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Utilization of Coral Reefs as Tourism Potential (Study literature)

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Abstract: Tourism is also generally called tourism, in his book Warpani (2007), says that the use of the word tourism only became popular in 1958. Before that the word tourism was still used, which is an absorption of the Dutch word tourisme. After 1956, the word tourism officially became the equivalent of tourisme. The next development and enrichment of meaning is the presence of the terms field trip, field trip, field trip, all of which contain elements of "tourism". In organizing an area into a recreation area, innovation is needed in terms of building infrastructure such as transportation, hotels, as well as security and comfort for tourists. Poor innovation will find it difficult to enter the community and ecology-based recreation business. It's not just an innovation bomb, meaning it's not just made once but is valid forever (sustainable).

Key words: Marine Tourism, tourism potential

INTRODUCTION

Coral reefs and all the life in them are one of the natural riches owned by the Indonesian nation and are priceless. It is estimated that the area of coral reefs in Indonesian waters is more than 60,000 square km, spread widely from the waters of Western Indonesia to Eastern Indonesia. Indonesia is home to around 1/8 of the world's coral reefs and is a country that is rich in diversity of aquatic biota compared to other Southeast Asian countries.

The coral reef ecosystem, which is one of the coastal ecosystems, has a very important role from both ecological and economic aspects. Ecologically, the coral reef ecosystem is a place for various organisms associated with it to take shelter, find food and reproduce. Besides that, the existence of a coral reef ecosystem can protect beaches from waves and abrasion. Meanwhile, economically, the beautiful coral reef ecosystem is an attractive marine tourism object and is a potential fishing ground area, especially for traditional fishermen.

The term coral reef actually means a combination of reef and coral. In general, reefs can be interpreted as a hard substrate in marine waters which is a habitat for various marine biota.

The abundance of nutrients in the coral reef ecosystem makes it an ecosystem that is rich in various marine biota that rely on this environment, both as a place to find food, a place to spawn and for shelter, the coral reef ecosystem also has another role in protecting the coast from the waves as well as being an area that is able to provide environmental services that have high economic value.

Research methods

Reviewing papers in several libraries and journals.

DISCUSSION

Ecotourism

Ecotourism according to Fennel in Arida (2009) is sustainable nature-based tourism with a focus on experience and education about nature, managed with a certain management system and providing the lowest negative impact on the environment, not consumptive in nature and locally oriented (in terms of control, benefits that can be taken from business activities.

Ecotourism is a tourism activity that is unique in nature. In this case, only activities that contain "eco" elements can be included in ecotourism, namely paying attention to ecological, economic aspects and public perception, in particular there are experts who say that these ecotourism activities involve educational elements (Arida, 2009: 23).

Coral Reef Ecosystem

There are three types of coral reef structures in Indonesia, namely fringing coral

(fringing reef),barrier coral (barrier reef), and ring coral (atoll).

Coral reefs, especially fringing coral reefs, thrive in areas with sufficient waves and a depth of no more than 40m, so they play an important role as coastal protectors from pounding waves and strong currents originating from the sea.

Apart from that, coral reefs have a main role as habitat, feeding ground, nursery ground and spawning ground for various biota that live on coral reefs (Bengen, 2001).

The photosynthesis process for zooxanthellae depends on the penetration of solar radiation into the water column, so water depth and clarity are limiting factors for the growth and development of reefs and coral colonies. Sufficient solar radiation to support the photosynthesis process of coral reef zooxanthellae that occurs at that depth and water clarity is related to the natural sediment content of the waters. On the one hand, high sediment content will inhibit the penetration of solar radiation, thereby reducing the amount of radiation needed for the photosynthesis process, on the other hand, sediment deposits on the surface of coral colonies cause corals to expend a lot of energy to clean themselves of the sediment. As a result, corals lose a lot of energy, while the photosynthesis process to produce energy is also hampered. This is what causes coral growth to be hampered (Nybakken, 1992).

Meanwhile, coral, which is a type of animal from the order scleractinia, produces calcium carbonate (CaCO3) from its secretions. Single coral animals are generally called polyps. So a coral reef is an ecosystem on the seabed in tropical areas that is formed from lime produced by secretions of marine biota, especially types of coral and calcareous algae together.

with other bottom-living biota such as molluscs, crustaceans, echinoderms, polychaetes, porifera, and tuna as well as biota that live freely in the surrounding waters, including types of plankton and nekton (Sumich and Dudley, 1992).

The different meanings of each word for coral reefs indirectly indicate that corals are divided based on their formation. There are two groups of corals based on their formation, namely hermatific corals and ahermatific corals. The difference between these two groups of corals lies in the ability

of hermatific corals to produce reefs. This ability to produce reefs is caused by the presence of symbiotic plant cells in the hermatific coral tissue. These plant cells are called zooxanthellae.

Dahuri, et al. (2001), said that hermatific corals are only found in tropical areas, while ahermatific corals are distributed throughout the world. Zooxanthellae through the process of photosynthesis help provide food and oxygen for the polyps and also help the process of forming the limestone skeleton and give color to the coral. On the other hand, coral polyps produce metabolic waste in the form of carbon dioxide, phosphate and nitrogen which are used by zooxanthellae for photosynthesis and growth (Nontji, 1993). According to Nyabakken (1992), coral reef ecosystems have the ability to retain nutrients in the system so that they are fertile ecosystems and have high organic productivity. Coral reef ecosystems can be used as marine tourism objects because coral reef ecosystems are rich in a diversity of species and inhabitants due to the varied habitats in coral reef ecosystems (Dahuri et al., 2001).

Apart from their ecological function, coral reefs are also beautiful because of the presence of various types of coral, fish, sea lilies, sea cucumbers, shellfish, sea snails, and so on, which amaze tourists. Coral reefs can become tourist attractions through snorkeling, diving, or just seeing their beauty from a boat equipped with glass on the floor (glass bottom boat) (Yusri, 2012).

Based on the growth and relationship with the mainland, coral reefs can be divided into 3 types, namely, fringing reefs, the majority of which are in coastal areas up to a depth of 40 m, which grow upwards and lead to the open sea, their development surrounds the island, barrier coral reefs (barrier reef) is relatively further from the island, around 0.52 km towards the open sea in the form of a water boundary with a depth of 75 m, generally located around very large islands, forming clusters of discontinuous coral islands, and ring-shaped coral reefs (atolls). surrounds the boundaries of submerged volcanic islands so that there is no barrier reef border, with an average depth of 45 m. However, Indonesia has one characteristic shape of coral reefs, namely charred coral reefs. These reefs grow from the bottom up to the surface and, over geological time, help form flat islands. Generally these islands will develop horizontally or vertically with relatively shallow depth (Castro and Huber, 2005).

Marine tourism

Tourism is also generally called tourism, in his book Warpani (2007), says that the use of the word tourism only became popular in 1958. Before that the word tourism was still used, which is an absorption of the Dutch word tourisme. After 1956, the word tourism officially became the equivalent of tourisme. The next development and enrichment of meaning is the presence of the terms field trip, field trip, field trip, all of which contain elements of "tourism".

According to Pendit (2002), tourism is literally taken from the Sanskrit word which comes from 'wis' which means house, village or community, and 'ata' which means to wander or go continuously. According to the Language Center (2008), tourism means traveling together, either for the purpose of expanding knowledge or just having fun. Law Number 10 of 2009, Chapter I Article 1 Point 1 reads "Tourism is a travel activity carried out by a person or group of people by visiting certain places for personal or temporary development recreational purposes". In a tourism activity, the actor or person carrying out the tour is called a tourist. Based on all the definitions that have been put forward, we can find similarities in all of these definitions which refer to three things, namely, the actor, the object in the form of place, and time.

Tourist activities certainly have an attraction as objects that make tourists come and want to enjoy, observe or learn. So in tourism activities this attraction is very important. Therefore, according to tourism activities, tourism must maintain and ensure environmental sustainability (Warpani, 2007). However, preserving the environment is not easy. The number of tourists visiting areas with pristine environments has increased sharply in recent years. Therefore, there is a need for the concept of regional carrying capacity in a tourist area. The carrying capacity of the area is one part of the ecotourism concept.

In the Minister of Home Affairs Regulation Number 33 of 2009 concerning the Development of Ecotourism in the Regions, ecotourism is divided according to type, namely, marine ecotourism, forest ecotourism, mountain ecotourism and karst ecotourism. Like the concept of ecotourism in general which is environmentally based, determining the carrying capacity of marine tourism areas is more specific to the wise and environmentally friendly use of coastal and marine ecosystems. As emphasized by Yulianda (2007), marine ecotourism is ecotourism that utilizes the character of coastal and marine resources. Marine ecotourism is a concept of environmentally friendly marine tourism or activities oriented towards environmental sustainability to bridge the interests of protecting natural resources and the tourism industry (Yulianda, 2007).

Nurisyah (1998) in Lewaherilla (2002), believes that the diversity of coastal areas in marine tourism activities is its own attraction, so that the types of use of coastal and marine areas as marine tourism areas can be divided into activities carried out in the waters and activities carried out on the beaches. Types of activities in the waters include boating, swimming, snorkeling, diving and fishing. Meanwhile, activities on the beach include beach sports, picnics enjoying the sea atmosphere, and so on.

According to Ketjulan (2010), if viewed from a conservation aspect, marine ecotourism is part of activities to conserve coastal and marine resources because ecotourism development is based on damage to ecosystems or resources due to tourism activities or other activities that have negative impacts. Ketjulan (2010) added that marine tourism activities can result in a decline in the quality of resources so that it is necessary to utilize coastal and marine resources while still paying attention to the balance between utilization and preservation of object resources from tourism activities by carrying out sustainable management. Not much different, based on the definition of ecotourism, Tuwo (2011) concluded that marine ecotourism is tourism based on coastal and marine resources by including aspects of education and interpretation of the natural environment. However, in this case the ecotourism concept applied only includes physical carrying capacity. from tourist areas.

Diving Tourism

The world of diving was originally a series of sporting activities, so it has not been used as a medium for enjoying the beauty of the sea. As diving activities developed, their function began to change into activities to enjoy the beauty of the underwater world, which was then called diving tourism. According to Suhonggo (1998) in Santoso (1998), diving is divided into two categories, namely skin diving or scuba diving. Scuba diving is diving at the bottom of the water surface so that we can enjoy the underwater beauty more closely (Suhonggo, 1998 in Santoso, 1998).

In diving tourism activities, there are several categories that must be considered to determine the suitability of a dive location, namely, water brightness, coral community cover, coral type, coral fish species, current speed, and coral reef depth. Meanwhile, the carrying capacity for diving tourism must cover an area of 2000 m2 for two divers, within 8 hours a day (Yulianda, 2007).

Snorkeling Tourism

Skin diving has criteria for the suitability of a location to be used as a diving tourism location, not much different from scuba diving activities, in the form of water brightness, coral cover, types of coral lifeforms, types of coral fish, current speed and depth of coral reefs and added the width of the coral base, while to meet its carrying capacity, the area that must be available for a visitor is 500 m2, and the time required in a day is 6 hours (Yulianda, 2007).

Conclusion

In organizing an area into a recreation area, innovation is needed in terms of building infrastructure such as transportation, hotels, as well as security and comfort for tourists. Poor innovation will find it difficult to enter the community and ecology-based recreation business. It's not just an innovation bomb, meaning it's not just made once but is valid forever (on an ongoing basis

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