



The Effect of Sembilangan Village Coastal Reclamation on the Surrounding Environment

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Abstract

Reclamation is an activity that can be detrimental and can damage the sustainability of the marine environment and can damage the habitat or residence of fish in the sea, but this reclamation activity also has a positive impact on it, including preventing erosion and increasing habitat in the waters when viewed from the approach of the waters. In addition to the adverse effects of reclamation that can damage the sustainability of marine waters, garbage can also cause damage to the marine environment and can damage the scenery in the sea or beach. This research is an empirical juridical research. While the results of this study are that the problem of garbage disposal and beach reclamation can be resolved by preventing garbage disposal around the beach can be done by providing understanding to the community regarding the importance of maintaining environmental health in order to be free from diseases due to large piles of garbage, besides that it can also be done with the 3Rs, namely: Reuse, Reduce, and Recycle, while preventing and overcoming coastal reclamation can be done by using silt curtain. This silt curtain is a barrier curtain installed in sea waters to prevent the spread of polluting materials and can also prevent pollution from the spread of fine soil that causes turbidity in the water due to a construction on the beach or reclamation.

Keywords: Reclamation, Coastal, Beach

INTRODUCTION

The environment is a combination of physical conditions including the state of natural resources such as land, water, solar energy, minerals, and flora and fauna that develop on land and in the oceans, with institutions that include human creativity such as decisions about how to utilize the physical

environment. The environment is something that can be utilized by humans, for example the sea, the sea is a place where fish, and other marine life live. Fish is utilized by humans as a side dish that is known to have a lot of protein, besides that fish also helps the community's economy because it can be processed and traded. This is usually utilized especially by coastal communities. Around the sea itself there is beautiful beach sand and attracts tourists, this can also increase the income of coastal communities.¹

But not everything about the sea has a positive impact on human life, such as concerns about flooding when the water rises and high levels of rainfall, and sea breezes that are not always friendly. Therefore, on the coast there are mangrove plants, these mangrove plants can be a place for marine biota to live and become a barrier during high tides, and can reduce the risk of flooding during high rainfall. In addition, mangrove plants also make the coastline look beautiful and can help filter and maintain the quality and quality of sea water.

Mangrove trees or mangrove plants, also known as mangrove forests or mangroves, are an environment of trees that grow in muddy brackish water swamps in coastal areas. Mangrove trees can mostly be found in equatorial regions, such as in the tropics and a few in the subtropics. They are not as dense and large as protected forests, but it turns out that the benefits of mangrove forests are to protect the land from the tides of the sea. In addition, mangroves play a very important role in balancing environmental quality and neutralizing other pollutants.

Therefore, mangroves are very necessary to be preserved to maintain sustainability because of their many benefits. Not only are they useful for marine animal life, but they can also benefit human life and coastal ecosystems. From the economic side, fishermen and residents around mangroves can utilize them as consumption needs or other needs such as trade.

The destruction of mangrove forests means that tidal waves can easily erode the coast and cause abrasion. Without mangroves, the shoreline will quickly erode and narrow due to abrasion. Mangrove plants are ecosystems that provide habitat for many living things.

The sea seems to serve as a final dumping ground for humans, but humans appreciate the sea because it has a large enough volume of water and has the ability to destroy all kinds of substances. The sustainability of the sea will be polluted if the substances caused by human waste continue in large volumes.

Sea water pollution that cannot be avoided is waste produced by humans. Jeena Jambeck's research states that Indonesia is the country that produces the second largest plastic waste with a total plastic waste of 187.2

¹ Dr. A. Sonny Keraf, "Filsafat Lingkungan Hidup; Alam sebagai sebuah system kehidupan Bersama Fritjof Capra", Kanisius, 2019

million tons. In the survey conducted, Indonesia is the country in second place after China with the largest amount of waste. The data shows that Indonesia can produce as much as 0.481.29 million tons/year of plastic waste spread in the sea. The increasing amount of plastic waste generated can be caused by the increasing population and community activities.

Plastic debris is a serious threat to marine ecosystems. More than 690 marine species have been impacted by both debris and microplastics, which have been observed in the digestive tracts of organisms from different trophic levels of the food chain.²

The direct impact of plastic waste polluting the ocean is the many cases where many marine ecosystems die due to ingestion of waste. Plastic waste that is accidentally eaten by marine organisms is certainly very dangerous because if the organs of a marine organism are contaminated with plastic waste, it will cause blockages, complications, and death of organisms in the ocean.

There are studies that prove the presence of microplastics in food. Research by von Moss et al. revealed that some marine organisms such as fish, shellfish, and marine mammals indirectly ingest microplastics. This is reinforced by Rochman (2015), that there are microplastics in several fish and shellfish samples taken from Makassar waters, Indonesia. The study found 60% in the form of fragments, 37% in the form of foam, 2% in the form of film, and 1% in the form of monofilament.³

The sea has a very important role in terms of human survival and also in the interests of a country. The sea is one of the means of transportation that is widely used in the transportation of goods between countries, transportation of people and also as a means of transportation in the exploration and exploitation of oil and gas. One of them is the Indonesian sea which is currently a strategic transportation route, which is passed by cargo ships from various Asian and European countries, or vice versa. In addition, Indonesian waters are located between producer and consumer countries, and Indonesia has offshore oil exploration and exploitation platforms.

The sea itself contains natural resources which are the main thing in the survival of human life, natural resources (sea) that can be utilized for the benefit of many people, the grouping is divided into 2 types, namely biological and non-biological besides that the sea is also a place to live for animals and marine plants.

Preserving the sea is a very important action to do so that the sea is not polluted and does not adversely affect the lives of people around the coast or sea. Marine pollution is something that is not desired by manuaia, especially

² Maddison Carbery, "Trophic transfer of microplastics and mixed contaminants in the marine food web and implications for human health", National Library of Medicine, 2018.

³ Mutia Riksfardini, "Analisis Implimentasi Kebijakan Penanganan Laut di Wilayah Pesisir Muara Angke Jakarta Utara", Jurnal administrasi public, (Vol 1, No 2), 2023.

for people whose lives come from the sea. This is because marine pollution can cause losses in the marine tourism sector, the fisheries sector, the agriculture and livestock sector, the birdlife sector, and the marine animal sector. So it is necessary to protect the marine environment from activities that can cause pollution and damage to the marine environment, and cause the death of marine animals and plants, due to activities carried out around the sea. One of the things that is in the spotlight today in maintaining and protecting the environment is the polluted marine environment. Pollution in the sea is caused by industrial waste disposal, not only that but can also be caused by oil spills, dumping, and also fishing that damages the marine environment. Activities or activities at sea (sea-based pollution) that have the potential to pollute the coastal and marine environment include: shipping, mining, oil exploration and exploitation and also land reclamation activities on the coast can also cause marine damage.

All of these activities have the potential to cause pollution and damage to the marine environment. So it is necessary to make efforts to preserve the marine environment against pollution caused by activities carried out at sea and on land which will cause pollution and damage to the marine environment.

RESULTS AND DISCUSSION

1. The Impact of Reclamation on Communities Surrounding the Beach

Reclamation, which is the process of restoring land and is carried out by opening new land in coastal areas, is a concept applied by various countries in the world as a utilization of coastal areas. As explained a little earlier, the positive impact of reclamation on an area is to open and create new land that can be utilized as a residential area, regional planning, tourism development, and others. In addition to these positive impacts, reclamation also has several negative impacts on the surrounding community, including :

- 1) Possible increase in water pollution. The opening up of new residential areas automatically has the potential to increase air pollution. Reclamation done carelessly can damage marine ecosystems and habitats. If the seawater drainage system is not done perfectly, it can increase the potential for flooding and excessive waterlogging in coastal areas.
- 2) The positive impact is not felt by the surrounding community because the community has only received negative impacts from the reclamation process.
- 3) The positive impact is not felt by the surrounding community because the community has only received negative impacts from the reclamation process.
- 4) The reclamation resulted in polluted water and indirectly became a garbage dump for the surrounding community.

The negative impacts of this reclamation activity on the community are reflected in the socio-economic life of the surrounding community. Communities around coastal areas affected by coastal reclamation cannot be separated from the development of coastal areas. They are mostly traditional communities with relatively very low socio-economic conditions and educational backgrounds.

The social conditions of communities around coastal areas like this make it difficult for them to follow developments in their generally more developed areas, because they tend to often become a burden on development in coastal areas. Due to ignorance or economic pressure, their activities often cause pressure on ecosystems in coastal areas, which leads to damage to these ecosystems. The impact of reclamation will be enormous on the surrounding environment, from flooding problems to economic problems that will be created in the long run.

In addition, existing development patterns in coastal areas damage environmental quality. There are ecological linkages between coastal ecosystems as well as between coastal areas and the upper land and high seas. Thus, changes that occur due to reclamation will affect one ecosystem, which in turn will affect other ecosystems. If development activities on coastal land are not carried out wisely, the negative impacts will damage the ecological order and function of the area, damage marine ecology and ecosystems, and destroy the economy of fishermen who depend on the sea. However, despite these negative impacts, it turns out that coastal reclamation has a positive impact. It's just that in this case it's unfortunate that the community only feels the negative impact.

In addition, the physical impacts that will affect the surrounding community are :

- 1) Soil Erosion

The addition of man-made materials can alter seawater flow and trigger soil erosion, which can damage coastal ecosystems and ultimately threaten agricultural sustainability.

- 2) Loss of Marine ecosystems

Reclamation can ultimately damage critical marine habitats, including coral reefs, mangrove forests and other ecosystems. It can also negatively impact the sustainability of fisheries and marine biodiversity.

- 3) Alteration of Water Current Patterns

The construction of reclaimed structures can alter water current patterns around the site, which in turn impacts the transportation of marine sediments and nutrients that are essential for marine ecosystems. Reclaimed land is land that is susceptible to liquefaction when an

earthquake occurs and increases the amount of damage that occurs to infrastructure.

The development process also has an adverse impact on the ecosystems it passes through by leaving carbon footprints or spills of soil transported by ships to be used as material for making reclamation islands. The polluted ecosystem causes the destruction of animal habitats and plants/coral reefs found in the nearshore area as a result the balance of nature will be disrupted. These small damages will later contribute to the destruction of planet earth from the continuous pollution of nature. Many marine life and fauna will die and be lost in the landfill for the reclamation.

There may be some positive impacts of the reclamation project but they only apply to the people involved with the project such as the government, developers, and customers because the project has great value as one of the income for the company. In a relatively short period of time there has been a lot of damage to the ecosystem as a result of the reclamation project which has led to the loss of biodiversity. The loss of several species of mangrove, various types of birds, fish, crabs, shellfish, and others.

In addition to the physical impacts of reclamation, there are also socio-cultural impacts. Socio-cultural impacts include the possibility of human rights violations (in land acquisition), cultural changes, community conflict, and community isolation. While economic impacts include how much the community, and especially fishermen, lose their livelihoods due to reclamation.

Because the reclamation around the beach is used as a tourist attraction, the beach is filled with garbage that accumulates because visitors who visit do not throw garbage into its place, but this is also influenced by the management system because there are not provided adequate trash bins, besides that if this reclamation is not followed up, it is feared that the impact will get worse to the environment around Sembilangan Beach.

The reclamation that occurred decreased the diversity of marine ecosystems and mangrove forests. If this happens, it will make the ecosystem unbalanced. Some animals will lose their habitat, because the mangrove forest area is a breeding and hiding place for several types of fish, crabs, shrimp, and mollusks. In addition, the possibility of flooding is higher because there is no mangrove forest.

2. Effects of Coastal Reclamation on the Environment

Reclamation is a land recovery process carried out by opening new land in coastal areas, this is a concept that is widely applied by various countries in the world as a utilization of coastal areas.⁴

⁴ Undang-Undang Nomor 23 Tahun 1997, Tentang Pengelolaan Lingkungan Hidup

In the coastal area, for example, over the past ten years, the Bangkalan Regional Government has tended to expand its territory to the coast by means of dikes, and reclamation. The government conducts reclamation, whether it is for the advancement of tourism or gives reclamation permits for private parties to manage it, such as in Sembilangan Village, where a PT ship docking is planned to be built by a private party.

The definition of land reclamation in general has been given by many experts, such as Chapman that in general land reclamation is a way of making land suitable for certain purposes. Similarly, Bengen's coastal and coastal management means managing natural resources and coastal marine services through comprehensive assessment, planning and managing all their utilization to achieve sustainable development..⁵

According to the applicable regulations, coastal reclamation in Indonesia can be linked to the impact and value of what benefits can be obtained based on environmental, social and economic values. In the applicable regulations in Indonesia, reclamation is regulated in Law No. 27 of 2007 related to the Processing of Coastal areas and Small Islands in paragraph 23, where it is said that reclamation is an activity carried out by the community to increase the benefits of land resources in terms of the environment and the economy of the community by leveling, utilizing land, reclamation and drainage.

Article 34 of Law No. 27 of 2007 states that reclamation can increase the benefits and added value of coastal areas in terms of technical, environmental, and socio-economic aspects, then the implementation of reclamation must also maintain and pay attention to the lives of surrounding communities, coastal preservation, and good coastal recovery reclamation planning. Based on the provisions in article 34, it turns out that coastal reclamation can have an impact on all life in the community around the beach.

Reclamation development has a positive impact or benefit, we can see what are the benefits arising from coastal reclamation activities, among others:

- a) Developing reclamation activities can improve the quality and economic value of coastal areas.
- b) The development of reclamation activities can reduce the area of land that is considered unproductive.
- c) The development of reclamation activities can increase the area or increase the land.
- d) The development of reclamation activities can protect coastal areas.
- e) Development of reclamation activities that can beautify the coastal area again..⁶

⁵ Herry Djainal, Reklamasi Pantai dan Pengaruhnya Terhadap Lingkungan Fisik di Wilayah Kepesisiran Kota Ternate, Jurnal Lingkungan, Vol 1, Tahun 2012

⁶ Olivianty Rellua, Proses Perizinan dan Dampak Lingkungan Terhadap Kegiatan Reklamasi Pantai, Lex Administration, Tahun 2013

In fact, the process of coastal renovation is not going smoothly, and has a negative impact such as a lot of material carried by sea currents which causes sea water to shrink and if this situation continues, it will threaten the beach and threaten the coastal ecosystem. Reclamation of Sembilangan Village beach has an impact on changes in the shoreline and environment that will affect the safety of traffic at sea and the needs of other agencies involved.

The existence of coastal reclamation can directly result in environmental changes, so the issuance of coastal reclamation permits needs to be accompanied by an environmental management plan (RKL) and environmental monitoring plan (RPL) as well as an environmental management plan and the final product of an Environmental Impact Assessment (AMDAL).⁷

The negative impacts are the destruction of marine biota on the beach, birds eating at sea, soil erosion, the number of mosquitoes in residential areas, and the loss of natural functions of mangrove forests. The sectoral model of coastal development has caused more problems and social conflicts. Problems arise because resources that support the socio-economic welfare of the community in the long term may be controlled by development activities that bring economic benefits to a few people in the short term. This situation occurs when the government realizes the importance of natural resources in coastal areas by taking advantage of the helplessness of coastal communities without trying to avoid socio-economic problems of the community.⁸

Technically, coastal reclamation can change the shape of the coastline and cover part of the sea, so it is difficult to prove that it has a negative impact on the marine environment. This includes the worst impacts on biodiversity, disrupting the physical characteristics, activities and interactions of organisms in a marine physical environment. Not only does coastal reclamation create environmental problems, but it also develops social, economic and natural resource problems.

Fishermen, as those most affected by coastal reclamation, consider that coastal reclamation has limited their space and opportunities to earn a living as fishermen. The problems start from the reduction of mooring places, polluted sea conditions, and others.⁹

The increasing development in Bangkalan Regency has forced the community, including fishermen groups, to use the opportunities that have been made available through opening their own businesses and utilizing the available jobs.

⁷ Eka Deviana, *Penegakan Hukum Lingkungan Terhadap Analisis Dampak Lingkungan (AMDAL) Reklamasi Pantai di Kota Bandar Lampung*, Jurnal Ilmu Hukum. Vol 6, Tahun 2012

⁸ Antik Bintari, *Manajemen Konflik Penyelesaian Kasus Reklamasi Pulau G Pantai Utara Jakarta*, Jurnal Ilmu Pemerintahan, Vol 4, Tahun 2018

⁹ Dahyar Darada, *Dampak Reklamasi Pantai Boulevard Terhadap Kesejahteraan Rumah Tangga Nelayan di Kota Manado Provinsi Sulawesi Utara*, Jurnal Administrasi Publik dan Pemerintahan, Vol 2, Tahun 2020

Sembilangan Village beach reclamation has a positive impact in developing the region, this practice also provides options to provide land within the region/city, the development of tourism to the beach, the development of business activity centers, can open new jobs and new labor. Given the various adverse impacts, it is not surprising that in some areas coastal reclamation has triggered local community protests. This multidimensional impact means that coastal reclamation should be the subject of a more in-depth study. But besides that, coastal reclamation also has positive impacts.

From the description of the advantages and disadvantages of coastal reclamation, it seems that more negative impacts are seen. Therefore, by looking at both the positive and negative sides of the urgency of coastal reclamation development. Actually, reclamation of coastal areas is not recommended, but if it uses the principles of sustainable development by paying attention to social, economic, and of course environmental aspects, reclamation is valid.

Coastal reclamation will not damage the environment if it does the following:

- a. Communities People who carry out renovations should pay attention to the correct rehabilitation techniques and the use of rehabilitation materials, and should coordinate with the relevant agencies not to carry out renovations without permission.
- b. Local/City Governments are expected to strengthen their role in handling environmental damage caused by coastal reclamation activities through proper and comprehensive monitoring, as well as relocation according to planning to develop unprotected coastal areas.

This can be a consideration, especially for the Bangkalan Regency government to re-screen the licenses granted so as not to have a negative impact on the surrounding environment, it is hoped that it can also minimize the negative impact of coastal reclamation in Sembilangan Village.

3. Solutions to mitigate the effects of reclamation on seawater

How to overcome the effects of coastal reclamation can be done by installing a silt curtain. Silt curtain itself is a curtain that is installed in sea waters to prevent the spread of pollutants. In addition, the silt curtain can also withstand widening that is at risk of leakage on oil ships. This silt curtain must be made strong and sturdy from large waves.

The benefits of using silt curtain are preventing pollution from the spread of fine soil that causes turbidity or makes seawater dirty as a result of the construction and reclamation of the beach, can prevent contamination caused by the construction of coastal embankments, prevent contamination

from spreading further, can protect the beach area used if the location is close to the beach.

Another function of the installation of this silt curtain installation is to limit the spread of fine suspended sediments, as an environmental pollution mitigation activity so as to minimize damage to marine ecosystems and seawater or coastal waters, Silt curtain itself is very safe to use and has proven its effectiveness in reducing damage due to coastal reclamation, However, many residents are still confused about how the installation or installation of this silt curtain can be done, the following silt curtain installation mechanism is easy to understand and can be applied easily :

- 1) Prepare the silt curtain.
- 2) Combine the buoy with a stretch of silt curtain and tie it up.
- 3) Bring the silt curtain to the water area that will use the silt curtain pairing.
- 4) Attach the anchor block as a stake
- 5) Bring the anchor block using togbuat to the desired location

With the installation of this silt curtain, it can minimize the damage to the marine ecosystem, this is done so that the marine ecosystem is maintained and remains sustainable because in fact if the waters are clean and healthy free from damage we ourselves can feel the good impact, otherwise if we do not make efforts to preserve the aquatic environment then the bad impact is also us who feel it.

If the sea or coastal waters are maintained fishermen will easily make their livelihoods. and because the sea is also a means of carrying out economic activities, coastal waters must be maintained to make it easier for people to carry out activities related to the beach.¹⁰

4. Solutions to Overcome the Effects of Beach Reclamation on the Environment

Waste is a problem that has not been resolved until now, especially in our country Indonesia. While day by day the waste generated every day by humans is increasing. This of course can have a big impact on life in the future, the more waste produced along with the increasing population of Indonesian society will certainly produce more volume of waste from each activity.

The volume of waste will always increase and will continue to accumulate if there is no solution or way to solve the increasing waste. In this way, Indonesia must certainly be active and aware of marine sustainability in handling the reduction of marine debris, as one of the sustainable efforts for

¹⁰ Irianto Kandedan, Meminimalisir Kerusakan Yang Diakibatkan Oleh Reklamasi Terhadap Air Laut

marine protection of its resources that should not be wasted in both national and global contexts.

Waste generated from human activities either directly or indirectly will continue to pollute the environment. Waste in some parts of the sea in Indonesia is polluted due to waste of various types. Garbage in the sea comes from several factors, namely garbage carried by the flow of rivers that lead to the sea. Humans who do not pay attention to environmental sustainability such as throwing garbage into rivers that flow into the sea, causing garbage to be carried and mixed in the sea which will result in pollution of sea water which mixes will produce content in it containing harmful substances.

Trash thrown directly into the sea is an act of apathy and as if the action is not wrong even though this action can damage the sustainability of the sea itself. Where the sustainability of the sea includes ecosystems that exist in the sea and marine biota is increasingly polluted by the amount of garbage in the sea.

Various kinds of waste that can pollute the sea include plastic waste, organic waste, wood, metal, and even unused household items found in the sea. Waste generated by society, including plastic waste, cannot be avoided in Indonesian seas. Plastic waste usually collects at several points of the sea which can be called the convergence zone, which is a large sea area zone where cold and hot ocean currents meet and can cause waste to continue to flow in the sea until it is trapped and collected in the zone. The garbage that collects consists of various kinds of garbage

Plastic waste is waste that cannot be separated from our daily lives. Plastic is made from synthetic polymer materials made by a polymerization process that has properties that cannot be decomposed or degraded so that this plastic waste can make a very influential factor and can endanger the environment. If this happens continuously and cannot be controlled, it will be detrimental in the long run because the presence of plastic waste in the sea can damage the marine ecosystem and the food chain and marine biota that can be eaten by these animals.

Plastic waste can kill coral reefs, this can happen because coral reefs will be buried by garbage and will not be able to grow and develop properly and even the coral reefs can die. Plastic waste that buries at the bottom of the sea will hold water so that it is difficult to be absorbed into the soil and air circulation in the soil will be hampered. Coral reefs are a shelter for marine animals and coral reefs can function as coastal protection from erosion when there are high ocean waves.

When coral reefs are covered with garbage, marine animals are not protected, which makes them vulnerable to death. Animals such as dolphins, turtles, small fish, and other animals will also be polluted because the fish can assume that the garbage is edible food for marine animals, which could be

made or contain hazardous chemicals and consumed by marine animals to cause poisoning that results in the death of the animal.

Metal waste is also found in the sea, metal waste is waste that comes from waste that has oil content in it. This waste allows the presence of metal content in it. This pollution does not only affect the marine ecosystem, humans can also get the impact considering that humans also need food and water for survival and to fulfill their daily activities.

If sea water is polluted, the water used by humans can also be polluted and can cause disease for humans because polluted water contains bacteria or harmful content for humans, and also if humans consume marine animals and these animals are polluted, of course, there will be diseases because the animal's bacteria are not healthy.

The preservation of the marine ecosystem environment is very important, the preservation of a clean and good environment can have a good impact on all human life, because the sea can be utilized as marine ecotourism, namely coastal and marine tourism activities developed with marine conservation so that tourists who come not only can enjoy the beauty or observe the sea both from its coral reefs but tourists can also be invited to preserve the marine ecosystem. Marine waste pollution can be avoided by the way we as humans must care about the environment, by reducing the use of materials that are only used once, this is because these materials cannot be reused.

Waste generated by humans can be prevented by applying the 3R concept, namely.

- 1) Reuse which means reusing these items, Reduce which means reducing the use of disposable items and replacing them with environmentally friendly items, Recycle which is recycling unused items so that they can be reused. That way the waste will be reduced and will no longer create environmental pollution so that the sustainability of the marine ecosystem can occur.¹¹
- 2) Warning Banners, with warning banners installed near the direction of the beach road, visitors can read the banners and remember not to throw garbage around the sea. With this warning banner, people are expected to realize not to litter.
- 3) Waste banks, with the idea of providing a waste bank around the beach, might be one solution to the problem of marine litter. Because with the existence of this garbage bank can show environmental awareness, sometimes people litter because there is no trash can provided. The waste can also be used to recycle and make something more useful. This way the garbage does not increase more and more.

¹¹ Ratri Wikan Ningsih, Dampak Pencemaran Air Laut Akibat Sampah Terhadap Kelestarian Laut di Indonesia

- 4) Providing sanctions to perpetrators who litter, with the implementation of sanctions, the people who do it can become a deterrent. The sanctions in question could be to carry out social service activities for 1 week and these activities can certainly indirectly be a deterrent effect for people who litter.

CONCLUSION

This reclamation activity is an activity that can be detrimental and can damage the sustainability of the marine environment and can damage the habitat or residence of fish in the sea, but this reclamation activity also has a positive impact in it, among which is to prevent erosion and improve water habitat when viewed from the approach of the waters. In addition to the adverse effects of reclamation that can damage the sustainability of marine waters, garbage can also cause damage to the marine environment and can damage the scenery in the sea or beach. Waste is the residue of daily human activities or natural processes that are solid or semi-solid, the lack of awareness from the community related to the indiscriminate disposal of waste on the beach is very bad effect on the beauty of the beach, in addition to causing unpleasant odors garbage can also be a nesting place for diseases and can also disturb the beauty of the beach that will be used as a tourist spot. Various kinds of garbage that are often found in marine waters or beaches include plastic waste, wood, metal and even unused household items on the beach.

These two problems of garbage disposal and beach reclamation can be solved in various ways. How to prevent garbage disposal around the beach can be done by providing understanding to the community regarding the importance of maintaining environmental health in order to be free from diseases due to large piles of garbage, besides that it can also be done with the 3Rs, namely: Reuse, Reduce, and Recycle, while how to prevent and overcome coastal reclamation can be done by using silt curtain. This silt curtain is a barrier curtain installed in sea waters to prevent the spread of polluting materials and can also prevent pollution from the spread of fine soil that causes turbidity in the water due to a construction on the beach or reclamation.

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