

GREEN MANAGEMENT IMPLEMENTATION: SUPPORTING MARINE TOURISM IN THE GILI ISLANDS NORTH LOMBOK

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Abstract

The Gili Islands in North Lombok have become a popular marine tourism destination, attracting tourists worldwide. The Gili Islands are renowned for their breathtaking natural beauty, pristine waters, and abundant marine life. However, increased tourist traffic raises environmental sustainability concerns. Growing recreational activities, including boating, diving, and snorkeling, may put a lot of strain on marine ecosystems, causing habitat degradation, upsetting species, and changing delicate ecosystems. Effective green management practices are necessary to protect the islands' distinctive ecosystems and sustain local communities' livelihoods. It is crucial that stakeholders and businessmen work collaboratively to implement green management practices that prioritize ecosystem conservation, facilitate community involvement, and promote responsible tourism. This study aims to examine green management implementation to support the sustainability of marine tourism in the Gili Islands. The study applied a qualitative descriptive method. The researchers collected data using online questionnaires from local marine tourism managers. Then, the data is analyzed descriptively. The findings indicate that several green management components have been applied, including natural resource management, waste management, energy management, and innovative environmental design. About 75% of companies have written policies on marine environmental conservation, and 87% participate in coral reef conservation efforts. However, plastic waste management and renewable energy practices require improvement. Thus, green management implementation effectively supports marine tourism in the Gili Islands, yet it requires stakeholder collaboration, human resource training, and increased awareness to strengthen sustainability. The study expects providing a significant understanding of how to implement green management to enhance the sustainability of marine tourism on Gili Island.

Keywords: green management, marine tourism, ecosystem conservation

Introduction

The Gili Islands, located off the northwest coast of Lombok, Indonesia, have become a popular destination for marine tourism, attracting visitors from around the world (Ryan, 2008). The increasing tourist traffic has raised concerns regarding environmental sustainability and the need for effective green management practices

to preserve the islands' unique ecosystems and support the livelihoods of local communities. Growing recreational activities including boating, diving, and snorkeling may put a lot of strain on marine ecosystems, causing habitat degradation, upsetting species, and changing delicate ecosystems (Puspitarini et al., 2024). As a result, it becomes more and more clear that extensive monitoring systems are required to evaluate the ecological impact of these activities.

To address these challenges, researchers have highlighted the importance of developing sustainable tourism strategies that involve the active participation of the local community (Parmawati et al., 2020). This collaborative approach not only fosters a sense of ownership among residents but also ensures that tourism development aligns with environmental conservation efforts (Parmawati et al., 2020). Moreover, the establishment of community-based tourism initiatives has been shown to enhance environmental management by utilizing local knowledge and resources, ultimately benefiting both the ecological balance and the economic stability of the islands (Wirawan et al., 2023).

Additionally, the formulation of effective policies and monitoring systems is crucial to manage coastal land use and safeguard the marine environment, which can serve as a model for the Gili Islands' marine tourism planning and its sustainable development. The integration of such policies can lead to a more organized approach to managing land use, enabling stakeholders to collaborate in preserving critical areas while simultaneously promoting tourism growth and environmental sustainability (Rudianto et al., 2021). Furthermore, assessing and monitoring landscape changes through methods such as satellite imagery and land use analysis can provide valuable insights into how tourism impacts the natural environment, thereby informing better planning and management strategies that cater to both ecological integrity and tourist satisfaction (Ryan, 2008). This comprehensive understanding of the interplay between tourism and environmental conservation highlights the essential role that informed decision-making and local community engagement play in sustaining the Gili Islands as a premier marine tourism destination, as seen in similar cases where sustainable practices have significantly improved local livelihoods. In order to achieve this balance, it is essential to prioritize strategies that recognize the interconnectedness of environmental health and tourism development, particularly in regions characterized by vulnerable ecosystems and high reliance on natural resources for both economic and social well-being (Bhaduri & Pandey, 2020). The successful implementation of such strategies requires a commitment from all stakeholders, including government bodies, local communities, and tourism operators, to uphold the principles of sustainability while promoting eco-friendly practices that can enhance both environmental conservation and the overall tourist experience (Dewi et al., 2019).

To ensure a sustainable future for the Gili Islands, it is crucial that stakeholders and business man work collaboratively to implement green management practices that prioritize ecosystem conservation, facilitate community involvement, and promote responsible tourism. Therefore, the aim of the study is to investigate the implementation of green management to promote the sustainability of marine tourism in the Gili Islands, North Lombok. The research focus scrutinizes diverse facets of green management, including waste management, natural resource conservation, enhancing environmental awareness among the public and tourists, as well as innovative environmental

Literature Review

One of the most important models for fostering environmentally friendly businesses is green management. The significance of green management lies in its capacity to create a sustainable future for our world. The use of strategies and laws intended to lessen the adverse environmental consequences of tourism while promoting the preservation of natural resources and cultural heritage is referred to as green tourism management, sustainable tourism management, or eco-friendly tourism management. The primary goal is making sure that tourism development is long-term and sustainable for the benefit of local inhabitants and ecosystems. Research indicates that sustainable tourism is significantly impacted by green tourism management (Ariyanto, 2022). This is due to the fact that the notion of “green tourism management” places a strong emphasis on the idea of being environmentally conscious and sympathetic to nature, while also significantly boosting the local economies of communities that have not been impacted by economic empowerment. GM demonstrates the idea of a green business, so when implemented in a firm, it can prevent bad effects on the environment and yet benefit the organization. Green management has a positive and significant impact on green business in the maritime tourism industry (Nusraningrum et al., 2022).

Furthermore, GM is considered a tool for controlling the environmental impact of business activities (Hasan, 2016). This model can be applied in any industry, including hospitality, manufacturing as well as transportation. GM includes a few elements, such as assistance from corporate management, environmentally responsible operations, and collaboration with supply chain partners (Lun, 2011). The concept of sustainable development serves as the foundation for green management, which is distinguished from environmental and ecological management (Sulich, 2020).



Picture 1. Key Component of Green Management

Source: Aydin., et al (2018)

There are six key components of green management that should be considered: waste management, water management, energy management, hazardous material management, air emission regulatory system management, and innovative environmental design.

Marine tourism is growing at a rapid pace, especially in the Gili Islands. Better management is required to provide considerable tourism experience and

environmental conservation. Marine tourism refers to the underwater activities as the main attraction for tourist to enjoy the beauty nature of oceans ecosystem. Marine tourism is the used of the potential of maritime environments as tourist attractions, marine tourism also includes activities conducted on the sea's surface that are inextricably linked to the existence of an ecosystem rich in marine biota diversity (Bahar, & Rahmadi, 2011). Marine tourism can be defined as tourism that offer the nature beauty of the oceans and exploring the underwater wealthy (Briandana et al., 2018). Marine tourism is a form of tourism that is oriented towards the marine environment (Bibin & Mecca, 2021).

Marine tourism refers to the utilization of littoral and marine environments as tourism resources, including fishing, snorkeling, diving, boating, swimming, and recreation (Sobari et al., 2006). Water-based activities (e.g. boating, yachting, cruising, nautical sports) and landside operations (e.g. fabrication of equipment and services, chartering) are all included in marine tourism (European commision, 2014). Thus, based on the definition given above, it can be concluded that marine tourism is a type of travel that draws visitors to take part in ocean-related activities including diving, snorkling, fishing, and conservation.

Research Method

The study applies a qualitative approach. A study process known as qualitative research is designed to obtain non-numerical data in order to generate understanding (Ugwu et al., 2017). It is non statistical data collection procedure. The main data source of the study is questionnaire. The questionnaire shared with the employer who organise marine tourism activities in the Gillis Island, north Lombok. The researchers shared the questionnaire via online. There are 8 employers participated as source of data in this research. Furthermore, the data is analysed descriptively. The researcher focused on analysing implementation of green management components, including, waste management, water management, natural resource and energy management, and innovative environmental design. To analyse the data, this study uses assessment's indicator. The following table is an assessment indicator to determine the result of the study.

Table 1. Assessment Indicator

Percentage (%)	Indicator
80-100%	Very effective
60-79%	Effective
40-59%	Less Effective
10-39%	Not effective

Source: Taufik et al., 2024

Result dan Discussion

The study took place on Gili Island. The Gili Islands are a group of three small islands located off the northwest coast of Lombok, Indonesia, known for their stunning natural beauty, crystal-clear waters, and vibrant marine life. A major lure for visitors to the Gili Islands is marine tourism, which provides a wide variety of water-based pursuits that appeal to tourists from all over the world. The study aims to determine green management implementation to support marine tourism activities. The research results and discussion are presented below.

1. Natural Resource Management

Most of the employer who filled out this survey said that their company implemented a written policy regarding marine environmental conservation. The diagram below illustrates that 75% of the company has implemented a written policy on marine environmental conservation. Meanwhile, 25% of employers respond that they do not know about the implementation of a written policy.

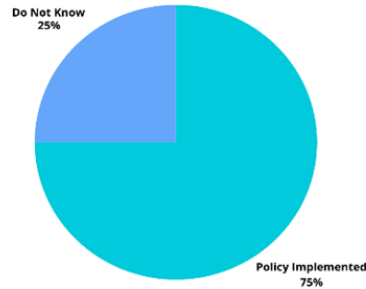


Diagram 1. Written Policy Marine Environmental Conservation

Source: Survey Result, 2024

Furthermore, environmental conservation policies are updated and adapted to the latest policies every year. The company has a good commitment when it comes to environmental conservation. They organise weekly clean up including reef clean up and beach clean up

2. Waste Management

The island of Gili implements a waste management system. Furthermore, 50% of companies implement a recycling system for plastic waste and other materials generated from marine tourism activities. The diagram below illustrates this.

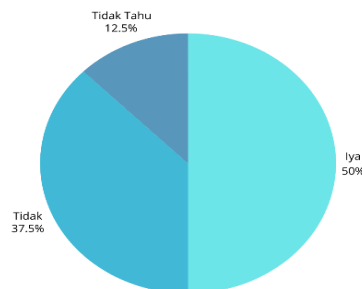


Diagram 2. Waste Management

Source: Survey Result, 2024

Moreover, the implementation of a recycling system for plastic waste and other materials generated from marine tourism activities is effective enough. The company organise dive against debris. Divers gather garbage from underwater settings, including fishing nets, plastic, and other trash. Because marine life may entangle itself in the garbage or mistake it for food, removing this material helps protect it. The recycling system will then store the debris.

3. Energy Management

Energy management is an essential element to bear in mind when it comes to green management implementation. The diagram below illustrates that 50% of the employers in Gili Island have implemented energy-saving practices in their daily operations.

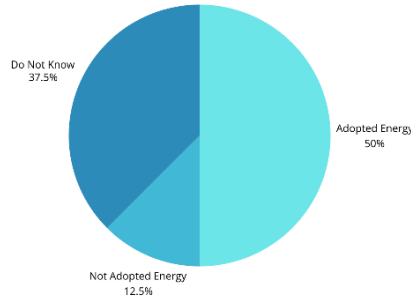


Diagram 3. Energy Management

Source: Survey Result, 2024

The employer also stated that the use of renewable energy is beneficial. This enable to reduce green house gas emission, sustainable resource use, improved public health and economic benefit and job creation as well. The respondents said that they are implementing steps to reduce the negative impact of water resources. Therefore, reducing adverse effects on water resources involves more than just water conservation; it also supports economies, promotes resilience, safeguards health, and ensures sustainable and equitable growth for all.

4. Innovative Environmental Design

The survival and prosperity of marine tourism destinations depend on creative environmental design. Innovative environmental design can be incorporated into marine tourism locations to preserve natural resources, attract tourists, and produce long-term advantages for the environment and local populations. One of the innovative environmental designs is for companies to participate in initiatives to conserve coral reefs or other marine ecosystems on Gili Island. The respondent stated that 87% of the company participated in initiatives to conserve coral reefs or other marine ecosystems. This can be demonstrated in the diagram below.

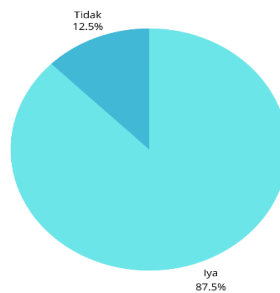


Diagram 4. Marine Environmental Conservation

Source: Survey result, 2024

The company created a program to monitor the coral reef through underwater surveys and coral restoration. The employer has established conservation areas in certain parts of the dive site. This is due to the underwater ecosystem's

sustainability. Not only do the companies participate in the underwater program, but they also organize weekly beach clean-ups as part of their land program to preserve the environment.

Implementing green management is critical to ensuring the sustainability of marine tourism in the Gili Islands. Natural resource management, waste management, energy management, and innovative environmental design are all part of green management. The companies effectively implement a written policy to promote environmental conservation around Gili Island. Policies, according to (Rudianto et al., 2021), should protect important places while also encouraging travellers numbers and environmental sustainability. The companies have a good commitment to support environmental conservation.

Furthermore, regarding waste management in the Gili Islands, the companies still need to organise more to make it very effective, as the result is that half of the company has waste plastic management.. “A sustainable waste management system diverts trash from disposal, embraces adaptation, is process-oriented, and includes feedback loops. Finding and using leverage points that cause change is necessary for the transition to a sustainable waste management system” (Seadon, 2010).

The energy management is carried out in the Gili Island. It is very useful for the employer to promote a more sustainable tourism business. The company should participate in supporting sustainable tourism. Therefore, the development of a robust, sustainable, and healthy future for the earth and its people depends heavily on renewable energy. Similarly, when it comes to innovative environmental design, the company organise some programs to foster sustainability of the underwaters ecosystem including coral restoration, underwater survey and reef clean up as well. Additionally, a few key elements have a big impact on how effective GM is. For instance, the success of GM is greatly impacted by funding for the implementation of green management practices, stakeholder knowledge of the significance of sustainable marine tourism, business-community engagement, and a focus on human resource training.

Conclusion

In conclusion, the Gili Islands' green management implementation is effective, especially in supporting marine tourism activities. However, to enhance the implementation of green management, several actions are necessary. These include providing funding for the application of green management practices, fostering collaboration between businesses and local communities, prioritizing human resource training, and increasing stakeholders' awareness of the significance of sustainable marine tourism. The employer should focus their attention on those aspects. Ensuring the sustainability of marine tourism in Gili Island may maximize its positive impact on destination management and business management. The implementation of GM may create a friendly business manager in the field of marine tourism. The implementation of GM may create a friendly business manager in the field of marine tourism. Therefore, implementing GM applications is an effective strategy to foster and manage sustainable marine tourism destinations on Gili Island, North Lombok.

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