



The Implementation of Green Hotel Concept at Sarinbuana Ecolodge

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Abstract. Ecolodge provides guarantees against the use of toxic chemicals, tests for environmental impacts starting from materials, buildings and other physical activities, and significantly contributes to the development of the local community's economy. In this study, we aim to analyse the implementation of green hotel concept at Sarinbuana Ecolodge based on the ASEAN Green Hotel Standard 2016. To achieve this aim, an observation and interview was conducted to the management of the ecolodge. The findings of this study revealed that the ecolodge is generally implemented the green hotel concept especially at the operational level. The main implication of this study is that the management should monitor their program and maintain the implementation of green hotel concept in order to supporting sustainable tourism.

Keywords: green hotel · ecolodge · implementation

1 Introduction

Hotel management that promotes environmentally friendly concepts has high competitiveness and economic value. The paradigm of environmentally friendly transforms the market to respect the environment and encourage tourist to save the earth simultaneously of the tourism industry sustainability. It increases consumer attention to the environment has encouraged business people to adopt energy conservation measures and apply these concepts in hotel management [1]. Consumer awareness of environmental sustainability makes green hotels become perfect choice. Green hotels are hotel operational activities that implement various important elements in environmentally friendly programs, environmental planning, environmentally friendly products, human resources and environmental management [2].

Accommodations such as ecolodges are starting to be developed in several areas in Bali. Ecolodge is an accommodation designed to minimize environmental impact. Ecolodge leads the concept of “green” which integrates with the natural environment, physical environment and social environment. In addition, there are two principles in ecolodge development that integrate with the concept of green resorts and hotels including 1) The scale of development is small to medium scale businesses and 2) Involvement of local building forms in the construction of its facilities, especially in green hotels.

Sarinbuana Ecolodge as one of accommodation that not only offers rooms but also an accommodation experience with an eco/green concept. It is located located in Banjar Biyahan, Wanagiri Village, Tabanan, Bali. The application of the eco/green concept is carried out by optimizing the use of green products, waste management and human resource development. Sarinbuana Eco Lodge has received an award in the Responsible Tourism Award which is the first award in Asia that focuses on implementing sustainable tourism in 2007 and 2010. It is carrying out the integrated concept of sustainability by implementing energy savings, water conservation, and waste treatment which has been proven with the Responsible Tourism Award.

The implementation of green hotels is not only seen from concern for the environment but also how the management gives feedback to the community (social and economic), building use, accessibility and others. This aspect is more complex in the green hotel criteria included in the ASEAN Green Hotel Standard Guideline.

2 Objectives

The purpose of this research is to analyze the implementation of green hotel concept at Sarinbuana Ecolodge.

3 Theoretical Review

3.1 Green Hotel

ASEAN Green Hotel Standard guideline mentioned that the major criteria of green hotel implementation are including environmental policy and actions for hotel operation, use of green products, collaboration with the community and local organization, human resource development, solid waste management, energy efficiency, water efficiency and water quality, air quality management (indoor and outdoor), noise pollution control, waste water treatment and management (water quality), and toxic and chemical substance disposal management [3].

3.2 Ecolodge

Lodging business is a business providing lodging services for tourists which can be complemented by other tourism services. Some forms of those business are hotels, campsites, villas, homestays, and guest houses. An ecolodge is a small hotel or guest house that incorporates local architecture, culture and natural characteristics, supports environmental conservation by reducing waste and energy use and provides social and economic benefits to local communities. The key determinants for the success of an ecolodge are 1) the destination where the ecolodge was established, 2) different from competitors, 3) raising awareness about safety and nature with professional guides and environmentally conscious employees, 4) easy access, 5) ecolodge location from other attractions, 6) qualified employees, 7) creativity, professionalism, and ability to market tourist cottages with minimal funds [4]. Ecolodge is especially important for sustainable development of communities, because it usually represent small and medium size companies which can

generate positive development influence on rural areas where other types of development are hazardous for the environment [5].

Staying at green hotel leads guests to develop a specific loyalty toward the whole range of eco-friendly hotels [6]. Some previous studies related about implementation of green hotel was conducted. The assessment of green hotel implementation has the highest score on the indicator of using environmentally friendly products at 95.74 percent and the lowest is human resource development at 55.32 percent in hotels in Nusa Lembongan, while the highest score is on the indicator of using environmentally friendly products with a score of 4.39 (strongly agree) while the lowest is on the indicator of human resource development with a score of 3.91 (agree) [7]. Mandalawangi Hotel had implemented 59.25% of the total ASEAN green hotel requirement criteria, which the hotel needed to reduce the use of chemical substances, optimize existing operations and maintenance and carry out training programs for human resources [8]. The study in Egypt was revealed that the implementation of green hotel practices in the certified four and five Green Star hotels surveyed contributed positively to achieving clean water and sanitation (SDG 6), responsible consumption and production (SDG 12), affordable and clean energy (SDG 7) and climate action (SDG 13) respectively, while the main implication of this study is that hotel operators should properly incorporate green hotel practices into their operational plans to achieve the environment-related SDGs [9].

4 Methods

This study uses a qualitative approach, which is a method described for researching natural objects where the researcher is the key instrument [10]. The research was conducted from July to September 2022. The data sources in this study are primary and secondary data sources. The primary data sources that the researchers obtained directly from Sarinbuana Ecolodge were interviews with hotel employees and management as well as non-participant observations. Secondary data sources come from articles that use the green hotel concept and information taken from the website and Instagram of Sarinbuana Ecolodge. Some of the activities carried out include collecting initial information both in literature and articles relating to the application of the green hotel concept in hotels as well as information about the application of the green hotel concept on the official website and Instagram of Sarinbuana Ecolodge, conducting direct observations to the ecolodge by bringing a check list related to the concept of green hotel, and conducted interviews with informants. The information that has been collected from the ecolodge's website and Instagram is then verified by conducting non-participant observations at the Sarinbuana Ecolodge. Information about the application of green hotel principles was also explored further by the informants to provide a more detailed explanation, especially on ecolodge operational activities. The observation results were then supported by conducting interviews with several informants in an unstructured manner. Interviews were conducted with 3 employees and 2 management from Sarinbuana Ecolodge.

5 Findings and Discussion

Green hotel indicators mentioned in ASEAN Green Hotel Standard will be explained in details based on the requirement that the ecolodge must have in the hotel. There are eleven requirements which was implemented by the ecolodge.

5.1 Environmental Policy and Actions for Hotel Operation

There are two programs in order to minimizing the carbon emission; a) Carbon Offset for Guest and b) Eco Lodge Carbon Offset. Carbon offset for guest means that the reduction of carbon emissions is carried out by the guests by being given the opportunity to contribute to the surrounding environment. Contribution in the form of planting trees in the area around Sarinbuana Eco Lodge and the types of trees planted are local plants which of course are suitable for the local climate. The Eco Lodge Carbon Offset is a program which conducted a tree planting program with more than one hundred trees in the Batukaru rainforest. Not only can it reduce carbon emissions, the presence of trees can increase food supplies for stars such as birds, bats, butterflies and other animals.

Management meets the staff to talk about improvement about the ecolodge and program that able to be implemented in the future related about green hotel. They plan to minimizing the energy consumption, go paperless by 2022, and upgrade to a fully electric vehicle (while now they are still reliant on petrol fuelled cars), and less of plastic (some of the kitchen and housekeeping products packaged in plastic).

5.2 Use of Green Products

Food is all using organic ingredients. They use fruits and vegetables which is harvested in the organic garden (Fig. 1). The organic garden also have some herbs. But if they are not able to find the specific ingredient for the healthy food, they will buy it from the local supplier to support the local community.

The cleaning materials for laundry operations use products from Bali Soap, which is a supplier that provide the natural soap in Bali. This ecolodge also minimize the use of plastic in the procurement and purchase of goods, reduces the use of disposable eating and drinking utensils, for example switching from using plastic straws to stainless straws.



Fig. 1. Eggplants and strawberries in the garden



Fig. 2. Green team of Sarinbuana Ecolodge

5.3 Collaboration with the Community and Local Organization

All of the staffs are coming from the local community in Wanagiri Village. They are Putri (Assistant Manager), Kadek (Waiter), Made (Chef), Putu (Cook), Eri (Gardener), Mariano (Housekeeping), and Koming (Housekeeping). The owner of the ecolodge is Mr. Norman and the land owner is Ketut Arimbawa. The owner rent the land to ensure that the land of Bali supposed to be own by Balinese, which this also part of his responsibility of the local community and implementing the green hotel concept to reach the goal of sustainable tourism. The green team is shown in Fig. 2.

It is not only for the operational and trekking staff, but also the local community is employed in every development and renovation at the ecolodge. The sponsor is also given by providing English language courses for children under 12 years old. The course is held from 14:00 to 15:00 every Sunday.

The management is annually encourage the local interested school graduates to gain the experience in tourism with a three-month training program. They also encourage student to come and observe by themselves about what the management have done in implementing the green hotel concept and they able to learn more about ecotourism with Mr. Norman.

5.4 Human Resource Development

Staff was having a training program and they learned about how to cook healthy food. They can improve their cooking skill to have innovation to explore the healthy food which is adapted by local or traditional food. They are also encouraged to read more about ecotourism, sustainable tourism in the ecolodge.

5.5 Solid Waste Management

Hotel operational activities produce organic and inorganic waste originating from rooms, offices, restaurants, housekeeping and public facilities. Staffs processes solid waste into compost. The treated waste comes from organic solid waste such as waste from the kitchen, leaves and other materials which can be weathered and decomposed so that their shape changes (becomes like soil), does not smell and contains elements needed



Fig. 3. Organic solid waste

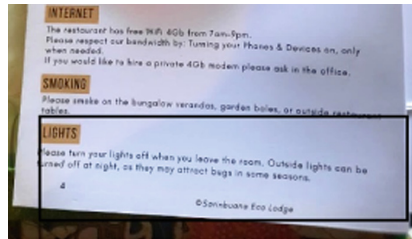


Fig. 4. Energy Saving Campaign in guest book

by plants. In the processing of organic waste at the ecolodge, rice husks are used to facilitate decomposition (Fig. 3).

Sarinbuana Ecolodge reduce waste by avoiding the use and purchase of products that generate large amounts of waste. For example by using plastic shopping in hotel operations. The use of plastic shopping is replaced with shopping bags and paper bags. Kitchen oil is also recycled into lighting candles on restaurant tables and bungalows.

5.6 Energy Efficiency

All roof of bungalows and buildings are has several parts that can become translucent media which can provide optimal lighting in the room. The use of innovative tools to utilize and incorporate natural light by using glass tiles. The design of the building with adequate windows makes it easier to get natural light.

Limited consumption of electrical energy with a maximum usage of only 7500 watts for the entire property. The management encourage hotel guest to do energy saving through the guest directory book provided in the bungalow. The campaign or encouragement of energy saving can be found in Fig. 4.

5.7 Water Efficiency and Water Quality

A natural swimming pool that doesn't use any chemicals at all. Swimming pools usually use chlorine or other chemicals. The pool in ecolodge is more of a duplication of natural

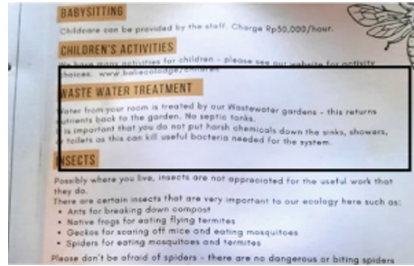


Fig. 5. Water Usage Campaign in guest book

pools that are usually found in nature with flowing water and aquatic ecosystems that clean particles and keep the water good for swimming. There are also small fishes in the pool that will give the feeling of foot massage.

The management make changes to operational equipment that saves water by using water output controller/aerator/flow reducer technology in the shower in each bungalow. It is done to reduce water use so that it is below the SNI standard for hotels which is 250 L/bed/day (SNI 03-7065-2005). Installation of this tool can save water but has the ability to remain optimal. They are also installing a separate piping system between clean water and recycled water. The water saving campaign is mentioned in the guest directory book provided in the bungalow. The campaign or encouragement of water saving can be found in Fig. 5.

5.8 Air Quality Management (Indoor and Outdoor)

All of the ecolodge area is non smoking area, except some places such as the bungalow verandas, garden bale, and outside restaurant tables. There is not air conditioned provided in the room. The building area designed to have the airflow to keep the room dry. The average temperature in the village where the ecolodge is located is approximately less than 21 °C in the evening, starting from 9 p.m.

5.9 Noise Pollution Control

The ecolodge building location is far from sources of pollution and noise from activities outside the hotel. It is located 150 m from the front of the hotel to reach the bungalow area.

5.10 Waste Water Treatment and Management (Water Quality)

Tourist who stayed in this ecolodge was encouraged to bring and use the environmentally friendly product, for example bathroom amenities like soap and shampoo as this can kill useful bacteria needed for the water waste system. They mentioned it in the guest directory book provided in the bungalow.

5.11 Toxic and Chemical Substance Disposal Management

The management of hazardous waste such as broken light bulbs, batteries and similar hazardous waste is properly sorted and submitted to the waste processing agency.

6 Conclusion

Sarinbuana Ecolodge in general has implemented green hotel, especially at the operational level and it has resulted in supporting sustainable tourism. Management plans to reduce the use of plastic in cleaning products, efforts to reduce the use of paper, efforts to use electric vehicles in addition to gasoline-powered vehicles, improve their monitoring program for environmental management of hotels and management of toxic and chemical substance disposal. This research limitation is the research was done under the property managed by foreigners that knew very well about ecotourism and the management itself, not the local community. This research also analysing the implementation from the management of the ecolodge. The further studies have to be analysed the perspective from the tourist who stayed in the ecolodge.

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Competing Interest Statement. This article is free from any conflict of interest regarding the data collection, analysis, and the publication process itself. Either replicate or modify the previous sentence for this part.

References

1. Han H., Lee J.S., H.L.T. Trang, K. Wansoo. "Water conservation and waste reduction management for increasing guest loyalty and green hotel practices". *International Journal of Hospitality Management*. vol 7, pp. 58–66, 2018. <https://doi.org/10.1016/j.ijhm.2018.03.012>
2. ASEAN Tourism Standards. "ASEAN Sustainable, Connectivity, Boundless, Prosperity," 2018 https://asean.org/wpcontent/uploads/2012/05/19037_ATF2018_Directory_61011.pdf
3. ASEAN Green Hotel Standard. The ASEAN Secretariat Jakarta, 2016 <https://www.asean.org/wp-content/uploads/2012/05/ASEAN-Green-Hotel-Standard.pdf>
4. Kumaji, R. A., Hakim, L., & Pangestuti, E. "Ecolodge Sebagai Sarana Akomodasi Pariwisata Berkelanjutan". *Profit*, vol 15 No 01, 27–42, 2021. <https://doi.org/10.21776/ub.profit.2021.015.01.4>

5. Bulatović, D. Ecotourism and Ecolodge Accommodation. *ILIRIA International Review*, Vol. 7, No. 2, pp. 247–260, 2017. <https://doi.org/10.21113/iir.v7i2.331>
6. R. Merli, M. Preziosi, A. Acampora. “Why should hotels go green? Insights from guests experience in green hotels.” *International Journal of Hospitality Management*, pp. 169–179, 2019. <https://doi.org/10.1016/j.ijhm.2019.04.022>
7. P.G.E. Darmaputra, D.A.L. Dianasari, I.A. Kalpikawati “Penerapan Konsep Green Hotel di Nusa Lembongan Bali”. *Jurnal Bisnis Hospitaliti*, pp. 70–77, 2020 <https://doi.org/10.52352/jbh.v9i2.507>
8. N. Fadjarwati, N. R. Nurzakiah. “Pemeliharaan Ramah Lingkungan Hotel Mandalawangi Tasikmalaya Berbasis ASEAN Green Hotel Standard: Eco-friendly Maintenance of Hotel Mandalawangi Tasikmalaya based on ASEAN Green Hotel Standard” *Jurnal Pengelolaan Lingkungan Berkelanjutan*, pp. 619–630, 2021. <https://doi.org/10.36813/jplb.5.1.619-630>
9. A.H. Abdou, T.H. Hassan & M.M.E. Dief. A Description of Green Hotel Practices and Their Role in Achieving Sustainable Development, *Journal Sustainability* Vol 12 , pp. 1–20, 2020. <https://doi.org/10.3390/su12229624>
10. Sugiyono. *Metode Penelitian Kuantitatif, Kualitatif dan R&D* Bandung: PT Alfabeta, 2016

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