

Analysis of the implementation of green hotel in Villa Kayu Raja Bali

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Abstract: Green hotels use green practices to reduce environmental impacts and increase the sustainability of hotel operations, including saving energy, managing waste and waste, and building design. This study aims to determine the application of the green hotel in Villa Kayu Raja Bali. This research is useful to encourage the hospitality industry to adopt environmentally friendly measures for sustainability. The types of data in this study are primary data and secondary data. The data collection method was obtained through observation, interviews, and questionnaire distribution with a saturated sample of 32 employees as respondents and 2 informants. Data analysis techniques in this study use descriptive qualitative and quantitative. The results showed an application value of 2.94 that overall the application of green hotels in Villa Kayu Raja Bali has been implemented well. Indicators that have been well implemented are architecture, water conservation, implementing new methods of saving electrical and water energy, the environment in the building, guest rooms, places to eat, saving paper, materials that need to be washed grouped, green guest rooms, green food, and green training programs. The indicators that need to be improved are in new energy; utilizing new energy and renewable energy sources, implementing new methods of saving solar energy, and environmental protection tools, namely refrigerators and air conditioners without Freon.

Keywords: ASEAN green standard, green hotel, implementation

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Introduction

Tourism is one of the strategic sectors to be developed to improve the economy and national development. Tourism also plays an important role in development by creating new business areas and jobs in a region, and is a leading generator of income, with multiplier effects on other sectors (Salihoglu & Gezici, 2017). The development of the tourism sector in addition to being considered able to help introduce culture to other countries also has the aim of increasing people's income which will ultimately affect the economic growth of a region and people's welfare (Candela, G; Figini, 1997). As one of the countries with a tropical climate, Indonesia is one of the most popular tourist destinations for world tourists, the many tourist objects that can be visited, the variety of biodiversity that can be found, and various customs are special features owned by Indonesia. The high interest of tourists visiting Indonesia is a challenge for the government to be able to preserve nature so that it can still be enjoyed in the future. Various efforts are made by the government to preserve nature amid the high interest of tourists who visit, one of which is done by sparking the concept of sustainable tourism which is intended to preserve nature so that it can still be enjoyed in the future, including tourist behavior that refers to the actions, choices, and preferences shown by individuals or groups when they engage in travel and tourism activities so they have a more important role in maintaining environment sustainability (Albrecht et al., 2024).

The concept of sustainable tourism coexists closely with the green tourism program. Azam in Adnyana, 2020, argues that green tourism is one form of ecotourism development concept used in sustainable tourism practices that guarantee future needs for adequate

environmental, economic, and socio-cultural resources. The concept of green tourism is an inseparable part of the concept of sustainable tourism. The concept of green tourism includes tourism programs that minimize the negative aspects of conventional tourism (Zengeni & Leboho, 2021) to the environment and increase the cultural integrity of the community. Therefore, in addition to evaluating cultural and environmental factors, green tourism is also an integral part of promotion, recycling, and energy efficiency activities.

Green tourism encourages sustainability through a selective process in the development of marketing programs to attract environmentally conscious tourists, show respect for natural components, and have concern for environmental sustainability and local cultural sensitivity which is considered as the tourism model in saving limited resources to meet varied needs both now and for future generations (Bargeman & Richards, 2020). Green tourism is also a form of alternative tourism that has a focus on capacity considerations, education, preservation of environmental resources and regional development as well as regional activities.

The hospitality industry has become the largest and growing industry whose expansion has led to pressure on resources and increased negative environmental impacts such as increased solid waste production and soaring demand for electricity and water (Yuheng et al., 2024). Hotel businesses are becoming more conscious and taking more accountability for environmental practices. Nevertheless, it will be a significant problem as several hotels do not take environmental awareness seriously, although initiatives such as reusing, recycling, and reducing pollution have gained the most attention in sustainability in the hospitality industry (Toko, 2022).

Green Hotel is a hotel program that carries an environmentally friendly concept that is not only concerned with the results or sales turnover that will be obtained but entrepreneurs can rethink how they can save the environment from the impact of the industry or business they manage (Mujahidin, 2015). Bali is one of the favorite destinations of world tourism that still holds local wisdom in arranging the existence of hotels as a very important accommodation of a trip for tourists. Currently, there are many hotels in Bali and even Indonesia that participate in the green hotel program. This can be seen from the large number of participants at the Green Hotel award ceremony organized by the Ministry of Tourism and Creative Economy every year (Erlangga et al, 2017).

The operational activities of all departments in the hotel cause environmental impacts including housekeeping, kitchen, laundry, landscape, the front office, and back office. In operational, it does not rule out the possibility of pollution, including water pollution, sanitary pollution, deterioration in ecosystem quality, and so on (Yu et al, 2017). In this case, the hotel is very necessary in apply the principles of green hotel principles that contribute to minimizing the costs incurred and vice versa can increase hotel profits, guest comfort, and satisfaction and make loyal customers who at the same time play a role in preserving the environment and gaining competitive advantage, as well as providing an experience called a green experience (Abdou et al, 2020). The green experience is an environmentally friendly experience felt by guests during their stay at the hotel, so to improve the green experience, the hotel must provide comfort for guests to engage in environmentally friendly practices as a principle of implementing green hotels (Yu et al, 2017).

Green actions are actions that reduce the impact on the environment such as buying or using recyclable items (Wolfe & Shanklin, 2001). Green hotels are hotel operations that implement various environmentally friendly programs such as saving water and energy, having environmentally friendly purchasing policies, and reducing emissions or waste disposal to protect the environment and reduce operational costs (Green Hotels Association, 2018). Green hotels are hotels that have a business to protect the environment and involve employees and consumers to participate in it (Green Mountain State, 2006). According to the Green Hotel Association, green hotels are hotels that save water and energy use constructively and reduce solid waste to protect the environment (Holcomb et al, 2007).

Villa Kayu Raja Bali is a villa located on Jl. Lebak Sari No. 18, Petitenget, Kerobokan, Seminyak, Kuta, Bali. Villa Kayu Raja Bali has 48 units of one-bedroom private pool villas and 10 units of two-bedroom private pool villa that offers the concept of a combination of private and luxury living. Villa Kayu Raja Bali has implemented the concept of the green hotel since the villa was operated, which is applied in various aspects and operational support programs in the villa

such as the use of biodegradable chemicals, energy-saving programs using saving lamps, controlling the use of underground water, bio pore systems, waste treatment and not using Styrofoam or made of plastic. In hotel operations, the steps taken to protect the surrounding environment are enforcing an invitation (campaign) to guests, namely changing linen at least every 2 days, using liquid/ refill soap and shampoo, inviting energy-saving behavior by turning off lights when not in use and zero food waste campaign. Therefore, based on the background description above, the author is interested in researching the application of green hotels at Villa Kayu Raja Bali.

Methodology

The research was conducted in Villa Kayu Raja Bali, Jl. Lebak Sari No. 18, Kerobokan District, Badung Regency, Bali Province. The type of data in this research used a mixed-method approach, which combines two forms of approaches: quantitative and qualitative. The mixed method combines both quantitative and qualitative research methods into a research activity, resulting in more comprehensive, valid, reliable, and objective data (Sugiyono, 2015). The research was conducted with a qualitative approach, divided into primary and secondary data. The data collection technique for informants was interviewed through in-depth oral questions with the General Manager, who is responsible for leading the overall hotel operations, and the Assistant Chief Engineer to obtain more significant data. The selection of respondents for the questionnaire assessment related to six dimensions of the green hotel was done using a saturated sampling technique, and respondents who filled out the questionnaire distributed via Google Forms were all hotel employees working at Villa Kayu Raja, totaling 32 employees working in the Front Office, Housekeeping, Engineering, Food, and Beverage, Sales & Marketing, Accounting, and Human Resources departments. Data collection techniques included observation, interviews, literature review, and questionnaires, then the obtained data were analyzed using descriptive qualitative analysis and descriptive statistical analysis. The data presentation method used in this study is descriptive, mainly from the questionnaire assessment.

Results and Discussions

Characteristics of Respondents

Respondents in this study amounted to 32 employees working in Front Office, Housekeeping, Engineering, Food and Beverage, Sales & Marketing, Accounting, and Human Resources departments. Respondents were classified into 4 groups, namely based on position, gender, education, and length of work. Based on Table 1, respondents were obtained with staff positions amounting to 26 people or 81.3%, supervisor positions amounting to 3 people or 9.4%, and manager positions amounting to 3 people or 9.4%. The number of workers with staff, supervisor, and manager positions to be able to run operations smoothly, quickly, and effectively and be able to provide maximum service to guests. Most of the male employees amounted to 27 people or 84.4% and females amounted to 5 people or 15.6%. The characteristics of respondents based on education, employees have the last education at the high school / vocational level amounting to 17 people or 53.1%, Diploma education amounting to 9 people or 28.1%, undergraduate education amounting to 5 people or 15.6% and postgraduate amounting to 1 person or 3.2%. This shows that most employees are already competent in operations and better prepared to work, especially with policies related to Green hotels. Data was obtained that employees worked for 6-10 years totaling 14 people or 43.8%, working for 1-5 years amounting to 7 people or 21.9%, and working for <1 year amounting to 6 people or 18.8%, and working for 11-15 years totaling 5 people or 15.5%.

Table 1. Characteristics of respondents

No	Characteristics of Respondents	Category	Percentage
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1	Position	Manager	9,4%
		Supervisor	9,4%
		Staff	81,3%
2	Gender	Man	84,4%
		Woman	15,6%
3	Education	High School/ Vocational School	53,1%
		Diploma	28,1%
		Bachelor	15,6%
		Graduate	3,2%
4	Length of Work	< 1 year	18,8%
		1-5 years	21,9%
		6-10 years	43,8%
		11-15 years	15,5%

Implementation of Green Hotel

The application of the green hotel concept is expressed by an average value of six dimensions which is assessed using a 4-point Likert scale as in Table 2. Based on Table 2, the average value of the application in the overall Green Design dimension is 2.64 which states that the application is within the high criteria. The Green Design dimension has 3 indicators, namely architecture, new energy, and water conservation. The architectural indicator obtained a value of 3.14 or has been implemented well, the new energy indicator obtained a value of 1.75 or the application is still low where it has not utilized new energy and renewable energy sources such as wind, hydropower, solar power, as well as biomass and geothermal power. The water conservation indicator obtained a value of 3.03 where sub-indicators such as rainwater collection systems, using water-saving toilets, and waste recycling systems have been well implemented (Zengeni & Leboho, 2021).

The average value of application in the overall Energy Management dimension is 2.77 which states that the application is within the high criteria. The Energy Management dimension has 3 indicators, namely utilizing solar energy, utilizing electrical energy-saving technology, and utilizing water-saving technology. The first indicator obtained a value of 1.75 because the villa has not utilized solar energy, while the indicator utilizing electrical energy technology obtained a value of 3.25 and the indicator utilizing water-saving technology obtained a value of 3.31, both indicators obtained very high application criteria because the villa has applied electrical energy saving technology, one of which is by RFID Ving card lock system, in addition to functioning to open the door of the room, also functions to access electricity in each room so that if the key is not attached to the key card switch, the electrical network in the room will turn off automatically. While water-saving technology is with the STP system or wastewater treatment plant that functions to process wastewater into water that is suitable for use or environmentally friendly water that can be used to water plants.

Table 2. Green hotel dimensions

No	Dimension	Indicator	Average value	Category
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1	Green Design	Architecture	3,14	High
		New Energy	1,75	Low
		Water Conservation	3,03	High
			2,64	High
2	Energy Management	Implementation of new methods of energy-saving	2,77	High
3	Environmental Protection	Environmental protection tools	2,49	Low
		Indoor	3,30	Very High
			2,90	High
4	Reduce Consumption	Guest room	2,83	High
		Dining	2,91	High
		Save paper	3,00	High
		Materials That Need Washing	3,06	High
			2,95	High
5	Green Product and Service	Green guest room	2,91	High
		Green food	3,13	High
			3,02	High
6	Socio-Economic and Environmental Benefits	Green Training Program	3,28	Very High
			2,94	High

The average value of application in the overall Environmental Protection dimension is 2.90 which states that the application is within the high criteria. The Energy Management dimension has 2 indicators, namely environmental protection tools and the environment in the building. The first indicator obtained a value of 2.49 where the application is in a low criterion. The villa provides a refrigerator in each villa as one of the facilities for guests who stay but it is still a type of refrigerator with freon, as well as the air conditioner used in the villa, is a type of air conditioner with freon is adapted to the structure of the villa building and the concept of private villa. The environmental indicator in the building consists of eco-friendly decoration sub-indicators and environmentally friendly signs obtained a value of 3.30 which means the application with very high criteria (Brækken et al., 2023).

The average value of the application on the overall Reduce Consumption dimension is 2.95 which states that the application is within the high criteria. This dimension has 4 indicators, namely guest rooms, places to eat, save paper, and materials that need to be washed. The guest room indicator obtained a value of 2.83, the application that has been applied is to reduce linen washing, reduce room supply availability, and eliminate or simplify the packaging of items in guest rooms. The second indicator is that the place to eat obtained a value of 2.91, the application by providing tableware such as dinner plates, dessert plates, bowls, glass, cups & saucers, and silverware placed in each kitchen drawer in each villa. The paper saving indicator

obtained a value of 3.00 with the application of data delivery, reports, and monitoring activities carried out using email and g-drive, for services to guests such as reservation, registration, welcome letter, guest feedback and thank you letter using 2 PMS systems namely VHP and Gusto Dian. The indicator of materials that need to be washed obtained a value of 3.06 with the application of grouping the materials to be washed, namely pool towel, bath towel, hand towel, bed sheet, pillow case, duvet cover, and so on. The benefits of this grouping are maintaining cleanliness, quality of laundry, and durability of these materials.

The average value of the application on the overall Green Product and Service dimension is 3.02 which states that the application is within the high criteria. This dimension has 2 indicators, namely green guest rooms and green food. The green guest room indicator obtained a value of 2.91 with the application that has been carried out, namely non-smoking rooms and floors in guest rooms, using a central ventilation system in guest rooms, reducing the frequency of changing items in guest rooms, filtering drinking water in guest rooms by providing mineral water in glass bottles as one of the facilities for guests as well as infused water and mineral water in the form of refill provided in restaurants. Furthermore, the sub-indicator decorates the room with plants in the guest room and uses environmentally friendly products which include the use of recycled, tree-free, biodegradable, and organic products. The green food indicator obtained a value of 3.13 with high application criteria, things that have been applied include using organic ingredients and fresh vegetables, the Villa already has procedures to ensure the safety of raw materials, menu books available in restaurants or each villa has been given information for menus that have special characteristics such as low fat, vegetarian, vegan and others, Making menu changes using local or seasonal ingredients such as welcome fruit consisting of local fruits such as green bananas, salak, green apples, and others have also been it provided alternatives because of seasonal fruits. Furthermore, Villa does not use products produced by companies that endanger the environment by implementing cooperation (MOU) with companies that have a good image and BPOM standards by applicable regulations.

Indicators that need to be improved from The Implementation of Green Hotel

Based on the results of the average value of application related to the six dimensions of green hotels, several indicators need to be improved because they obtain a small value with low application criteria (Bargeman & Richards, 2020). From the green design dimension with new energy indicators, namely utilizing new energy and renewable energy sources such as wind, hydropower, and solar power, as well as biomass and geothermal power. The energy management dimension with indicators implements a new method of energy saving, namely utilizing solar energy, based on an interview with Mr. Gede Sukarta as General Manager many benefits will be obtained if utilizing new energy sources and energy which mainly come from the sun, the benefits of panels and solar energy are to save electricity costs, contribute to reducing global warming and reducing dependence on conventional electricity (Guia & Jamal, 2020). Along with electricity tariffs that continue to increase, the use of electricity consumption in villas can also cause increased operational costs. One of the control systems carried out by the engineering team is checking and recording the meter every day. The application is also carried out to guests, namely in the form of an invitation or campaign advising guests who stay to remove the vngcard key if traveling or if they are out of the villa room. Next in the environmental protection dimension with indicators of environmental protection tools where until now villas use refrigerators with freon and villas use air conditioners with freon. Based on the explanation from Mr. Putu Padma as assistant chief engineering during the interview session, from the beginning of the operation of the villa, a refrigerator or refrigerator has been provided in each villa unit for minibar service as well as facilities for guests who stay. The cooling room or air conditioner used in each villa unit is a split wall AC that has been adapted to the structure of the villa building and the concept of a private villa where only the room is filled and guests staying in the room will control the on or off the unit air conditioner.

Conclusions

Based on the results of research on the application of green hotels in Villa Kayu Raja Bali, it can be concluded that the implementation of the green hotel concept implemented by Villa Kayu Raja Bali is reviewed through six dimensions of green hotels based on Green Hotel Standards have been implemented well, this is based on the results of research that shows the value of implementing green hotels amounted to 2.94. The environmentally oriented programs in each dimension of green hotels are carried out consistently and sustainably, including: 1. Green Design: where the hotel has consideration for the surrounding environment in its planning and design, so as not to cause deterioration of the local ecological system. 2. Energy Management: implement new methods of energy saving, such as utilizing electricity and water-saving technologies. 3. Environmental Protection: environmental and environmental protection tools in buildings by using eco-friendly decorations and marking "eco-friendly". 4. Reduce Consumption: guest rooms by reducing linen washing, reducing the availability of room supplies such as soap and shampoo, and eliminating or simplifying the packaging of items in the room. In places to eat by not using disposable tableware. 5. Green Products and Services: green guest rooms by designing non-smoking rooms and floors and decorating rooms with plants. Green food already uses organic matter and fresh vegetables and ensures the safety of raw materials. 6. Socio-economic and environmental benefits, namely by conducting training on green programs for villa employees.

Indicators that need to be improved in the application include: 1. Green Design: new energy is utilizing new energy and renewable energy sources such as wind, hydropower, solar power, as well as biomass and geothermal power. 2. Energy Management: implementing a new method of energy saving, namely utilizing solar energy. 3. Environmental Protection: environmental protection tools that use refrigerators and air conditioners without Freon.

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