



Legal Perspective of the Protection of Mangrove Forests in Mandalika from Tourism Activity

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Abstract. The government of Indonesia has designated the Mandalika area as one of the 5 leading tourist destinations. Apart from its very beautiful nature, Mandalika has also become famous because of the construction of the Pertamina Mandalika International Circuit. With the construction of hotels and improvements to tourist facilities in Mandalika, it is hoped that it will increase tourists coming to Mandalika so that it can improve the community's economy. However, with development and the large number of tourists coming, it is necessary to pay attention to environmental protection in Mandalika, especially the mangrove forests which buffer the coast and also live in various marine biota. Law number 32 of 2009 concerning environmental protection and management regulates the need to protect the environment from human activities. In Law Number 10 of 2009 concerning Tourism, it is also stated that one of the objectives of tourism is to "preserve nature, the environment and resources". Apart from that, there are also regional regulations in NTB that regulate the environment which can be used to study the protection of mangrove forests in Mandalika. The research method was carried out in a normative juridical manner, namely analyzing existing regulations so that they can be implemented so that mangrove forests can be protected. Research results in Some mangrove forests in Mandalika are still protected and the government is also planting mangroves in collaboration with NGOs and the TNI, however, several areas of mangrove forests have been damaged due to the construction of roads for tourism-supporting infrastructure.

Keywords: MPR Annual Session, Performance Report, Convention, Good Governance.

1 Introduction

Indonesia is already famous for its natural beauty, foreign tourists know Indonesia for the beauty of Bali as the island of the gods, but beautiful and unique tourist destinations are not only in Bali but also in other places such as Lombok, Java, Sumatra, Kalimantan/Borneo, Sulawesi and Papua.[1] In 2021, the Government of Indonesia has designated five superior tourist destinations or super-priority locations, such as Likupang in North Sulawesi, Laboruan Bajo in East Nusa Tenggara (NTT), Mandalika in West Nusa Tenggara (NTB), Borobudur in Central Java, and Lake Toba in North Sumatra. As one of the five priority tourist destinations, Mandalika will of course be prepared to become a tourist destination for both local and foreign tourists. As is known,

currently an international circuit has been built which is an attraction in itself for coming to Mandalika.

The Mandalika area is being developed in a comprehensive manner, which includes building telecommunications networks and accessible infrastructure like roads, as well as developing tourism items and preparing people resources.

The environment always has an impact from the development in general, the development of the Mandalika area will also have an impact on the environment, although of course before implementing the development an Environmental Impact Analysis or AMDAL has been made. Some of the impacts on the environment from development in Mandalika are the impact on coral reefs, seagrass beds, and animals around activities such as turtles and fish.

One environmental ecosystem that also needs attention is mangrove forests, because the benefits of mangrove forests are habitat for several types of fish, and also help prevent abrasion. Apart from that, mangrove forests also function as oxygen producers which can reduce greenhouse gases. Currently, the government is encouraging increased forestation of 2 million hectares of coastal areas by planting mangroves, because Indonesia is expected to become the lungs of the world by contributing 75 percent of carbon credits. [2] Thus, mangrove forests can be a solution for disaster mitigation.

In tourism development in Mandalika, The Indonesian Tourism Development Corporation (Persero) has been appointed by the Indonesian Government to manage Mandalika which is referred to as The Mandalika, and formed the "Indonesia Tourism Development Corporation" (ITDC). The Mandalika itself will have a variety of tourism such as halal tourism, MICE (Meeting, Incentive, Conference, Expo) facilities, sports, and ecotourism. [3] With this development plan, efforts need to be made to protect the environment. One effort to protect the environment is through regulation, including regulations regarding the protection of mangrove forests. For this reason, it is necessary to see whether the current regulations can protect the mangrove forests in Mandalika concerning development for tourist purposes as a consequence of Mandalika's designation as a leading tourist destination in Indonesia. Indonesia has seen an increase in the number of foreign visitors, according to data from the Ministry of Tourism and Creative Economy for 2022. The contribution of the tourist industry to the nation's GDP and foreign exchange reserves has been significantly impacted by this increase. The tourist industry's share of Indonesia's GDP was a meager 5.05% in 2020, but it increased to 5.60% in 2021 and 6.05% in 2022. [4] This figure certainly increases from year to year, especially for Mandalika where after the functioning of the Mandalika circuit the number of tourist visits to Mandalika increased.

2 Mangrove Forest in Mandalika

The area of Lombok island is around 5435 km², and this island is part of West Nusa Tenggara (NTB) Province. Apart from being famous for the Kuta Mandalika circuit which covers an area of around 1,035 hectares, Lombok is also famous for its natural tourism such as the Beach at Senggiggi and the Beach at Mandalika as well as cultural tourism. The area of mangrove forests in Lombok is around 3,400 thousand hectares,

but only around 1,600 hectares, or 49.8% are still in good condition. Meanwhile, the rest still require intensive handling because they are damaged.

Due to their inability to tolerate freezing conditions, mangrove forests can only be found growing in tropical and subtropical latitudes close to the equator. The purpose of mangrove forests is to stabilize the coastline and lessen erosion caused by tides, waves, currents, and storm surges. Fish and other creatures looking for food and protection from predators are drawn to mangrove forests because of their complex root systems. [5] Because of their special geographic location (coastal areas), they are excellent tourist destinations and are home to a variety of terrestrial and marine organisms, including juvenile reefs and numerous commercial species, as well as crucial habitats for species diversity. Mangrove forests are home to native plants and animals and are extremely productive ecosystems, with primary production rates comparable to those of tropical humid evergreen forests. [6] Mangroves are crucial for reducing the effects of greenhouse gases produced by human activities like industrial processes, agriculture, and deforestation. Over time, the carbon fixed by mangrove plants and stored in biomass and sediment organic matter is impacted by a combination of biotic and abiotic factors. [7] As part of this mitigation, CO₂ is extracted from the atmosphere, and mangrove plants then store carbon in their biomass both above and below ground. Because they store 3.1 billion tons of carbon, which is equal to the greenhouse gas emissions from about 2.5 billion cars driven annually, Indonesia's mangroves have also lessened the effects of climate change. [8] Despite making up fewer than 1% of all tropical forests worldwide, mangroves are essential to reducing climate change because their soils are excellent carbon sinks.[9] According to Mandalika locals, mangroves lower the risk of flooding and act as a barrier against seawater abrasion. They protect local residences and means of subsistence.10. As previously said, "Mandalika" is a location in West Nusa Tenggara that is well-known for its Moto GP course and breathtaking surroundings.



Indonesia Ministry of Tourism and Economy Creative [10]

To become a vital tourist destination, we have to protect the environment of Mandalika, especially the mangrove forest. Mangroves in Mandalika grow on the coastline and river mouths, as a home for small fish and a nest for birds. The Mandalika SEZ's

mangrove ecosystem is home to 33 different bird species from 9 different groups. Additionally, the study discovered that the Scolocidea family of birds is a kind of water bird that frequently inhabits mangrove environments. Furthermore, migratory birds make up the family of birds present in the Mandalika SEZ's mangrove ecosystem. [11] When migratory birds are present in an area, it usually means that new food sources have been discovered and that the environment is not too harsh. Mangroves in Mandalika not only protect fish and birds but also give benefits to the local people. Mangrove forests can also generate economic income for local communities, through tourism, fishing, and wood utilization.

3 International Convention for Protecting Mangrove

a) Ramsar Convention on Wetland

This Convention was signed in Ramsar, Iran in 1971, and entered into force in 1975. The mission of this convention was “the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world” [12] Mangroves are part of a wetland, as mangrove swamps are coastal wetlands found in tropical and subtropical regions such as in Indonesia.

According to Article 1, wetlands are defined as areas of marsh, fen, bog, or water, whether man-made or natural, temporary or permanent, with flowing or stagnant fresh, brackish, or salt water, including marine water areas with a depth of no more than six meters at low tide. The Ramsar classification system states that [13] mangroves are categorized as wetland types as intertidal forested wetlands.

The Convention's Article 3 stated that the Contracting Parties must develop and carry out their plans to support the preservation of the wetlands on the List and, to the greatest extent feasible, the prudent use of wetlands on their land. The Ramsar Convention acknowledges the significance of mangroves in delivering vital ecosystem services and supporting human livelihoods, including food production, biodiversity support, flood and drought protection, and their vital function as carbon sinks.[13] One instrument that can help Indonesia and other Ramsar Contracting Parties, especially those without national mangrove monitoring, is the Global Mangrove Watch. As a signatory to this treaty, Indonesia will have plans to support the preservation of wetlands, especially mangrove forests. Designating appropriate wetlands within its borders for inclusion in a List of Wetlands of International Importance is what the list means. An essential part of the Ramsar Convention is the strategy plan 2016–2024 for the preservation, conservation, and restoration of mangroves and other blue carbon ecosystems.¹⁶ As is well known, mangroves are a fantastic investment that may be used to store carbon, maintain biodiversity, and increase climate resilience.

b) Convention on Biodiversity

This convention known as CBD 1992, was signed in Rio de Janeiro Brazil, as one of the Earth Summit's results. As a component of sustainable development, biodiversity protection is a universal human concern and an essential step in the development process. A worldwide resource that is extremely valuable to both current and future generations is biological diversity.

The conservation of biological variety, the sustainable use of its constituent parts, and the just and equitable distribution of the advantages resulting from the use of genetic resources are the goals of this Convention, according to Article 1. The diversity of living things from all sources, including terrestrial, marine, and other aquatic environments, is what makes mangroves a component of biodiversity. The fundamental tenets of biodiversity are that, while states have the sovereign right to utilize their resources in accordance with their environmental policies, they also have an obligation to make sure that activities under their control or jurisdiction do not harm the environment of other states or regions outside of their borders. Additionally, this idea is mentioned in the Stockholm Declaration and the Rio Declaration, particularly in Principles 2 and 21 of the latter two.

4. Indonesian Regulations for Protecting Mangroves

1) Law Number 32 year 2009 on The Protection and Management of the Environment

According to Article 3, the goals of environmental management and protection are to ensure ecosystems and the continuation of life, maintain environmental functions, attain environmental harmony, synchronization, and balance, and ensure justice (fairness) for the benefit of current and future generations.

Furthermore, the duty to manage pollution and/or environmental harm must be carried out for the purpose of environmental conservation, which includes prevention, solution (overcoming), and recovery, according to Article 13. The local government and people in charge of the projects and/or activities should exercise this control in accordance with their duties, responsibilities, and authority. In Mandalika then the Nusa Tenggara Barat government and the ITDC Mandalika have the responsibility to control that activity including tourism not damaging the environment as well as the mangrove ecosystem.

Some instruments that should be taken to prevent pollution and/or damage to the environment are making standard criteria for environmental damage, making the Environmental Impact Assessment (EIA), analysis of environmental risks, and issuing permits. In order to make sure that the concepts of sustainable development have been integrated into regional development and/or used as the foundation for policies, plans, and/or programs, government and local government must perform strategic environmental studies (Article 15). The conservation of natural resources through their protection, preservation, and sustenance are some of the methods that environmental maintenance must be carried out.

There are sanctions for those who breach this law and damage the environment which consist of administrative sanctions, Criminal sanctions, and paying compensation.

The first-grade sanction is an administration sanction such as a warning letter from the government, government coercion, freezing of the permits, and revocation of permission. If there is any pollution happened which causes losses the polluter has to pay compensation for the losses. The last sanction is criminal as an ultimum remedium, [13] in the form of imprisonment and fines.

2) Law Number 5 year 1990 on Biodiversity and its Ecosystem

The complete title of this law is “The Conservation of Living Resources and Their Ecosystem”, which says that the development of living resources and their ecosystems is generally an integral part of sustainable national development.

The principle of conservation of living resources in this law shall be based on the principle of harmonious and balanced sustainable utilization of living resources and their ecosystems.[14] Furthermore, Article 5 states that the conservation of living resources and their ecosystems shall be brought about through the following activities:

- a) Life support system protection;
- b) Preserving the variety of plant and animal species as well as their environments;
- c) The sustainable use of ecosystems and living resources.

Therefore mangrove conservation must also pay attention to protecting the life support system, and sustainable utilization of mangroves and their ecosystem. The life support system of mangroves is the soft sediment sand, and harsh saline environments. Prop roots offer a sturdy support structure by descending from the trunk and branches. Black mangrove trunks are encircled by shallow roots, which increase the tree’s structural stability [15]. Because of their adaptations for salt exclusion or salt excretion, mangroves can survive in salinities, which effectively reduce competition from other plants. Together with salt levels, shifting tides lessen competition from other plant species.[16] The water’s temperature also affects the survival of mangroves because they can’t withstand temperature swings above 18° F (10° C) and can only withstand temperatures above 66° F (19° C).

According to Article 10, planned and ongoing restoration activities must be undertaken after deterioration within a life support system area caused by natural processes or careless use of other causes. Additionally, preserving the integrity of natural sanctuary reserves in their original state will help to preserve natural resources and their ecosystems. According to Article 26, the nature conservation area’s natural conditions must be used to achieve the sustainable use of living resources and their ecosystem.

3) Law Number 10 Year 2009 on Tourism

Indonesian Law on Tourism Number 9 year 1990, replaced by Law Number 10 year 2009. One of the principles applied to this law is the protection of human rights, this law states that tourism in Indonesia must uphold human rights, and the right to have the opportunity to meet tourism needs is the right of every person.

To protect the environment from tourism, it should be managed with some zones, and tourism strategic zone shall be determined with due observance of some aspects such as the protection of certain locations having strategic roles in preserving the function

and supporting power of the environment. This tourism strategic zone must observe the people's culture, society, and religion. This law also mentions the obligation of the government, which states that The Government shall be obliged to supervise and control the tourism business in preventing, and controlling various negative impacts to the society at large.

Furthermore, Article 26 mentions that Every tourism entrepreneur shall be obliged to some actions such as participate in and prevent all kinds of actions against morality and actions that violate the law within the environment and its business, as well as maintain the preservation of the naturals and cultural environment, and maintain a healthy, clean, and pleasant environment. Article 27 mentions the prohibition, that Everybody is prohibited from damaging part of or the entire tourism physical attracting power, as damaging tourism power of attraction shall be any action by changing the color, the form, eliminating certain special species, and polluting the environment.

Regarding tourism in Mandalika, especially protecting the mangrove forest, entrepreneurs, and tourists have to preserve the mangrove forest with this law.

4) Regulation Of Minister of Tourism and Creative Economy Number 9 of 2021 on Guidelines for Sustainable Tourism Destination

These guidelines for sustainable tourism destinations are references for the Government, local governments, and other stakeholders in the development of sustainable tourism destinations. This regulation mentioned that there have been assessed before determining sustainable tourism destinations, and the assessment is carried out based on the standards, criteria and indicators of sustainable tourism destinations.

The Minister carries out the development of sustainable tourism destinations through mentoring, monitoring, and award schemes.

5. The Effort to Protect Mangrove Forest in Mandalika

Mandalika is a part of West Nusa Tenggara Province, and the vice Governor of West Nusa Tenggara Province said that in 2019 of the 3,400 thousand hectares of mangrove forest on Lombok Island, only around 1,600 hectares, or 49.8% are still in good condition. Meanwhile, the rest, said the Deputy Governor, still require intensive handling because they are damaged.[15] Some actions have to be taken so that mangrove forests can be protected from damaged, and conservation and rescue measures are needed. The responsibility of the action to protect mangroves is not only the government that does this, but citizens and communities must also take part in efforts to save mangrove forests.

The government have to ask the public community in Mandalika to participate in the protection of the environment based on their local wisdom. The role of the community is to repair damaged mangroves, not only in the recovery of mangrove forests, but also in making the awareness to protect the environment. People in Mandalika have the impact of the tourism activity, they have new jobs as tour guides, motorbike and car rentals, souvenir merchants, etc. Especially with the Mandalika Moto GP Circuit which

is famous around the world, so many foreign tourists come to Mandalika. The tourists not only come for the Moto GP, but also to see the beautiful beach, and view in Mandalika including mangrove forests. Tourism has a multiplayer effect, that is, the effect of tourism will have an impact on other sectors. So the role of public participation is one of the important parts of protecting the environment as they need this environment to attract tourists. Other public participation for tourism are in maintaining security in Kuta Mandalika area, and making the community clean, as many people are aware of it and pay attention to cleanliness. The pillars of Kuta Village are a pearl of local wisdom: obeying (Manuh), feeling care and belonging (Merang), and prohibition (Malik). [16] The government also plays a role in the effort to protect mangroves in Mandalika especially the Ministry of Tourism such as building the State-Owned Enterprises PT. Indonesia Tourism Development Corporate (ITDC), to manage Mandalika area, providing training for the community as tour guides, hawkers, and hoteliers. Beside of training government also take part in related socialization with the importance of protecting tourism areas and processing waste as well as reduce plastic waste. Community-based mangrove areas also need to be encouraged, including through social forestry schemes. Apart from involving the community in the conservation process, it also provides economic opportunities through community-based ecotourism.[17] Regulations also need to be prepared by the government to regulate all tourist activities including protecting the environment.

Last but not least the role of the entrepreneurs, both hotel and restaurant, is also important in building tourism in Indonesia. There are some roles for entrepreneurs in tourism, one of the roles of an entrepreneur is to become a driving sector for new industries and accelerate the improvement of the people's economy, and regarding the mangrove forest, entrepreneurs have to protect the environment. Tourism entrepreneurs have made efforts in environmental protection by carrying out tourism development environmentally friendly. Apart from that activities, damaged mangrove forests have also been replanted, both on the initiative of the community and also from the government.

6. Conclusion

Mangroves are a natural buffer from erosion, tsunamis, and storm-driven wind and waves. Mangroves are an attraction for tourism, but on the other hand, mangroves can be damaged due to tourist activities. Apart from regulations to prevent environmental damage, there are also regulations regarding tourism. Various efforts have been made to protect the environment and restore mangroves in Mandalika, including by empowering local communities, conducting outreach, and appealing to the community and business actors to protect the environment. The local wisdom of the Mandalika community can also be applied in protecting mangrove forests as well as replanting damaged mangrove forests.

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