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Ecological Impact of Mangrove Forest Damage on Women's Economic Resources Based on Ecofeminism Theory in Youtefa Bay, Jayapura City

Y. Flora Hosio[1] Aquarista[2]
Accounting Study Program, University of Ottow Geissler Papua, Jayapura City[1,2]
Email: yhosioflora@gmail.com[1]

Abstract

Youtefa Bay in Jayapura City as a bay that is famous for its beautiful natural marine scenery has been designated as a Nature Tourism Park in accordance with the Decree of the Minister of Forestry Number: 714/Kpts-II/1996 with an area of 1,675 Ha. Research on the ecological impact of the Mangrove Forest Area in Youtefa Bay with data from the Forest Area Management Center (BPKH) Region X Papua, however, the mangrove forest cover has decreased with data from 1967-2008, which is 511.24 Ha, has decreased to 241.24 Ha. Which is a habitat for shellfish in the mangrove forest area as a livelihood for women in Youtefa Bay with the impact of environmental damage to the mangrove forest. The purpose of this study is related to the ecological impact of mangrove forests on shellfish resources based on the economy of women in Youtefa Bay, Jayapura City to (1) determine the extent of direct and indirect impacts of the effects of mangrove forest damage and plastic waste for women seeking shellfish as household income. (2) examine the Jayapura City Regional Regulation which favors the Youtefa Bay sea shellfish seekers as indigenous peoples related to the ecofeminism theory related to the improvement of mangrove forests by the government. The remote sensing method looks at the mangrove forest area of Youtefa Bay in 2022. The direct impact of damage to the mangrove forest and plastic waste in the Youtefa Bay area on the availability of shellfish is still available, while the search for shells in the mangrove forest has difficulties due to the presence of plastic waste stuck in the mangrove trees. washed away when it rains and damaged Youtefa Bay Mangrove Forest according to satellite imagery from the comparison of 2017 to 2022 by (-15%) in order to preserve the area again.

Keywords: Youtefa Bay Remote Sensing, Forest Destruction Youtefa Bay Mangroves, Shell-seeking Women, Theory Ecofeminism (deep ecology)

INTRODUCTION

Youtefa Bay is located in Jayapura City, Papua Province. This bay is very famous for its potential for beautiful natural sea views, so that in 1996 it was designated as a Nature Tourism Park according to the Decree of the Minister of Forestry Number: 714/Kpts-II/1996 with an area of 5,000 000 000. 1,675 Ha. As a natural tourism park, it is very important to preserve its nature, because as a potential natural resource in the Youtefa Bay area is a mangrove forest found in several villages, including Tobati, Enggros, Nafri, Entrop. (Hamuna et al., 2018)

The mangrove forest in Youtefa Bay area plays an important role in the lives of people living around the mangrove forest area, including for Papuan women because it is a food barn and a place for socio-cultural interaction, as an example for women when looking for swamp shells, snails, shrimp and firewood. But on the other hand, the condition of the mangrove forest in the Youtefa Bay area is currently very worrying. Data from the Forest Area Stabilization Center (BPKH) Region X Papua explains that there has been a change in the area of mangrove forest cover in the Youtefa Bay area from 1967 to 2008, where the mangrove

area in 1967 was 511.24 hectares and in 2008 only 241.24 Ha. Changes in mangrove area are still ongoing, given the high development activity in the coastal area of Jayapura City. The magnitude of the degradation rate of mangrove forests due to the construction of ring roads affects the development of mangrove forests both directly and indirectly, resulting in a decrease in its function, thus threatening the survival of the community around the mangrove forest and with the increasing amount of plastic waste in this area. (Hamuna et al., 2018)

This environmental crisis can only be overcome by making fundamental and radical changes in the perspective and behavior of humans towards nature in the case of mangrove forests in Youtefa Bay where Shellfish Seekers will be interdependent with the mangrove forest environment as seen from ecofeminism theory about the environment in Youtefa Bay as a culture of looking for shellfish. only for women. (Fahimah, 2017)

Based on the formulation of the problem, the research questions are: (1) What are the direct and indirect impacts of the destruction of mangrove forest areas filled with plastic waste which results in a decrease in income for women seeking swamp shells in Yotefa Bay? 2. What is the solution for the Jayapura City Regulation regarding the impact of damage to mangrove forest areas? Therefore, the objectives of this study are: (1) To determine the direct and indirect impacts of the destruction of mangrove forests and plastic waste for women seeking swamp shells as household income (2) To examine the Jayapura City Regulation which favors women seeking Youtefa Teluk Swamp Shells as Indigenous Peoples.

Mangrove Ecosystem Management

Strategies and approaches to sustainable mangrove ecosystem management are an integral part of integrated coastal area management in the form of policies and programs to realize sustainable management of mangrove ecosystems for community welfare by maximizing available resources. The strategy is contained in Presidential Regulation number 73 of 2012 concerning the National Strategy for Mangrove Ecosystem Management. (Presiden, 2012).

Government Regulation of the Republic of Indonesia Number 27 of 2021 concerning the Implementation of the Marine and Fisheries Sector. Article 1 paragraph 9 states that a Conservation Area is an area that has certain characteristics as an ecosystem unit that is protected, conserved and utilized in a sustainable manner. (Indonesia & Pesisir, n.d.).

Mangrove Ecosystem in Youtefa Bay

The mangrove ecosystem itself is a home and habitat for various types of aquatic biota, including shellfish and fish by Kathirehan et al. 2001 Research by Rumahorbo et al. in 2019 (Rumahorbo et al., 2019) with the results of community income in Tobati, Enggros and Nafri villages, namely: This direct source comes from the use of mangroves as a supplier of fish, crab, shrimp, shellfish and firewood products of USD 2,049,419.17 one year or USD 3,987,1968 household and indirect use of mangroves as coastal protection, prevention of sea water intrusion and carbon sequestration of USD 1,660,163.80 per year or USD 7,122.50 ha one year and the need for conservation efforts to maintain ecosystems to obtain high use values and improve community welfare by looking at the value of the existence of mangroves is around USD 3,496.80/year or USD 2,035.25/year.

The research by (Kalor & Paiki, 2021a) is with the results of calculating the diversity and population of fisheries in polluted mangrove ecosystems by collecting fish data in 10 locations using gill nets with a mesh size of 1.5 inches with a length of 150 meters and 2 inches in length. 150 meters using physical and chemical parameters of the waters were also measured at each location. Data analysis used the Shannon-Wiener diversity index, dominance index,

fish abundance, and fish species composition. This study only found 12 species and 10 families of fish, with an abundance of 188 individuals/ha that live and are associated with the waters of the mangrove ecosystem.

Impact of Damage to Ecosystems in Youtefa Bay

There was a decrease in the level of diversity and fish in the waters of the mangrove ecosystem in Youtefa Bay, due to ecosystem damage, ecosystem conversion, and pollution that occurred in the decomposition of the mangrove ecosystem. This fishery resource solution will restore if the mangrove ecosystem is repaired by increasing the area of the mangrove ecosystem and controlling waste (Kalor & Paiki, 2021b). The results of research by Sipayung 2019 (Taman et al., 2019) in the Karimun Mangrove forest, Central Java, showed that block B had a higher density of mangrove vegetation at the growth rate of seedlings and saplings with densities of 23478.26 and 3756.52 individuals , respectively. /ha, while block A has a higher density of mangrove vegetation at the tree growth rate with a density of 331.03 individuals/ha. One of the studies conducted by Jariah, 2018 (Siahaya et al., 2016) in mangrove forests is in Kulon Progo with the result that the support of the Government together with the community or Mangrove Forest managers is expected to further enhance their cooperation, especially the managers of each mangrove forest tourism area. And it is hoped to increase promotion so that mangrove forests become more famous and spread widely.

Research on traditional ecological knowledge and local institutions in local communities has played an important role in mangrove conservation in the coastal area of Tarakan City. The importance of the mangrove forest ecosystem and community participation prompted the Government to place the research location in the mangrove forest of the city of Tarajakan, East Kalimantan. Seeing the current condition of the mangroves in Youtefa Bay which is experiencing ecosystem damage and the government's handling of it is not too serious by dealing with sensing data problems, the mangrove area in 1994 was 392.45 ha and the mangrove area in 2017 was 233.12 ha. . Changes in mangrove area within a period of 23 years amounted to 159.34 ha or 40.59%. Changes in mangrove areas are generally caused by anthropogenic factors such as logging, changes in the function of mangrove areas, roads, bridges, settlements and natural changes (Rumahorbo et al., 2019).

Other results as an effort to manage it based on integrated concepts and principles, it is necessary to develop a strategic management plan so that it can be sustainable. From the preparation process, it can be seen that the role of stakeholders is needed in every step of the preparation program. In addition, the management dimensions, namely ecology, socio-economics and institutions are the main considerations as a unitary stage. The results of further research are that the Government and the Holte Kamp community have agreed and formed a mangrove conservation organization(Paulangan, 2014).

Gender-based economy

Ecofeminism Theory

According to this theory, according to deep environmental ethics or what is known as deep ecology, this environmental crisis can only be overcome by fundamental and radical changes in the way humans view and behave towards nature. Humans must pay attention to the environment in order to have an equal position with humans, so that humans and the environment will depend on and complement each other. This deep ecology has the principle that all forms of life have innate and therefore innate values, have the right to demand respect for self-respect, the right to live and the right to develop Ecofeminism is one of the theories

promoted by some women for the real conditions experienced, deep ecology, pantheistic theory, views humans as an integral part of nature (Fahimah, 2017).

As a supporter of deep environmental ethics or what is known as deep ecology, this environmental crisis can only be overcome by fundamental and radical changes in human perspective and behavior towards nature. Humans must consider the environment to have an equal position with humans, so that humans and the environment will depend on each other and complement each other. This deep ecology has the principle that all forms of life have innate and therefore have innate values, have the right to demand respect for self-respect, the right to live and the right to develop Ecofeminism is one of the theories promoted by some women to the real conditions experienced , deep ecology, a pantheistic theory, views humans as an integral part of nature (Kathiresan & Bingham, 2001).

The Formula for Calculating the Sales Target of Scallops in Youtefa Bay

According to Sukirno (2000)(Hawa, 2015) "Income is a very important element in an element of trade, because in doing a business, of course you want to know the value or amount of income earned during the business. and the company sector which can be in the form of salary/wages, rent, interest and profit/profit". Revenue is the amount of money obtained from the sale of a number of outputs or in other words all income earned by women Papua is the result of selling its products to traders or directly to consumers. Accouding to Case dkk(2007) (Andriani, 2019) , "Income is defined as the amount of money that a household can spend during a certain period without increasing or decreasing its net assets. income is the amount of money earned from selling the amount of output or in other words is everything that is obtained by Papuan mothers as a result of selling sales or directly to consumers.

By determining the sales target is the difference between the total monthly operating costs obtained from all costs for presentation by distributing the average profit/unit as the formula for the sales target based on Soekartawi's (2003) description the formula used is as follows(Andriani, 2019), description the formula used is as follows:

$$\text{sales targets} = \frac{\text{total operating costs a month}}{\text{average gross profit of one unit}}$$

Update Remote Sensing for Mangrove Forest Area Mapping

With the usefulness of remote sensing technology used is the result Landsat 8 and global forest Watch/Global Mangrove Watch imagery on the map of the distribution and density of mangroves in the Youtefa Bay area, namely Global Forest Watch uses Google's computing capabilities to process satellite data owned by NASA, which in the past would have taken years to complete. process it, according to Rebecca Moore, Engineering Manager at Google Earth Outreach and Eath Engine, who worked with a research team led by researcher Matt Hansen of the University of Maryland to build a resolution dataset on forest cover and change that underpins this system. (Rumada, 2015)

RESEARCH METHODS

The location of the research was in the area of Youtefa Bay Nature Park, Jayapura City, Papua Province. By collecting data on residents in 3 villages, namely Tobati Village, Enggros Village, and Nafri Village. After that, make a literature study research instrument and interview with a list of questions followed by collecting the results of interviews in 3 villages in the mangrove forest area and also interviewing the relevant Government about the

Mangrove Ecosystem and its empowerment with the community. Furthermore, the collected data will be analyzed. The sample for this study was to interview 35 people who were sampled from a population of 3 villages in Youtefa Bay. direct interviews with women looking for shellfish (Sugiyono, 2012). And collecting the results of interviews and analysis of results using data reduction methods for the impact of damage and income from damage to the youtefa mangrove forest. analysis of data from maps created by remote sensing (Rumada, 2015). The formula for calculating sales targets,

$$\text{sales targets} = \frac{\text{total operating costs a month}}{\text{average gross profit of one unit}}$$

RESULTS OF RESEARCH AND DISCUSSION

The first stage is a literature study to determine the impact of mangrove forest damage on the swamp shell ecosystem. In the literature on the type of primary mangrove forest located in Tobati village and its surroundings, while secondary mangrove forest is located in Enggros and Nafri villages and surrounding areas. (Jarisetouw, (Rumahorbo et al., 2019)).

The results of the survey on the impact of mangrove forest damage from several data show the following results:

Table 1. Development of Mangrove Forest Area of Youtefa Bay Jayapura City

No	Year Data on	Total Mangrove Forest Area	% Forest Area
1	1967	511.24 Ha	0%
2	1994	392.45 Ha	-23%
3	2000	280.93 Ha	-28%
4	2004	259.10 Ha	-8%
5	2008	242.42 Ha	-6%
6	2017	233.12 Ha	-4%
7	2022	198.46 Ha	-15%

Source: BPKH Region X Papua in Analysis Results (2022) (Rumahorbo et al., 2019)

With the results of the shellfish ecosystem in the women's forest in the mangrove forest area of Youtefa Bay in Tobati village as a primary mangrove forest, there was no impact with this vegetation, both in finding swamp shells, especially during the dry season, namely in July to August. However, in the condition of the Secondary Mangrove Forest, namely Enggros and Nafri, the literature results are as follows:

1. The road was built 9,000 meters long and 23 meters wide, there are about 20 hectares of mangroves in the Enggros village that are missing.
2. The existence of the road also loosened the sacred location known as the women's forest in the villages of Enggros and Tobati looking for shells without wearing clothes and now they no longer search without a thread because they are worried that the forest has been lost and the culture of looking for shells in the women's forest is no longer practiced. again, now you have to disappear or use complete clothes that are no longer in accordance with custom.
3. Even women's forests are starting to be polluted, namely piles of mud mixed with plastic waste in the forest and a lot of garbage in the mangrove forest area.
4. According to the literature from the head of the Center for Marine and Fisheries Resources, Cenderawasih University, Jayapura, there are three serious environmental problems in the Youtefa Bay area, namely:

a. The occurrence of pollution in the form of solid, liquid, and heavy waste (the findings are in the form of household waste, waste from workshops and hospitals). The findings of this waste enter the bodies of fish and shellfish as well as the number of marine biota types of macrobenthos such as sea cucumbers and crabs and this marine life is the target of local fishermen because it is economically feasible. The finding of lead content from fish and shellfish has reached 0.008 milligrams/liter, this result has exceeded the threshold of 0.025 milligrams/liter and is very dangerous for human health who consume marine biota exposed to lead.
b. The second finding is sedimentation due to massive land development in the Cycloop buffer forest. That is, when it rains heavily, sediment enters the watershed which empties into Youtefa Bay, an example of the 3.63 kilometer Anafre River watershed.
c. The third finding is the mass degradation of mangrove forests in Youtefa Bay, namely the clearing of mangrove forests of more than 50% of the total area

5. Mangrove forests have an impact on decreasing the quality of waters and marine biota such as crabs. With the potential for coastal communities to be more vulnerable to tsunamis, because the mangrove forest as a protection fortress is the first to disappear.

The second stage was collecting data through interviews with women seeking swamp shells in Tobati, Engross and Nafri villages and remote sensing of the location of the mangrove forest in Youtefa Bay from government data. After the data is collected, the analysis is done by reducing the data and making comparisons of the impact of environmental damage that affects household income in Tobati, Engross and Nafri villages.

Figure 1. Interview Process in Tobati Village
Source: Tobati Village During Data Collection on Shellfish Seekers, 2022

Figure 2. Interview Process in Enggros Village
Source: Interviews With Residents in The Engross Village in 2022

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Figure 3. Interview Process in Nafri Village
Source: Interviews With Residents in the Village of Nafri in 2022

Interviews were conducted in three villages located in Youtefa Bay and obtained results such as the income of shellfish which is still based on messages that will be conveyed to close families only and to local consumers who are sold at traditional markets and roadside. Based on the results of interviews with 34 mothers looking for shellfish, 15 people in Tobati Village, 15 people in Enggros Village and 4 people in Nafri Village explained that a maximum of 1 bucket or 25 kg one day is valued at IDR 300,000., or produces an average content shells as much as 7 boxes.

To look for shellfish is nothing more than that because the search for shellfish is still based on individuals in the mangroves that are collected for consumption and selling according to messages to families on the mainland. The estimated monthly operating cost is that the cost of diesel fuel to look for shellfish and to sell to the market once to find or sell the shellfish stuffing is Rp. 600,000/month, if in one month you are looking for 12 times with an estimated 25kg then the average gross profit/box of stuffed clams is Rp. 10,000. With the data that must be determined, the minimum sales target by women looking for shellfish is to make operational costs every month so as not to lose, the analysis carried out is:

Table 2. Sample Analysis of Determining Sales Targets for Youtefa Bay Shellfish Business

Total Operating Cost/Month	Average Gross Profit Scallop Stuffing/Box	Business targets so as not to lose
Rp. 600.000	Rp.7.143	±84 box/month
This means that in order not to make a loss, the business of selling scallop stuffed caught by Youtefa Bay women must sell a minimum of 84 boxes of mussel stuffing every month in order to cover operational costs of up to Rp. 600,000. where the selling price is Rp. 50.000/box from the catch or processed to take the shellfish stuffing costs Rp. 300,000/bucket, which is estimated by the shellfish with the shell, if the stuffing alone produces 7 boxes of mica plastic, the cost is Rp. 42.857/box, with the estimated gross profit of mussel stuffing is Rp. 7.143/box		

Source: Minimum Sales Target Calculation (Andriani, 2019)

With examples of shellfish stuffing products as follows:

Figure 4. Photos of Processed Shellfish Stuffing in Tobati village
Source: Interviews With Sellers of Frozen Mussels Stuffed in Kampung Tobati, 2022

Figure 5. Image of Shells Raised in Youtefa Bay
Source: Shells Searched by Women in The Mangroves of Youtefa Bay (Researcher, 2022)

The obstacles faced were: The location of the scavengers with a lot of mud made it difficult to find shells at high tide and low tide and bottled waste and plastic waste made the pick-up of shells that had to clean up the trash first and then they could look for shells which made it difficult to get through. Youtefa Bay mangrove forest will then need a longer time to collect the shellfish and the difficulty of marketing by the mothers in these 3 villages because they still need time and money to sell to the market but the sales result will only have a small profit and will be used up for sale. family needs.

By estimating the sales target, it is expected to help the shellfish sales business to be able to finance operational costs every month and, the target is made so that the shellfish sales business does not lose. The results of the research that support this ecofeminism theory are specifically to ensure women's rights, the provincial government is to empower women with dignity and make all efforts to position them as equal partners to men by distributing fish only to men and looking for shells that are suitable for women. only done by women in the Youtefa Bay Area and is still maintained until now.(Papua, 2020)

As a supporter of deep environmental ethics or what is known as deep ecology, this environmental crisis can only be overcome by fundamental and radical changes in human perspective and behavior towards nature. Humans must consider the environment to have an equal position with humans, so that humans and the environment will be interdependent and complement each other. This deep ecology has the principle that all forms of life have innate and therefore have innate values, have the right to demand respect for self-respect, the right to live and the right to develop Ecofeminism is one of the theories promoted by some women to the real conditions experienced (Fahimah, 2017).

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The results of Remote Sensing are carried out to see and analyze the distribution and density of mangroves. The distribution and density of mangroves in the Youtefa Bay area varies in each area, depending on the number of mangroves in the area and the size of the area. The more number of mangroves in an area can also indicate the denser the mangrove density level. The extent of the excavation in the Youtefa Bay area in 2022 was found to be 198.46 hectares. When compared with the mangrove area in 2017 and 2008 by previous researchers, namely 233.12 Ha, as the latest research and in 2008, the Youtefa Bay mangrove area has decreased by 8.12 Ha and less than 34.69 Ha in just a short time. 5 years. The results of observations show that changes in mangrove area are caused by the construction of roads and bridges, the opening of residential areas, the use of mangroves for households, tourist attractions or restaurants/businesses as well as due to natural factors. Based on the analysis of satellite imagery, the distribution of mangroves in the Youtefa Bay area was found to be plentiful around the Tobati, Enggros and Nafri coasts where vertically from land to sea a maximum of 1,080.66 meters around Tobati and depending on the topography of each location. In addition, there are also coastal mangroves with a smaller area and a maximum vertical seaward of about 189.74 meters around Entrop (Figure 5).

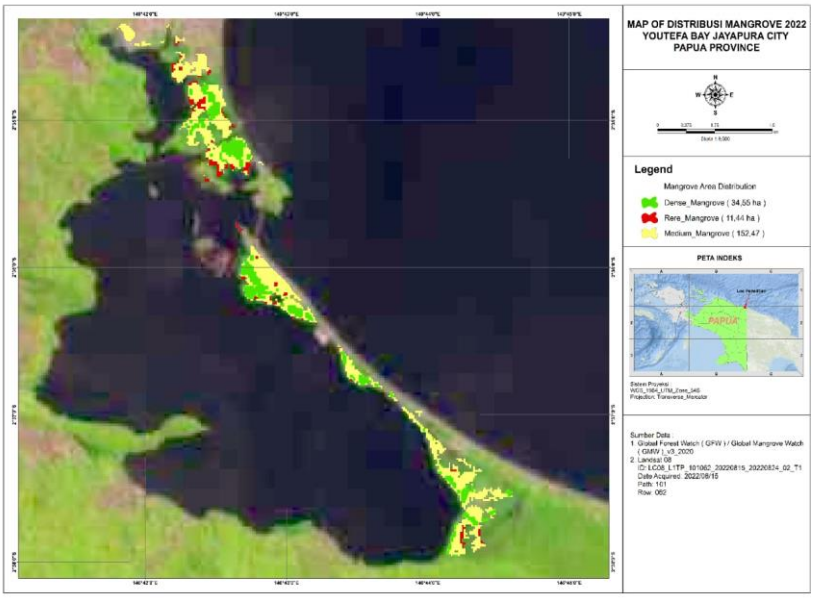

Figure 5. Satellite Imagery Map of Mangrove Distribution In Youtefa Bay Area
Source: Landsat 8 Imagery and Global Forest Watch/ Global Mangrove Watch on the Map of the Distribution and Density of Mangroves in The Youtefa Bay Area in 2022

The density of mangroves in the Youtefa Bay Natural Tourism Park area varies in each area, depending on the number of mangroves in the area and the distribution of the area. Based on Figure 5, the quality of the mangrove density area is very small compared to the very low density of medium and rare mangroves. Mangrove density was only found in an area of 34.55 Ha or about 17.41% of the total mangrove area in 2022, while the medium mangrove density was 152.47 Ha (76.83%) and the rare mangrove density was only about 11.44 Ha (5, 76%). Paulangan (2014) (Kalor & Paiki, 2021b) that mangroves in the Youtefa Bay area in the dense density category can reach a height of between 7-12 meters and a tree diameter of 10-15 cm. while the density category is generally in the form of seeds that are not more than 1.5 meters high. The mangrove area in Youtefa Bay has experienced a drastic decline due to increased arel clearing activities that have changed the condition of the peatlands for other use.

The composition of mangrove vegetation found in Tobati Village, whose rove land has been converted is more dominated by the genus Rhizophora (R. mucronata, R. apiculata and R. stylosa). In addition, the activities of people who do not care about the maintenance and protection of coastal areas by protecting mangrove areas excessive, structuring, lack of coordination between government and community institutions as well as weak law enforcement in coastal and marine areas as well as women's forest areas that have been lost due to road construction and the large number of frameworks that are not based on customary regulations, namely only women in the Youtefa bay area but many findings There are people who are not local residents of Youtefa Bay who take shellfish in the mangroves (Mano 2011 in (Rumahorbo et al., 2019)

The level of mangrove vegetation density determines the level of damage to mangrove forests as contained in the standard criteria for mangrove damage (Indriyanto, 2006 in (Kalor & Paiki, 2021b)). The standard criteria for mangrove damage are the size of the limits of physical and biological changes of mangroves that can be borne and can determine the condition or status of mangrove conditions. Based on the Decree of the Minister of the Environment No. 201 of 2004 concerning the standard criteria for mangrove damage, the condition of mangroves in the Youtefa Bay area with mangrove density (Bambang, 2014). The results of interviews with related agencies that the city's environment is still limited to planting mangrove forests by mitigating the location of mangrove forests in accordance with the Jayapura city regulation number 5 of 2007 article 17 c (Peraturan Daerah Kota Jayapura & Kebersihan., 2007) by looking back at the mangrove coast to be planted in a sustainable manner by following the mangrove forest conservation program only.

CONCLUSION

The closing contains research conclusions, limitations, and research suggestions. Conclusions, limitations, and research suggestions can be made in sub-sections and can also be combined. The conclusion answers the research objectives, namely: The direct impact of damage to mangrove forests and plastic waste in the Youtefa Bay area on the availability of cultivation seeds, but the availability of shellfish is still available, while the search for shellfish forests in the mangrove forest has difficulties due to the presence of plastic waste stuck in the mangrove forest in the women's forest (mangrove forest in the bay. youtefa). With coastal areas more susceptible to abrasion, this is evident in the tourist areas of Hamadi Beach to Holtekam and Youtefa Bay seen in the Engross Village area, namely Ciberry Beach which experienced abrasion. The direct and indirect impact of reducing the reduction of green land for water catchment areas and tourism in Youtefa Bay. As for household income, it is slightly disturbed if the search for shellfish is carried out in the rainy season which has high water discharge due to low water absorption in the mangrove forest area that has been lost. Judging from the regional regulation of Jayapura City which has regulated the mangrove forest area since 2007, namely in the regional regulation number 5 of 2007 there is little that can be done, namely the mitigation area for mangrove forests by planting mangrove trees but with a decreasing mangrove forest area. According to this satellite imaging, the mangrove forest of Youtefa Bay has been handled by the relevant agencies, but there is no visible condition for the ecosystem, which could include garbage carried by the flood and left behind in the mangrove forest or women's forest

Suggestions for the damaged mangrove forest of youtefa bay according to the comparison from 2017 to 2022, which is (-15%) so that it can no longer be in its area by: Carry out this replanting effort which has been carried out by the Jayapura City environmental service and must continue to be carried out by all parties and the City

regulations as the location of Youtefa Bay need sanctions or penalties for destroying the environment or ecosystem of Youtefa Bay downstream to upstream of the river. which enters youtefa bay. Restoration of mangrove areas in terms of mangrove forests that are able to improve their own conditions but must be patient because it takes a long time. Expansion of the mangrove forest area by improving the governance of the existing coastal areas. Public education about mangroves with the help of human hands around Youtefa Bay or 3 villages (Tobati, Engross and Nafri) with efforts to improve the community about the mangrove forest itself and explain the various functions and benefits of this forest. will be formed, with more and more mangrove forest tourism sites being found in Youtefa Bay. while still supporting traditional rights for women as supporters of ecofeminism theory. Improvement of the forest environment is not an easy thing but causes difficulties, namely the air pollution factor in it, sea air which contains pollutants itself has many negative effects on the development of the Youtefa Bay mangrove forest itself, it is necessary to improve the human sector that is around which results in the impact of plastic waste and this waste pollution will be difficult but can reduce the ecological impact of the youtefa bay ecosystem and There is a pilot of shellfish cultivation carried out in Youtefa Bay to be able to increase fishery business by following the example of shellfish-producing areas in order to improve village or village businesses

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