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Identification of environmental impacts on the Tondano Coastal tourism area as the basis for the development of environmental documents

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Abstract---Environmental documents are the main requirement in development. The environmental document is prepared as a study in monitoring the quality of the environment both at the activity location and in the area around the development. The development of tourist

areas certainly requires a study of the identification of environmental impacts. This research is an initial effort to identify environmental impacts on the coastal tourism area of Lake Tondano as the basis for the preparation of environmental documents, including AMDAL, UPL-UKL and SPPL. Identification is carried out starting from the pre-construction stage, construction stage, and operational stage, so that by identifying all impacts, management efforts can immediately be carried out to reduce the impact of damage that will occur. The focus of the research is on the tourist area on the coast of Lake Tondano. The research method is descriptive qualitative, preceded by field observations of the types of tourism that exist and then described according to the stage of the identification of environmental impacts. The results of the research around Tondano are lake nature tourism, culinary tourism, historical tourism and trade. Furthermore, the results of the identification of environmental impacts in the pre-construction stage are related to public perception, the construction stage is the construction method and the operational stage is the impact on waste management.

Keywords---Identification, Environmental Impact, Lake Tondano.

1. Introduction

The development of tourist areas needs to pay attention to environmental sustainability and environmental impacts. This is done in order to continue to maintain environmental quality and minimize environmental damage. The current global conditions are in line with the sloping increase in the number of COVID-19 cases, tourism is reverberating again (Benjamin et al., 2020). The development of tourist areas is again encouraged of course by taking into account the rules of environmental sustainability. (Zenker & Kock, 2020). As one of the highest foreign exchange earners, tourism needs to continue to be developed with new approaches because this is one of the leading sectors in the national economy which is growing quite rapidly at this time. (Brohman, 1996).

Currently, tourism development in North Sulawesi Province is increasingly being established with the establishment of Likupang National Strategic Tourism Destination as one of the leading destinations. (Kawulur et al., 2021; Andaria et al., 2018). This condition certainly needs to be supported by the development of other surrounding areas such as the Lake Tondano area (SA Wowiling et al., 2013). Since 2009 international activities such as the World Ocean Conference (WOC), Coral Triangle Initiative (CTI) and Sail Bunaken have been held one after another with the aim of increasing tourism potential. (Siswahto, 2020; T. Wowiling, 2016). The attractions carried out contributed to the growth of sectors closely related to tourism, including the trade, hotel and restaurant sectors and the service sector. In subsequent years, until now, North Sulawesi is still a destination for holding international events, including of course by offering the tourism potential of Lake Tondano. (Kambey & Djati, 2016).

Tourism is one of the industries that make a major contribution to economic development in Indonesia (Mudrikah, 2014), need to be organized and managed from planning through environmental documents that are strict and directed according to the concept of sustainable tourism. On the other hand, the tourism sector is one of the main factors in environmental damage (Wibowo et al., 2017). Therefore, it is necessary to control efforts by applying the concept of sustainable tourism. Sustainable tourism is a development concept that pays attention to the balance of environmental, social and economic aspects (Clarke, 1997). Some of these developed tourist areas need to understand the design concept so that in future development they can support sustainable development (Haque et al., 2020) whereas sustainable tourism, as a whole and based on the five components of tourism, namely attractions, amenities, infrastructure, accessibility and institutions (Lane, 2018; Nunkoo, 2017). This success also needs to be watched out for because if it is not developed through a sustainable tourism approach it will result in social conflict, economic inequality and environmental degradation around the location of the Tourist Destination Area (Saarinen, 2019). The provision of facilities and infrastructure as well as infrastructure development in accordance with the sustainable principles of the tourism concept is important (Lane, 2018). These are important supporting factors in order to attract tourists to visit a tourist attraction (Mandić et al., 2018). This provides an opportunity to open up investment land for investors to develop Tondano with the potential of Lake Tondano as a major tourist icon. Currently, there are investors who invest their capital and open businesses in Tondano and its surroundings, especially investors from outside the region. The wider employment opportunities in the tourism sector have also opened up job opportunities for the surrounding community and increased their welfare (Higgins-Desbiolles, 2020). Regional Original Income from the tourism sector has also increased from year to year. However, in line with current global developments with the COVID-19 pandemic, it also affects tourism development (Mayaka et al., 2019).

Implementation of development is an activity that contains the risk of changes in environmental quality that can disrupt ecosystems and social. Therefore, in the implementation of wise development, it must be based on a principle of environmental insight as a means to achieve sustainability and become a guarantee for present and future generations. The Government of the Republic of Indonesia has issued a law that regulates environmental management. Along with the presence of Law No. 11 of 2020 concerning work creation, its derivative is in the preparation of environmental documents (Nobles et al., 2021). Derivatives regarding this rule are mandated in the PP. 22 of 2022 concerning the implementation of environmental protection and management (Kent, 2021). So that development is directed and does not damage the environment, it is necessary to comply with the development of the tourist area in accordance with regulations and pay attention to the licensing process (Izhar, 2021).

The regulation stipulates that every planned activity that is expected to have a significant impact on the environment must be accompanied by an environmental document (Effendi et al., 2021). Likewise with development activities on the coast of Lake Tondano, especially in tourist areas. Development activities at the pre-construction, construction and post-construction stages are expected to have an impact on the environment, if not managed with environmental quality standards.

It is also related to Enactment of Regulations for Mining Business Licensing Processes Through a Risk-Based Online Single Submission System according to PP Number 5 of 2021 (Mukhammad, 2021).

In the implementation of Environmental Management Efforts and Environmental Monitoring Efforts, a design is needed that can be used as a guide for implementation (Sukananda & Nugraha, 2020). This design is intended so that the implementation of UKL and UPL will be more focused and clear so that the implementation of UKL and UPL will be effective and efficient. For this reason, it is necessary to prepare UKL and UPL References as the scope of the analysis of environmental impacts that will be carried out. Environmental document preparation activities (AMDAL, UKL and UPL and SPPL) (Kent et al., 2021). becomes increasingly important to do because the aspirations, views and attitudes of the local community officially have a place to be accommodated. Identify planned development activities that will have a significant impact on the environment. The purpose of preparing environmental documents is to identify the environmental baseline that will be affected by the activities to be carried out.

Environmental documents are the main requirement in development. The environmental document is prepared as a study in monitoring the quality of the environment both at the activity location and in the area around the development. The development of tourist areas certainly requires a study of the identification of environmental impacts. Identification of environmental impacts on tourist areas around Lake Tondano as a basis for preparing environmental documents (Abdillah, 2020). The meaning of sustainable architecture is that tourism is developed not only sociologically and economically but also ecologically (Light, 2016). The design of this concept is to maintain natural resources to last longer, which is associated with the life of the vital potential of natural resources and the human ecological environment, such as agricultural, industrial, forestry systems and using materials that prioritize environmental quality, economic vitality and social benefits through building design, building operations and maintenance (Arrahman, 2021). This approach is used in this research.

2. Method

This research is an initial effort to identify environmental impacts on the coastal tourism area of Lake Tondano as the basis for the preparation of environmental documents, including AMDAL, UPL-UKL and SPPL. Identification of environmental impacts by preparing environmental documents for Environmental Management Efforts and Environmental Monitoring Efforts. Identification is carried out starting from the Pre-construction stage, construction stage, and Post-construction, so that by identifying all impacts, management efforts can immediately be carried out to reduce the impacts that occur. To determine the effectiveness of environmental impact management, monitoring can be carried out by authorized parties, such as supervisory consultants, contractors, proponents and related village parties. The focus is on developing tourism areas in an integrated and sustainable manner, which means paying attention to social, economic and environmental conditions. The research method is descriptive qualitative, preceded by field observations of the types of tourism around Tondano

and then described according to the environmental impact identification stage. The latest data related to activities and tourism were obtained through field observations and in-depth interviews with several informants. Interviews were conducted using snowball sampling technique.

3. Analysis and Discussion.

The purpose of this study is to identify the environmental impact of tourism in Lake Tondano as the basis for the preparation of environmental documents. The preparation of environmental documents needs to take into account the social, economic and environmental conditions at the development site during pre-construction – construction and operational activities. The approach to sustainable tourism in pandemic conditions is seen from three main sides, namely social, economic and environmental in order to realize sustainable tourism governance. The research was conducted at the location of Lake Tondano, Minahasa Regency, North Sulawesi Province, which is also one of the largest lakes in Indonesia. The observation results are then structured in the form of a model and then examined using an environmental document preparation approach. The time of conducting the research in October – December 2021.

In order to strengthen the observations, the researchers also conducted interviews with selected stakeholders to get input on the impact of development at the research site. At first, the researcher met basic informants, namely individuals who were met for the first time because they were considered to be 'door-openers' in the data collection process. Next, the researcher met several key informants based on the references given by the primary informants. Key informants are certain individuals who are judged to have mastered the issues to be researched and have sufficient expertise and insight regarding the preparation of environmental documents through the design of efforts to manage and monitor environmental impacts that occur.

3.1. Identification of Sources of Environmental Impact

Identification of the types of impacts that will arise, is intended to examine the possibility of environmental changes as a result of construction project activities, both activities at the pre-construction stage, construction stage, and post-construction stage. The identification of the types of impacts that arise as a result of the development of the area is presented as follows:

a. Pre-Construction Stage

- Impact Source :Survey and Permit, Land Acquisition
- Impact Type :Community unrest, Increased income.
- Impact Magnitude :Conditions like this show that the quality of the environment is decreasing, so it will have a negative impact. Loss of ownership of agricultural land will have an impact on decreasing environmental quality, so it will have a negative impact.
- Description: The community feels restless and worried that the compensation for land acquisition is not as expected, meaning that the results of the compensation cannot be bought for agricultural land elsewhere, Some people will

lose ownership of agricultural land which will soon turn into a puddle area which will turn into a place tour.

b. Construction Stage

- Source of Impact: Employment and Business Opportunities, Changes in Livelihoods, Air Quality, Increased Traffic Density, Road Damage, Decreased Public Health, Decreased Surface Water Quality, Increased Noise
- Types of Impact: The magnitude of the change in environmental quality is seen from job opportunities and opportunities to try to be better, Decrease in farmers' income, because not all farmers can easily switch professions, There will be an increase in exhaust emissions and dust from vehicles transporting materials and equipment as well as road dust that is passed, The level of road service is reduced, Damage to roads traversed by vehicles transporting materials and heavy equipment, Respiratory tract infections due to dust, Surface erosion occurs during the rainy season, Noise from heavy vehicles at a distance of less than 20 m is quite disturbing .
- Impact magnitude: The existence of employment and business opportunities will have an impact on improving the quality of the environment, so that it will have a positive impact magnitude, this condition has an impact on decreasing environmental quality to moderate, so it will have a negative impact magnitude,

c. Operational Stage

- Source of Impact: Increased Waste, Operationalization of Activities.
- Types of Impact: Periodic maintenance of the dam can prevent flooding, in the area around the dam such as Seririt District, Busungbiu District and several surrounding areas, Creating comfort, tranquility and satisfaction for the people of Busungbiu Village, Busungbiu District and several surrounding areas.
- Impact Magnitude: The impact of preventing inundation (flooding), erosion and sedimentation due to operational activities and maintenance of tourist areas and their supporting facilities has a large positive impact.
- Description: The impact of operational activities on the main facilities and their supporting facilities has a large positive impact on improving the welfare of the community and causing better public perception.

3.2.Types of Tourism and Results of Identification of Environmental Impacts in the Lake Tondano Tourism Area

The very rapid development of tourism around Tondano consists of several types of activities that affect social, economic and environmental conditions in particular. Observations show that there are several tourist areas that are developing and are shown as follows:

Table 1. ResultsIdentify Types of Tourism Around Lake Tondano

No.	Tourist Form	Location Name and Design Concept	Activity Identification	Impact Identification
1.	Lake Tourism Area	Luna' Kitchen, a tourism concept that	▪ licensing, ▪ Labor	▪ Public perception

		combines the nature of a lake and a wooden house.	▪ Recruitment, Mobilization of tools and materials, ▪ Construction of main and supporting facilities, ▪ Operation of main and supporting facilities	▪ Increased revenue, ▪ air, noise ▪ water, ▪ solid waste management, ▪ liquid waste treatment, ▪ implementation of K3.
2.	Culinary Tourism Area	KFC Tondano, a modern concept surrounded by a garden and a central church that gives a religious feel		
3.	Historical and Cultural Tourism Area	Fort Moraya, wide open space concept with tower		

Furthermore, the results of the identification of impacts and activities are concluded as significant impacts in accordance with the criteria for determining the DPH (Hypothetical Significant Impact) as the basis for determining the environmental impact criteria which are described as follows as listed below;

4. Conclusion

Identification of environmental impacts on tourist areas around Lake Tondano has an important value in tourism activities in North Sulawesi Province, especially since there is a main icon of Lake Tondano as a buffer area for the super priority tourist destination of Likupang. Therefore, the identification of environmental impacts must be able to support the concept of a sustainable, beautiful and beautiful design that must be maintained. In order for the tourism conditions to be sustainable and contribute to improving the welfare of the community, especially during the current pandemic, the application of the environmental impact mechanism is in accordance with the criteria for the preparation of environmental documents. With an analysis of environmental impacts, it will help to find out early and find solutions to problems that will arise in the construction of a project, so that later it will not harm many parties. Thus the development continues without causing unwanted impacts. As for suggestions for future development, First, it is recommended that each planned activity such as a large-scale or small-scale construction project, UKL and UPL studies should be carried out to analyze the impacts and find preventive solutions if negative impacts are found; Both UKL and UPL studies must be carried out in accordance with the stipulated statutory regulations;

5. Thank-you note

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