's resources have not been maximally empowered. The achievement of Indonesia's Gender Development Index (IPG) is 92.74. This figure places Indonesia ranked 6th out of 8 ASEAN countries (world GPA 92.36). Although Indonesia's GPA is slightly above the world GPA, the Indonesian Gender Inequality Index (IKG) is still quite high at 0.49. (UNDP, 2015). This means that gender inequality in Indonesia is still high (IKG values range from 0 to 1, the greater the IKG, the greater the gender imbalance due to discrimination). This figure is the highest among ASEAN countries and is higher than the world IKG (0.02). This means that Indonesia's gender inequality is still high, in other words, Indonesia's gender equality achievement is still low compared to ASEAN countries and the world (KPPPA and BPS, 2016).

The data shows that the potential of Indonesian women has not been fully empowered in the flow of development or in deciding policies, even though the population ratio is almost balanced. According to BPS data (2015), the percentage of Indonesia's population is 49.9 percent of women compared to 50.1 percent of men from a population of around 254.9 million. The sex ratio of the Indonesian population is 101.02, which means that of the 100 female population there are 101 male population.

It is estimated that if women's involvement in the preservation of coastal resources is increased, it will be able to help achieve the goal of preserving the mangrove ecosystem, assuming that women's and men's human resource capabilities can complement each other. The purpose of this study was to analyze women's activities in mangrove conservation in the Bahowo neighborhood.

2. Methods

This study uses qualitative research methods because the problems studied are phenomenological. Aim to reveal the

hidden social facts behind the phenomenon of coastal women who carry out mangrove conservation. Guba and Lincoln (1985) say that qualitative research that wants to reveal hidden facts behind phenomena is a type of phenomenological qualitative research. This study also uses descriptive research methods, which, according to Sugiyono (2012), descriptive research methods are research methods carried out to determine the value of independent or more (independent) variables without making comparisons or combining variables with one another. This method is used to describe or describe the condition of the community in the

Bahowo Environment systematically based on facts with the right interpretation.

This research is a field research with a qualitative approach, then the data collection technique refers to Creswell's (1998) opinion, namely: in-depth interviews, participant observation, FGD and Life History Method, and documentation. In this study the gender analysis used is the Harvard analysis and Analysis Gender Pathway (GAP) analysis.

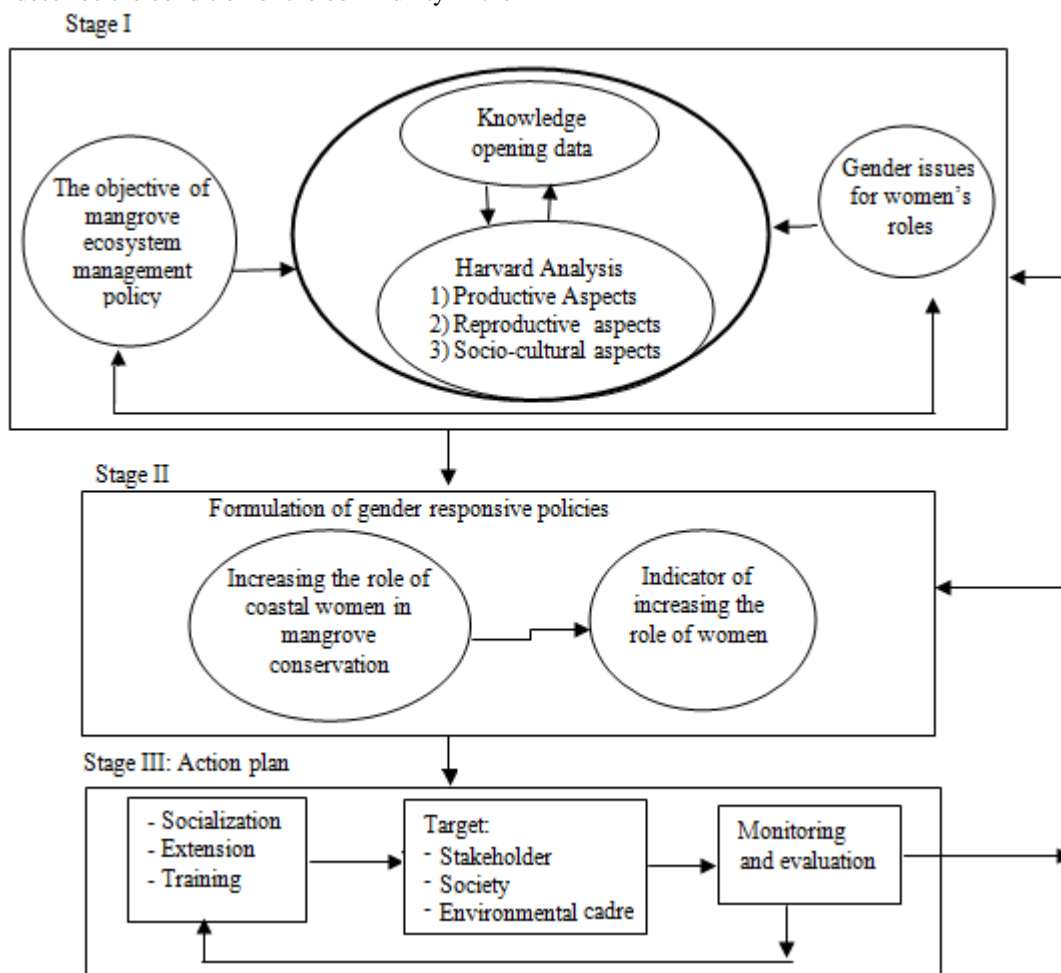


Figure 2: The workflow of Gender Analysis Pathway (GAP)

3. Results and Discussion

Analysis of Women's Activities in Mangrove Conservation

Productive Aspects

Mangrove ecosystems have various functions, one of which is economic function, which is used by coastal communities

as their source of income. Mangrove ecosystems are used as a place to catch fish, shrimp and crabs, produce firewood, ecotourism, mangrove nursery businesses, and are used for the treatment of external wounds. productive / economic aspects for respondents can be seen in Table 1.

Table 1: Productive Aspects of Mangroves, in the 2018 Bahowo Environment

No	Productive Aspects of Mangrove	Done by (106)			
		Men (person)	%	Women (person)	%
1	Fishing place	106	100,00	-	-
2	The place to catch shrimp	106	100,00	106	100,00
3	The place to catch crabs	106	100,00	106	100,00
4	Producing fire wood	-	-	106	100,00
5	Ecotourism	50	47,17	5	4,72
6	Mangrove nursery	-	-	75	70,75
7	Drug – producing external wounds	106	100,00	106	100,00

Sumber: Data Primer yang diolah, 2018.

The results also showed that 75 female respondents (70.75%) carried out mangrove nursery activities. The results are sold at IDR 1,500 / seed. This job is a light job and does not require special abilities and expertise, but requires perseverance and perseverance in doing it.

Male and female respondents recognized mangrove plants since childhood, therefore respondents also knew the benefits of mangrove as traditional medicine, namely for medicine for external wounds. The type of mangrove that can be used as medicine for external wounds is *Rhizophora apiculata*, the fruit is finely ground and smeared into the wound.

Reproductive aspects

The reproductive aspect is doing work related to the household and family. Based on the results of the study, it was shown that female respondents tended to do housework such as caring for children, washing clothes, washing dishes, cooking food for the family, cleaning the house and yard, while the male respondents did carpentry work namely repairing household utensils, repairing work equipment and damaged parts of the house. This can be seen in Table 2.

Table 2: Reproductive Aspects of Household Respondents for Sustainability Mangrove, 2018

No	Reproductive Activity	Respondent (106)			
		Men	%	Women	%
1	Caring for children	10	9,43	106	100,00
2	Washing clothes	-	-	106	100,00
3	Washing the dishes	-	-	106	100,00
4	Cooking/preparing food	-	-	106	100,00
5	Cleaning in the house	-	-	106	100,00
6	Clean the yard	23	21,70	106	100,00
7	Serving the interests of husband and child	-	-	106	100,00
8	Repair damaged appliances/furniture	75	70,75	106	100,00
9	Repair the damaged part of the house	106	100,00	60	56,60
10	Repair work equipment	106	100,00	30	28,30
11	Manage family finances	-	-	106	100,00
12	Regulate the division of labor in the family	106	100,00	106	100,00

Source: Primary Data processed, 2018.

The results of the research in Table 3 show that reproductive activity in households involves men and women. The dominant reproductive activities carried out by women (100.00%) are caring for children, washing clothes, washing dishes, cooking / preparing food, cleaning in homes and yards, serving the interests of husbands and children, repairing damaged appliances / furniture, arranging family finances and regulate the division of labor in the household. While the work of repairing damaged parts of the house is also done by women (56.60%), the reason is that the houses they have are simple, so that if they are damaged, for example a leaky roof can be easily carried out by women, as said by female respondents:

The results of the study found that in reproductive activities, there was a division of labor in the family, which was agreed upon by men (100.00%) and women (100.00%). This regulates the suitability of roles in the household, where men (husbands) do more activities outside the home (making a living), but still help work in the household, while women (wives) do work in the household. This division of roles also regulates or accustoms their children to work according to their sex, namely for girls to be educated by their mothers to do domestic work, while boys are educated by their fathers to do productive work according to the work done by their fathers. The segregation of roles between men (aki (husband) and woman (wife), creates conformity and eliminates competition in the household, which in turn makes the community calm and harmonious. This also shows the existence of gender socialization in the family environment

from an early age and lasted for generations, as told by respondents:

Based on reproductive activities (Table 3), there is a concentration of activities carried out only by women. This happened due to the cultural division of labor carried out from generation to generation, so that it was inherent in the daily lives of people in the Bahowo neighborhood. So in any context, women are required to complete work in the household first, then they are allowed to carry out activities outside the household, as said by one respondent.

The statement above confirms the existence of an unwritten agreement carried out by husband and wife in domestic life, so that such division of labor will continue. Although in Table 3 it also shows the involvement of men in caring for children (9.43%), but only helps, caring for children under the age of 10 years.

Socio-cultural Aspects

The socio-culture that developed in the Bahowo Environment was the result of acculturation of the culture of the Sangir tribe and the Minahasa tribe. The Sangir tribe adheres to the life philosophy of "Somahekaekahage" which means an attitude of unyielding life and still relies on the Almighty God, while the Minahasa tribe lives with the understanding of "mapalus", which means living together (mutual cooperation). This acculturation results in a safe and peaceful community life. The socio-cultural aspects carried out by respondents in the bahowo environment, can be seen in Table 3.

Table 3: Social and Cultural Aspects of Respondents in the Bahowo Environment, 2018

No	Socio-cultural / social aspects	Respondents (106)			
		Man (person)	%	Woman (person)	%
1	Catching fish (<i>manengkel</i>)	106	100,00	106	100,00
2	Member of the Mangrove Conservation Group (New Tunas)	3	2,83	10	9,43
3	Arisan/PKK	-	-	106	100,00
4	Community service	106	100,00	106	100,00
5	Religious	106	100,00	106	100,00
6	Integrated service post	-	-	30	28,30
7	Dead	106	100,00	106	100,00
8	Marriage	106	100,00	106	100,00
9	Village meeting	50	47,17	5	4,72

Source: Primary Data processed, 2018.

The coastal communities of the Bahowo neighborhood, including respondents both male (100%) and women (100%), have a habit that has become a tradition in fishing, namely: Manengkel. Manengkel is the culture of catching fish at night using petromax lights or flashlights. This habit has been going on for generations and until now it is still carried out by the coastal communities of the Bahowo neighborhood.

The results of the study also revealed that in the Bahowo environment there was a mangrove conservation group called "Tunas Baru". Established in 2009 and inaugurated by the local government in 2011. The "Tunas Baru" farmer group is a social organization formed based on the common goal of the Bahowo community, which is to plant mangroves to rehabilitate damaged mangrove forests. This farmer group brings together community members to participate in the activity. Meet regularly to discuss issues faced and find solutions based on mutual agreement and establish rules that must be obeyed. At present, the mangrove conservation group "Tunas Baru", which maintains the conservation of mangroves, consists of 3 men and 10 women.

The "Tunas Baru" group, plays an active role in carrying out mangrove conservation, it can even be said to be the main driver of mangrove conservation in the Mangrove Environment. Now they can feel the benefits of the activities carried out, they can even make money from the mangrove conservation efforts. The specialty of mangroves in the Bahowo neighborhood is that the ecosystem is very clean (almost no garbage), the water is also very clear, so it can immediately see the bottom and there are seagrass beds that thrive.

4. Theoretical Implications and Proposal of Research Results

4.1 Theory Implications

The focus of this study is that coastal women and mangrove conservation were analyzed using Harvard analysis and Gender Analysis Pathway (GAP) to recommend a mangrove conservation policy based on the role of women, by reformulating mangrove ecosystem management policies

based on the Republic of Indonesia's Coordinating Minister for Economic Affairs as Team Steering Chair National Mangrove Management (Permenko) Number 4 of 2017 concerning Policies, Strategies, Programs and National Mangrove Ecosystem Management Performance Indicators.

The community understands that the role of coastal women is strongly related to the sexual division of labor, which places explicitly on the roles of men and women. Sea is the realm of work for men (fishermen) and land is the realm of coastal women's work (Kusnadi, 2006). The work that is the responsibility of coastal women is the reproductive role, namely work in the household, while the husband is only a mere help. But on the other hand coastal women also play a domestic role in gaining economic income, while coastal women also manage community potential in the form of women's involvement in socio-cultural activities, by Kusnadi (2006) said coastal women are very creative in creating various social institutions - economy as an answer to overcome economic fluctuations from fishing activities.

The research findings turned out to be different from the opinion of Nature Edward L. Thorndike's theory which validates the view that women's areas are domestic or reproductive domains and men's areas are public or productive. That is, women occupy the domestic sphere because they are created by families and communities that ratify such a division of labor. Even though this is an action planned by the patriarchal system to authorize men to control women. This is the subordination of women, namely the belief that men are superior to women. If women only do domestic work in the house, then they cannot be economically capable and depend on men.

But at this time, women began to feel disadvantaged by such a division of labor, and began to review the nature of women as explained by John B. Watson in the Nurture Theory, this was in accordance with the opinion of Caroline Mosser who saw women's issues from 3 (three) roles namely, productive, reproductive and social, that women have the right to play a role in these three roles.

This finding also complements Emile Durkheim's "Devision of Labor" theory that the division of labor is able to increase community solidarity which ultimately creates integration in heterogeneity. This opinion is also supported by Levi Strauss, that structuralism is a social phenomenon that occurs in society (the role of women according to socio-culture), which is internally connected and regulated in accordance with several unconscious patterns, in which there is order and repetition (regularity). The role of women in mangrove conservation that occurs in the Bahowo neighborhood is carried out according to their needs, so that the functional structure in the family is maintained.

Basically goal-oriented behavior, in other words, behavior is generally motivated by a desire to achieve certain goals and behavior is influenced by cognitive, affective and psychomotor. Women's activities in mangrove conservation show that there has been an awareness not to use coastal resources (mangrove forests) freely and excessively which has an impact on environmental destruction. This behavior is basically oriented towards a goal, so that women want to

take positive actions to protect and maintain mangrove forests as their source of livelihood.

The results of the study also show that women form social groups, among them are mangrove conservation groups, whose members are dominated by women. Social groups are groups of individuals who have relationships and interact with each other which results in a growing sense of belonging and belonging.

Based on the opinion of Durkheim, the group formed by women in the Bahowo Environment is based on organic solidarity, this is characterized by a clear division of labor between group members and the group's objectives are made based on mutual agreement namely mangrove conservation. While sanctions against violations are restitutive, namely paying compensation by damaging or cutting down mangrove trees without permission from the head of the environment, the destroyer must replace them by replanting 10 trees of mangroves. Thus a harmonious relationship exists between groups and community members, which leads to a high form of solidarity, namely the preservation of mangroves.

4.2 Research Proposition

Based on the description of the results of the research and discussion, propositions can be put forward as follows:

- 1) The behavior of coastal women in implementing policies on the management of mangrove ecosystems is rational actions that are based on specific goals and objectives, as desired. Rationality is universally owned by humans, which distinguishes humans from other creatures.
- 2) Rational actions taken by coastal women in the management of mangrove ecosystems are interpreted by researchers as the creations of women's thoughts which can be the basis for consideration or logical reasons in choosing and determining their actions to achieve their goals. This creative power is the potential of coastal women. If it is further developed and well received by the local community, then it can function as a social norm and values in its community.
- 3) Actions taken by coastal women for mangrove conservation by referring to the policy of managing gender-responsive mangrove ecosystems are based on two objectives, namely: 1) conservation of coastal mangrove resources and 2) economic objectives. So the propositions are:
- 4) Reformulation of gender responsive mangrove conservation policies is a strategy to be able to guarantee the existence, sustainability of the functions and benefits of mangrove ecosystems to improve community welfare.

Women carry out mangrove conservation activities, not just for personal gain, but the achievement of overall coastal community goals that utilize the mangrove ecosystem as their source of livelihood. However, to maintain the sustainability of mangrove ecosystem resources, it is necessary to provide guidance to all community members, both men and women, who are expected to foster awareness of environmental preservation, especially mangrove ecosystems and able to increase participation in mangrove conservation.

This guidance is an effort to educate the environment to coastal communities, it can be done by using a framework for reformulating a gender responsive mangrove conservation policy, thus the involvement of the government as a policy maker can strengthen women's position, because women's position will be stronger if supported by the government.

5. Conclusions and Recommendations

5.1 Conclusion

This research concludes as follows: 1) Reproductive aspects carried out by coastal women, involving activities in the household, namely: caring for children, washing clothes, washing dishes, cooking, preparing food for the family, cleaning the house and yard. The socio-cultural / social aspects carried out by coastal women are fishing (manengkel), members of the mangrove conservation group, arisan / PKK, community service, religion, posyandu, death and marriage. 2) The socio-cultural / social aspects carried out by coastal women are fishing (manengkel), members of the mangrove conservation group, arisan / PKK, community service, religion, posyandu, death and marriage. Village meetings are also conducted, but are only limited to women who have involvement in community organizations, such as PKK administrators and farmer group administrators.

5.2 Suggestion

The limitations of this study only examine the role of women in the management of mangrove ecosystem resources, therefore it is recommended to examine more deeply the differences in the overall aspects of gender coastal resources (mangroves, seagrass beds and coral reefs) in order to obtain complete information on gender equality in coastal resource management based on women's roles.

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