

## The Land Suitability Analysis for Ecotourism Development around Lake Tondano

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### Abstract

This review paper aims to analyze the development and potential of Ecotourism, especially in Lake Tondano. Sustainable Development includes three critical dimensions, namely economic, social (culture), and environmental. In order to analyze the development and potential of Ecotourism, especially in Lake Tondano. Benefits to add insight for students about the development and potential of Ecotourism. The method used is to collect several references by reviewing several journals about Lake Tondano and then concluding. The economic dimension, among others, relates to efforts to increase economic growth, fight poverty, and change production and consumption patterns in a balanced direction. The method used is to review several articles on the suitability of ecotourism land. The current condition of Lake Tondano should be of concern to us, especially the residents around Lake Tondano and the Tondano watershed. Besides that, the involvement of local and provincial governments that determine policies and development regulations around Lake Tondano,

*Keywords: environmental sustainability, economic dimension, development, tourism potential*

### INTRODUCTION

Indonesia is well-known for its wealth of diverse natural and cultural resources so that many tourists, both local and foreign, take a tour to enjoy Indonesia's natural scenery and cultural diversity as a tourist attraction (DTW). Current land use is an important thing to plan both in urban and rural areas. In regional development, it is necessary to carry out land planning that can provide regional economic benefits. When the land is managed according to its use, it will bring benefits to the area itself. However, from this land use, we also have to look at environmental sustainability aspects. Land use oriented towards sustainable development results in a decrease in environmental quality, damage to infrastructure and facilities, settlements, and even disasters that claim lives. Lake Tondano has the potential to be used as cultural and artificial natural tourism. The potential of tourism development the Lake Tondano also has an essential function for the economy because a vital role as a power plant for P.L.T.A. Tanggari, as a source of food (fish), a source of drinking

water (P.D.A.M. Manado), irrigation of rice fields, gardens, household needs around the lake, water sources for industry, transportation media. According to Sorey, T. D., Bisri, M., & Sisinggih, D. (2010), research in 2010 showed that 74% of the Lake Tondano watershed area was classified as light-moderate, while 26% was critical. Lake Tondano, which only has one outlet with 25 rivers, empties into the lake. They experience eutrophication for a long time if the substances cause eutrophication continue to enter and accumulate water. Lake conditions like this will require a long time for the overall water change to occur, known as the hydraulic retention time (Manu Gaspar et al., 2010).

## METHOD

**Destination:** In order to analyze the development and potential of Ecotourism, especially in Lake Tondano.  
**Benefits:** to add insight for students about the development and potential of Ecotourism. The method used is to collect several references by reviewing several journals about Lake Tondano and then concluding.

## DISCUSSION

### 2.1 Lake Ecotourism

The term ecotourism was first introduced in 1990 by the organization The Ecotourism Society as a trip to unspoiled areas that can convert the environment and maintain the welfare of local communities (Linberg 1993 in Yulianda 2007). Lascurian (1991) in Meduna et al. (2009) stated that Ecotourism is a tour to visit a relatively unspoiled place that aims to admire, study, and enjoy the scenery, wild plants, and animals well as the culture that is there. Lake is a water body in the form of a basin and is not directly related to the sea. In addition, lakes are also basins that occur due to natural events that collect and store rainwater, springs, seepage, or river water (Hehanusa in Emelia 2009). Aquatic ecosystems are divided into two, namely closed water ecosystems and open water ecosystems. Lakes are waters with open ecosystems (open systems), namely waters that are greatly affected by the condition of the surrounding environment and water lakes with open ecosystems. They also include rivers, swamps, reservoirs, lakes, and there. At the same time, closed ecosystem waters are waters, which are not affected by environmental conditions, such as swimming pools, cultivation ponds, and other artificial ponds (Pratiwi et al. 2010).

### 2.2 Sustainable Development

Sustainable Development includes three critical dimensions, namely economic, social (culture), and environmental. The economic dimension, among others, relates to efforts to increase economic growth, fight poverty, and change production and consumption patterns in a balanced direction. The current condition of Lake Tondano should be of concern to us, especially the residents around Lake Tondano and the Tondano watershed. In addition, the involvement of regional and provincial governments that determine policies and

development regulations around Lake Tondano must prioritize sustainable development that is environmentally sound so that there is a balance between economic fulfillment and environmental sustainability.

### **2.3 Sustainable Tourism**

Tourism that takes complete account of current and future economic, social and environmental impacts responds to visitors' needs, industry (tourism), the environment, and host communities. (U.N.W.T.O.). Lake Tondano is known as a tourist destination. Various tourism potentials are widespread in this coastal area of Lake Tondano. Lake Tondano is the largest lake in North Sulawesi Province, located in the Minahasa Induk Regency. It has approximately 4278 ha, is located at an altitude of 600 m above sea level surrounded by mountains, and belongs to 7 different administrative districts of the sub-district. Lake Tondano has a small island called Like, which is located in front of Tandengan Village, Eris District.

According to the Minahasa R.T.R.W. Regional Regulation 2014-2034 Article 33 paragraph 1, the designation of tourism is divided into 3 (three) parts: natural tourism, cultural tourism, and artificial tourism. The author takes 3 (three) tourist attraction locations representing tourism around Lake Tondano, namely: Cultural Tourism: Tourism Objects of the Moraya Fort Monument and Minawanua Cultural Heritage Tourism, Nature Tourism: Pine Valley Tourism Object, Artificial Tourism: Sumaru Endo Tourism Object.

Sustainable development can reduce social pressure on natural resources, where Ecotourism as special tourism can increase pressure on natural resources if tourist destinations do not use sustainable principles (Babu and Subramoniam 2009). Ecotourism resources include natural resources and human resources integrated into an integrated component for tourism utilization. Fandeli (2000) in Yulianda (2007) classifies tourism based on the concept of its use, including:

- a. Nature tourism is a tourist activity aimed at experiencing natural conditions or panoramic attractiveness.
- b. Cultural tourism (cultural tourism) is a tour with rich culture as a tourist attraction with an emphasis on the educational aspect
- c. Ecotourism (Ecotourism, green tourism, or alternative tourism) is environmentally oriented tourism to bridge the interests of protecting natural resources or the environment and the tourism industry.

### **2.4 Suitability and Carrying Capacity for Tourism**

In tourism, suitability includes the suitability of resources or potentials associated with the area of each tourism designation. Every tourism activity has resource and environmental requirements following the

tourism being developed (Yulianda 2007).

The carrying capacity of a water body used as a tourist area, influenced by the area and volume of water bodies and water movements. A lake with a depth and good water mixing and water change occurs quickly will have a greater carrying capacity than a narrow, shallow lake; the water is calm and experiences slow water changes. The lakes with a large volume of water, so that waves or currents mix it, the pollutants will be diluted and carried out of the lake by the outflow of water (Soemarwoto 2004 in Emelia 2009).

## Conclusion

In general, the tourism area around Lake Tondano can be developed into an environmentally friendly tourism area with the concept of Ecotourism. In its development, it must pay attention to environmental and cultural aspects and the empowerment of local communities. The development of sustainable tourism with the concept of Ecotourism through the preservation of Lake Tondano as an object and attraction of this tourist area.

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