

# Women's Leadership in Mangrove Forest Conservation: Experiences from Muara Tanjung Indonesia

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## Abstract

Women have been moved by the government's lack of role in preserving the culture of planting mangrove trees. Women believe that they should also be responsible for protecting mangroves. This research investigates the role of women in protecting Indonesia's mangrove forests. Data was collected through a qualitative study. The research results show that women in forest conservation positions must increase public awareness of the importance of protecting the environment. The Muara Tanjung Women's Group is the only women's group that has succeeded in establishing conservation to protect mangrove forests. One of the efforts made by this group is to protect mangrove forests by planting mangrove trees regularly and sustainably. The Muara Tanjung women's group also consistently conducts ecotourism efforts in the mangrove forest area. Until now, the Muara Tanjung women's group has remained active and consistent despite its combined leadership style of feminism and masculinism.

**Keywords:** Leadership, Women, Conservation, Mangrove Forests, Muara Tanjung.

Excessive exploitation of natural ecosystems has resulted in the degradation of environmental resources, resulting in the loss of the function of the environment itself. This gives rise to environmental problems caused by the worsening condition of the earth in the last few decades. Deforestation, water pollution from industrial waste and sewage, urban air pollution, and smoke and haze from forest fires are the main environmental risks faced by large projects in Indonesia (Dawborn et al., 2023; Putri, 2010). Therefore, conserving and promoting natural resources and the environment is critical. It is not surprising that women, as parties who deal directly with and depend on natural resources, are the first to oppose the environmental damage occurring. In the group's experience from Muara

Tanjung, female leaders have proven capable of conserving mangrove forests.

Women have a patient attitude that can encourage increased conservation. Therefore, women are essential in managing natural resources at the family and community level (Begum et al., 2022; Purba et al., 2019). In various communities that support ecosystems throughout the world, women play many roles in managing water, fuel, and food sources, as well as forests and agricultural land (Mago & Gunwal, 2020; Soanes et al., 2021; Begum et al., 2021). However, women are often disadvantaged by poverty and marginalized by the development process. Most women who live in the forest depend on the forest by collecting and using various products for their livelihood (Colfer &

Powell, 2021; Haryana Rijanta, 2019; Cifor, 2014).

The presence of women has a beneficial impact on forest conservation. For example, Turasih (2022) states that women's participation in coastal resource conservation efforts in the NTT Pantar Strait Marine Reserve is essential for creating a sustainable coastal environment. In addition, women have more opportunities to collaborate in extracting products from their knowledge of various plant species (Agarwal, 2009; Purba et al., 2018).

Various studies reveal the existence of women's participation in forest governance in Indonesia. Among other things, Taroniarta and Yahya (2022) revealed the role of women as sole actors in the silk industry. It is unavoidable that there are challenges and obstacles to women's participation in forest management, especially in Agroforestry food (Dwiyanti, 2022; Ade Galih et al., 2018). The existence of participation based on women's knowledge in social forestry has clear contributions and benefits (Hendrastiti & Setiahati, 2022; Agarwal, 2009). Studies show that women participate fully and are essential to forest governance.

Sei Nagalawan Village, Perbaungan District, Serdang Bedagai Regency is one of the coastal areas where mangrove forests grow, and most of the population is comprised of fishermen. Initially, the mangrove forest in Sei Nagalawan Village, Perbaungan District, Serdang Bedagai Regency, was converted into pond land, so the residents changed their profession to become pond workers. Over time, this transfer of function causes damage. Damage is generally due to a lack of knowledge, so firewood and fisheries are exploited excessively so the ecology of mangrove forests will be increasingly damaged (Thu & Populus, 2007; Duan et al., 2021).

Most of the damage to mangrove forests is caused by human intervention and natural factors. If the ecosystem balance is disturbed, mangrove forests are vulnerable to damage (Zainuri et al., 2017). Until now, damage to the

mangrove forest ecosystem has been an environmental problem that has attracted much attention. This condition shows that the mangrove ecosystem is being exploited too much. This also shows that local people need to learn how important the function of mangrove forests is. So, the destruction of mangrove forests in Sei Nagalawan Village has impacted the local community's social and economic life without realizing it. However, mangrove conservation will significantly benefit fishermen's productivity, energy efficiency, and village development (Ameen & Al-Homaidan, 2020; Aye et al., 2019; Abdullah et al., 2016).

The impacts resulting from the destruction of mangrove forests are the loss of coastal protection from wind and high sea currents and waves and the threat to the regeneration of fish and shrimp in offshore waters. Mangrove forests naturally function as coastal protectors from floods and tsunamis. Rehabilitation of mangrove forests has positive impacts, including increased catches of fish and marine biota (shrimp, crabs, shellfish), coastal erosion is reduced, the wood can be used, sea breezes can be tolerated and can be used as a tourist attraction (Roy, 2016; Arafat et al., 2022; Utomo et al., 2017). According to Sulaiman (2023), climate change will majorly impact mangrove growth. Protecting mangrove forests is an effective way to mitigate and adapt to the climate crisis, especially for people living in coastal areas.

There is the role of a female resident of Sei Nagalawan Village who cares about the surrounding nature and is the first to make an effort to preserve mangrove forests. It started with his concern about the environmental conditions in Sei Nagalawan village, plus the flood disaster that hit the village. Based on this phenomenon, in Sei Nagalawan Village, a group of women who conserve mangrove forests is called the Muara Tanjung Women's group. Initially, the activities they do are considered less work by men. However, some women consistently carry out this work because they think it is being done to restore the mangrove

forest to its former condition. Based on this, interest has arisen in studying women's leadership in managing natural ecosystems so that they are sustainable.

So far, studies on women's leadership have looked from the perspective of religion, government, and political organizations. The perceived leadership of women in environmental conservation as front guards in efforts to preserve the environment needs to receive a meaningful discussion. Two trends from existing studies can confirm the need for more attention to women's leadership, especially in mangrove forest conservation management. First, many studies focus on women's leadership from a religious perspective (Putry, 2015; Al Ahsani, 2020; Fatimah, 2015; Siame, 2012). Fatimah (2015), for example, shows that the Islamic religion provides equal rights for men and women in leadership matters. Second, studies that pay attention to women's leadership in government and political organizations (Faizal, 2016; Saputra & Asih, 2017; Imamah, 2019; Nizomi, 2019; Famelasari & Prastiwi, 2021). Saputra and Asih (2017) show that women's leadership participation in politics is low due to gender discrimination formed by women's social and psychological environment, thereby narrowing women's political opportunities.

Based on existing study trends, women's leadership in mangrove forest conservation management has yet to be considered. However, in reality, women's leadership in conservation can break through structural barriers and social exclusion and dismantle economic class barriers so that it can make the environment better in the future (Jones & Solomon, 2019; Agarwal, 2009; Meola, 2013; Hendrastiti & Kusdinar, 2019). Therefore, this research complements the shortcomings of existing studies by looking at how women's leadership has implications for the environmental conservation of mangrove forests. However, women's empowerment has become a central topic in feminist and development scholarship. Women's leadership has received little attention, especially in natural resource

management. A deep understanding of women's leadership in mangrove forest conservation provides a model for solving environmental problems and learning for preparing action plans for handling mangrove forest environmental conservation.

This research departs from the argument that excessive exploitation of the environment will cause damage to the environment. The environmental damage that occurs will have a direct impact on women. Women are the first to feel the impact of environmental damage. Therefore, women are the first to be called upon to conserve their environment. Women's leadership can mobilize the Muara Tanjung women's group to conserve mangrove forests by seeding, planting, and processing mangrove trees. The Muara Tanjung women's group also created mangrove forest ecotourism. Women's leadership can empower the community with various savings and loan activities, training, and environmental education. It can be seen that the efforts of the Muara Tanjung women's group must be balanced with indications of the formation of leadership within the group itself.

## LITERATURE REVIEW

### 1. Mangrove forest

Mangrove forests are located in coastal areas affected by sea tides. Mangrove forests are a group of tropical coastal vegetation consisting of various types of mangrove trees that can grow and develop in muddy coastal tidal areas (Saparinto, 2007). Mangrove forests can grow above the tidal line and on coral beaches, and dead coral land is covered in mud and thin layers (Rahim, 2017). Bengen (2000) defines mangrove forests by describing plant communities or certain types of plants that grow in tidal areas. Furthermore, Andayani, Supsiliani, Ekomila, and Hasanah (2014) said that mangrove forests are a type of forest that is naturally influenced by sea tides; when the tide is high, the forest is flooded, and when the tide is low, the forest is

not flooded at all. Biotic and abiotic interactions occur in the mangrove ecosystem.

Anwar and Gunawan, (2007). Andayani et al. (2014) stated that mangrove ecosystems perform various functions, including (1) physical functions, keeping coastlines stable; protecting beaches from erosion (abrasion) and seawater intrusion; processing waste materials; (2) biological function; a place for fish, shrimp and several aquatic biota to spawn; a place where birds nest; and (3) economic function as a source of fuel (charcoal).

## 2. Ecofeminism

Warren argues that, due to their feminine nature, women have a significant affinity and relationship with nature. In an ecofeminist perspective, she makes four basic assumptions about how women relate to nature:

1. There is a significant relationship between oppression of women and nature

2. Adequate understanding of the relationship between women's oppression and nature

3. Feminist theory and practice must include ecological perspectives as part of their analysis

Nature fulfills life's needs and improves the family's economy (Puspitawati, 2019). The economic level of a family is significant for the family's survival in the long and short term (Baiduri & Wuriyani, 2021). According to Wuryani (2019), husband-wife cooperation in the family is as essential as managing nature.

3. Women's leadership in nature conservation

Interaction in a particular context to achieve a common goal is known as leadership (Silva, 2016; Northouse, 2016). Intrapersonal and cultural factors can influence leadership (Angraeni et al., 2019). Some experts argue that leadership occurs in contexts or groups with the same goals. These goals influence each other, individually and in groups, as well as culture.

Furthermore, Childs, Sarah, and Lovenduski (2020) stated that there are four types of representation: agreement or formal

representation, descriptive representation, symbolic representation, and substantive representation. The permissible or formal concept considers law, legality, and authority as representations. This method considers representation a gift and ownership, with the representative having the authority to act. Instead, the representative who confers some rights must be responsible for the representative's actions. The concept of descriptive representation then emerged, assuming that representatives' "sameness" reflected existing groups in society but did not necessarily involve constituents.

This leadership subsection will discuss women's leadership in environmental conservation. In theory, discussions about women's leadership in environmental conservation still face many problems and difficulties. Jones and Solomon (2019) found that gender-related challenges in conservation leadership consist of experiences that women experience in their careers and that support women's advancement. Mikkelsen (2005) then explains that gender and ethnicity play an essential role in natural resource management; changes in access to natural resources impact men and women, as well as indigenous and non-indigenous communities.

According to Alqahtani (2019), women's dreams must be to adopt a masculine leadership style to demonstrate their leadership capacity. In indigenous peoples' organizations and organizations that support the rights of indigenous peoples, the issue of gender equality in conservation has long been shelved. The confusion stems from the belief that questions about women's rights will trigger internal conflict and divert attention from collective rights (Deree & León, 2002).

In this research, we will use intersectional framing to understand how women conservation leaders experience gender challenges related to race and age at different levels of the organizational hierarchy. Therefore, this research combines the literature on gender

inequality in the workplace with research by feminist political ecologists such as Sundberg (2004), who calls for research "to examine whether and how conservationists, conservationists, and researchers engage in the (re)production of social relations inequality in everyday conservationist discourse, practices, and performances., and practice. The UN considers gender equality a human right. Additionally, research shows that gender-diverse leadership positively correlates with better manager performance and outcomes (Dezsö & Ross, 2012). In addition, Famelasari and Prastiwi (2021) show that both parliamentary institutions and political positions influence how women leaders still use masculine policies to manage. The main focus of women's leadership is the multidimensional challenges women face (Anchor, 2008; Famelasari & Prastiwi, 2021).

According to Mikkelsen (2005), there are two main approaches to traditional natural resource management: rights-based and performance-based approaches. The rights of indigenous peoples, based on a rights-based approach, have been practiced historically. A performance-based approach allows them to access and control their native territories and have the right to cultivate the resources within them as long as they act sustainably and avoid extinction.

## RESEARCH METHOD

This research will use qualitative research methods. This research model seeks something to connect the research process to the process of social change, which emphasizes research activities carried out in a participatory manner in society. The community in question is the residents in a community or broader social sphere to encourage transformative actions (changes in living conditions for the better).

This research chose the PAR method and approach because the research focuses on applied action to encourage transformative action in resolving socio-cultural problems. The

transformative action referred to in this research focuses on the relationship between women and environmental conservation issues and its application in learning. The learning in question will be implemented as mini-research assignments, reflecting the conditions for developing student attitudes and behavior. Based on this, researchers who act as course lecturers who apply teaching materials on women, development, and the environment can understand and change how they participate in learning activities.

Application to the learning process examines how behavior, communication, production, and social organization are closely related to natural and particular practices that connect them with other people in various real situations in which they realize themselves (for example, communities, surroundings, families, schools, hospitals, and other workplaces) (Denzin & Lincoln, 2011; Bintang et al., 2022; ).

## RESULT AND DISCUSSION

Since 2005, the Muara Tanjung women's group in Nagalawan Village has been operating. Until now, this group has still been persisting in mangrove forest conservation, and it is clear that strategies are being used. To protect the mangrove forest in Nagalawan Village, the Muara Tanjung Women's Group uses the following strategy :

Forming Women's Group Leadership in Mangrove Forest Conservation in Nagalawan Village

The Muara Tanjung Women's Group is one of the women's groups in mangrove forest conservation in Sei Nagalawan Village, Perbaungan District, Serdang Bedagai Regency. Based on the results of interviews, it was found that the formation of the Muara Tanjung Women's Group was inseparable from the structure, which was the main foundation of the group. The formation of the Muara Tanjung Women's Group structure was carried out through deliberation by the group. The leader in

a group must, of course, have the ability so that the group members can become leaders. Leadership is the basis of a leader's power to invite, influence, and move other people to do something to achieve common goals (Kartono, 2017). Mrs. Jumiati, the leader of the Muara Tanjung Women's Group, has a great sense of concern for the environment, so she was able to form a women's group by inviting women from Sei Nagalawan village to form a women's group. Starting with a family ties approach.

Of course, an organization or group must have a leader as the primary foundation for driving the group. The Muara Tanjung group has a leader who can be trusted to organize and protect the members. The group leader is also a Muara Tanjung Women's Group pioneer, which tries to invite other women to conserve mangrove forests. A leader cannot be separated from his leadership behavior in managing his members. Leadership behavior between women and men certainly has differences. These differences can be seen in terms of communication, emotions, and the form of work.

Gender differences are one thing that differentiates the leadership behavior of women from men. However, as time passes, the view of differences in behavior between women and men decreases. Women can now break the paradigm of these differences, especially in leadership behavior. Women's existence is now respected and equal to men's, in line with the many movements for gender equality and women's emancipation (Fitriani, 2015; Wahidah et al., 2022). Women are considered capable of independently processing and managing the required systems. There are already several communities where women traditionally have an essential role in household affairs and household income (Dey, 2008; Nasir et al., 2021). Based on the research results that have been obtained regarding women's leadership behavior, it is known that the group leader (Mrs. Jumiati), as the leader in the Muara Tanjung Women's Group, does not only use feminine leadership

behavior. However, he also sometimes uses masculine leadership behavior.

#### 1. Form feminine leadership behavior

Women's leadership is a process where leaders act as administrators for other people (Utaminingsih et al., 2020). Fusun and Altintas (in Noviani, 2017) explain forms of feminine leadership, namely :

##### a. Charismatic/Value Based

Female leaders can demonstrate part of transformational leadership. The behavioral framework of this dimension is :

1. Visionary, the leader views the future regarding the group he leads. As the results of research show, the leadership of the Muara Tanjung Women's Group has a visionary dimension regarding the group's sustainability. As a leader, the group thinks about the ability of its members to carry out activities intended to provide future benefits for the members.

2. Inspirational leaders who have self-confidence, enthusiasm, and motivation. The interview results found that Mrs. Jumiati has an inspirational dimension of behavior and self-confidence and can also motivate her. From the research results, Mrs. Jumiati, the Muara Tanjung Women's Group leader, has self-confidence, enthusiasm, and motivation to guide her members.

3. Team-oriented, a leader can act democratically and collaboratively. Through the results of the research that has been carried out, Mrs. Jumiati can act democratically in groups. Masculine leadership is a form of leadership that has the power to lead a group by showing power to lead its subordinates (Noviani, 2017). The Muara Tanjung Women's Group's leadership also has a masculine leadership side. According to Egen et al. (in Noviani, 2017), 2 dimensions are most prominent in masculine leadership, namely :

1. Assertive: This assertive leadership has expressive behavior, understands its rights, can control emotions, and can communicate with others. From the research results, the leadership of the Muara Tanjung Women's Group also has

an assertive form of leadership. Mrs. Jumiati, as the head of the Muara Tanjung Women's Group, can also communicate with other members and build exemplary communication with other groups. This communication can be seen from the many networks collaborating with the Muara Tanjung Women's Group. As stated by Mrs. Jumiati, several networks are tied to the Muara Tanjung Women's Group. Like P3MN (Community Development Center), there are also NGOs (Non-Governmental Organizations), and there is also KIARA (People's Coalition for Fisheries Justice). From this presentation, it can be seen that the communication created by Mrs. Jumiati (group leader) as the group leader is extensive; this also aims to improve the abilities and skills of the group members.

2. Task-oriented leadership that focuses more on finding steps to achieve specific goals. Completion of tasks is the main focus to be completed. The Muara Tanjung Women's Group itself also has several task-oriented behaviors. One of them is focusing on the group's structure, rules, and tasks, emphasizing clear goals and plans to achieve the desired goals. Women's leadership in forest conservation is necessary to make people aware of the importance of protecting the environment. The Muara Tanjung Women's Group is one of the women's groups that formed a mangrove forest conservation area. Not only did they form conservation protection, but the Muara Tanjung Women's Group was also able to form women's empowerment by utilizing mangroves as the central core of empowerment. The empowerment in the Muara Tanjung Women's Group is carrying out training activities with the main aim of helping the economy of female fishermen.

Besides carrying out training activities, Mrs. Jumiati, as the leader, also empowers MSMEs. They are making distinctive products by utilizing mangroves as the main product ingredient. The results obtained through these MSME activities are jujup chips, dodol, syrup, and tea. Apart from that, we also carry out outreach and education

related to replanting mangrove forests, which is carried out every week on Sundays.

So, the form of leadership of Muara Tanjung women in mangrove forest conservation plays a massive role in mangrove conservation. Through the empowerment and education provided, people can be aware of the importance of protecting and preserving the environment.

Preservation of mangrove forests through the process of planting mangrove trees consistently and sustainably

Initially, the mangrove forest area in Hamlet III of Nagalawan Village experienced damage due to tiger prawn cultivation. The cultivation carried out is in the form of making ponds spread across this village. The presence of shrimp ponds means that the existence of mangrove trees is threatened because business actors are cutting down existing mangrove trees. Gradually, felling mangrove trees has hurt the environment and people's income. The community, most of whom work as fishermen, experienced a decline in catches after mangrove trees were cut down. Jumiati, as a local community member, thinks that the decline in fishermen's catches is due to the destruction of mangrove trees so that fish and other marine biota have nowhere to breed. Therefore, Jumiati started taking steps to preserve mangroves by inviting her husband to plant mangroves on riverbanks. The planting process begins by planting mangrove propagules from existing parent plants. Initially, this activity was only carried out by Jumiati and her husband.

In 2004, a natural disaster occurred as a tsunami that attacked the Aceh region. This disaster caused damage to the Aceh region and other countries and regions. However, Nagalawan Village, which has a mangrove forest area, experienced less severe damage than other areas. Starting from this momentum, Jumiati started educating the local community about the benefits of mangrove plants, including preventing abrasion.

Educational activities about the benefits of mangrove trees begin by inviting the closest

relatives. Recruiting people to care about mangrove preservation could have run smoothly. However, various obstacles were experienced, including ridicule, because people thought this activity did not produce significant benefits, especially regarding economic income. At that time, Jumiaty, the head of the Muara Tanjung Women's Group, needed more capital in the form of money to attract people to join this activity. As a result, the lack of financial capital in recruitment means that people are not interested in joining, and only their closest relatives are willing to join. The closest relative who was the first to join was Nurlia, who now serves as secretary of the Muara Tanjung Women's Group.

The recruitment process for mangrove conservation finally reached 20 members who joined. Members of the Muara Tanjung women's group started their action to plant mangroves in stages in an area of 2 hectares, which does not include the coastal environment. The total area planted, including the coastal environment, is 5 hectares. The initial planting process took quite a lot of energy because the planted area had much mud. The members began consistently planting mangroves in the hamlet 3 III area of Nagalawan Village. The successful planting process then made members think about educating other village communities living in coastal areas.

Activities to educate other villages on mangrove conservation benefit not only these other villages but also the Muara Tanjung women's group. The Muara Tanjung women's group members are increasingly motivated to preserve or conserve mangrove forests in their villages. Mangrove planting continues to be carried out; even members consider this activity manageable and safe rather than valuable and productive. The sustainable planting process is proven by the fact that when mangrove plants die due to pests, the members swiftly replant the dead mangroves with new ones.

Based on the research results, it can be understood that group members do not consider mangrove conservation risky and only need to

prepare sufficient personnel to replant mangroves or insert dead mangroves so that there is no land vacancy if the mangrove plants die. Consistency is the main thing needed in mangrove conservation because mangroves, which are living creatures, are limited in their existence, and the group must also make efforts to ensure that conservation continues as the group's initial goal was to exist as a form of movement to care for the environment through mangrove conservation.

The involvement of local communities, especially women, has helped overcome the management of Mangrove forest resources (Manandhar & Shin, 2013; Purba, 2013; Gilmour, 2016). The strategy implemented for mangrove forest conservation by the Muara Tanjung women's group, which consistently planted and planted mangroves, has provided many benefits to the environment and the group. It has been proven that the active involvement of women in the implementation of joint forest management activities will make achieving goals easier (Shewly, 2008; Fitri & Purba, 2023). The planting process continues today, although the amount planted is smaller than when the conservation activities were carried out. The group is focused on maintaining mangrove plants and continues to consistently carry out nurseries, even though they are not in large numbers. This represents that consistently planting mangroves in large or small quantities is still carried out so that the mangrove debt, which has now also become an ecotourism area, continues to exist and provide benefits.

Sustainable mangrove planting will undoubtedly provide results for the community. Now, it can be seen that the mangrove forests planted by the community have spread widely along the coast. The existence of mangroves certainly requires good management and is also beneficial for the environment and society. Since 2013, the Nagalawan mangrove forest has been managed by the Muara Tanjung women's group for ecotourism. Processing ecotourism is undoubtedly inaccessible; as with processing



Nagawalan Mangrove Beach ecotourism, many challenges must be faced.

Based on the research results, it can be understood that the initial management of this mangrove forest into ecotourism experienced a gap, and several communities still needed to agree with its management. Even though they have to face conflict, the Muara Tanjung group remains persistent in fighting to manage mangrove forests through ecotourism. This persistence is the primary key to success in realizing mangrove forest ecotourism. Through the successful establishment of this mangrove forest, of course, it must continue to be managed to improve the sustainability of the mangrove forest itself. The Nagalwan mangrove forest is still well managed by the Muara Tanjung women's group. However, before becoming a mangrove forest manager, the Muara Tanjung group must have a permit from the local government.

Applying for permits by the Muara Tanjung group also requires a long journey. Until 2019, after the release of forest types, this mangrove forest was included as a community forest with an area of 2 hectares. Moreover, the HKM (Community Forest) for this mangrove forest was obtained in 2020 from a 2001 trip. After this mangrove forest was used for ecotourism, the Muara Tanjung group also formed several businesses such as cooperatives, MSMEs, canteens, tickets, and parking. The cooperative built by the Muara Tanjung group became their business capital in managing mangrove forests. The results they get from businesses such as MSMEs, canteens, tickets, and parking fees will be put into the cooperative. The results of this effort will also become savings for members of the Muara Tanjung group based on their absence rules. Each member has a list of the number of times they have attended the activity, so the number of absences will be added, and the results will be given every Eid. So that every Eid, group members no longer have to worry about the costs of Eid. The micro, small, and medium enterprises managed by the Muara Tanjung group make

chips using juju leaves as a food coloring agent. Knowledge of juju leaf management was obtained from P3MN training from Sulawesi.

This chips business is also part of the empowerment of the Muara Tanjung women's group. Through training, they learn about the types of mangrove plants that can be processed into food, and they are given knowledge on how to process them. Marketing of these chips is only carried out in mangrove forest locations, although in the past, they have been sold to other places such as workshop markets. Unfortunately, the results were unsatisfactory, and there was no return on investment. The results of this business will also be put into the cooperative as well as canteen money, tickets and parking for visitors.

The management of the Muara Tanjung group of mangrove forests has certainly produced sweet fruit, but they have also created a mangrove forest conservation strategy as a form of preservation. However, the focus is no longer on breeding but more on maintenance. The research results show that mangrove areas that are still large and dense do not require groups to carry out more nurseries but rather maintain them. However, volunteers, visiting students, and organizations currently working in mangroves often carry out mangrove planting. So when volunteers come to plant mangroves, the Muara Tanjung group no longer needs to participate in the planting.

## CONCLUSION

Women's leadership in forest conservation is needed to make people aware of the importance of protecting the environment. The Muara Tanjung Women's Group is one of the women's groups that formed a mangrove forest conservation area. The activities carried out by this group include preserving mangrove forests by planting mangrove trees consistently and sustainably. Currently, the Muara Tanjung women's group is consistently running a business in ecotourism in the mangrove forest area. There are various benefits from ecotourism, including

the preservation of mangrove forest areas being better accommodated, the Muara Tanjung women's group being able to more easily educate the public and students who visit ecotourism about the importance of preserving mangrove forest areas, and the group also processes mangrove leaves into healthy and commercialized food. The activeness and consistency of the Muara Tanjung women's

group must be distinct from the form of women's leadership, namely a combination of feminine and masculine leadership. The presence of the Muara Tanjung group in preserving the mangrove forest area is one of the studies that supports women's leadership in environmental conservation; being seen as the front guard in efforts to preserve the environment is a meaningful and valuable thing.

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