

Study of Guidelines for Resort Design Methods Suitable for the Environment. Riverside Kwai, Kanchanaburi

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Abstract

The objective of this research is to study the resort design guidelines that are suitable for the environment of Riverside Kwai Kanchanaburi by using renewable energy such as natural materials without affecting the ecosystem. Therefore, this research focuses on the study of how to design an eco-friendly resort that can generate profits for entrepreneurs by adapting four case studies of resort design that have environmentally friendly policies combined with the theory. Ecological design the theory of integration with the resort surrounded by nature is environmentally friendly. The design guidelines for the resort that is still natural with the seven theories are as follows, 1) Realize the importance of the natural system, 2) Natural materials for decoration, 3) Ventilation system reduces energy consumption, 4) Automatic energy-saving technology, 5) Design using cost-effective resources, 6) Environment-friendly activities, and 7) Respect the design for local identity.

Keywords: Ecological resort, Renewal energy, Ecotourism

1. Introduction

This paper aims to promote Kanchanaburi tourism in line with environmental conservation by using various strategies to develop and upgrade tourist attractions and activities in nature, history, culture, agriculture, and tourist attractions in the community. With the development of tourism and service personnel, it aims to promote community products and proactively distribute to develop tourist sites to have quality and standards. Moreover, this research hopes to increase income and the number of tourists in Kanchanaburi province due to the potential of ecotourism as there are many natural, artistic, and cultural attractions and history and location that is not far from Bangkok. Each year, there are about 1,691,240 tourists; among them, 1,571,760 are Thais while 119,480 are foreign tourists. In 2016, this number increased by 6.56 percent. The average occupancy rate of 2.42 nights of tourism is approximately 5,385 Baht. The number sums up to a total of 88 million baht, which may cause the hotel business to continuous improve due to the increase in the number of tourists (Jentrakulrot, Phaengkasorn & Palit, 2017).

Srinakarin Dam National Park is considered an important role in the utilization of various ecosystems in Kanchanaburi. With Srinakarin Dam, which is both a tourist attraction that is beneficial to agriculture, the dam of the Kwai Yai River that flows into the Mae Klong River, strong wind flows through mountains and forests. The area around the river is a wide sandy beach and a channel between high mountains. Due to the Kwai Yai River, the forest condition is complete with complex mountains. There are many wild animals. The Kwai Yai River is a river that flows through the conservation forest. Which is one of the most fertile western forests in Thailand, is a wildlife center in three geographic areas with many natural plant communities and scattered grasslands near the Kwai Yai River where researchers have developed the concept of environmental studies by Kwai Yai River Search How to design a resort to suit the environment (Khuean Srinagarindra National Park, Online).

The purpose of this research is to respond to entrepreneurs and tourists who are involved in ecological consideration. Know how to make the most of natural resources by storing natural energy such as sunlight, wind, water, and using environmentally friendly materials, as well as advising tourists on how to make them aware for the impact on the ecosystem.

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2. Objectives

1. To study and find ways to propose a resort design that is suitable for the environment along the kwai yai river.

2. To propose guidelines for environmentally friendly resort design.

3. To study the use of natural energy for benefits.

3. Materials and Methods

This research is research on conservation of nature and design of environmentally friendly architecture with the following methods.

3.1 Study and research on the theory of green resort design

From researching information about the theory of resort design that is environmentally friendly, it is found that the design of the resort to be environmentally friendly is Should consider the following important things:

3.1.1 The importance of human rights and nature to be equally valuable So that the components of both parts complement one another sustainable.

3.1.2 See the importance of every element of the natural system and taking into account the effects of the design.

3.1.3 The design must respect local identity. Including objects or things that are of value to the community or society.

3.1.4 Consider all components, both concrete and abstract, within a community or society related to design.

3.1.5 Taking into account the direct and indirect effects of development resulting from the design of the well-being of humans and the natural system.

3.1.6 Creating long-term value. Not causing problems or pushing the burden of maintenance management. As well as security issues. For future generations to be responsible.

3.1.7 Promote the efficient use of resources for community or social development without any disadvantages.

3.1.8 Design for efficient and economical use of energy. By using light compartments to reduce the use of electric light or the chest to have a vent to reduce the use of Air conditioning.

3.1.9 Design must always keep in mind that nothing created by humans will be sustainable, and the design cannot solve all problems should let nature be a template or design guide. (Jentrakulrot et al., 2017)

3.2 Study and research about the geographical potential in Kanchanaburi

From the study of geographic information of Kanchanaburi province, Srinakarin Dam National Park

3.3 Study and research on renewable energy without affecting the environment

From research and design ideas for energy-saving buildings, the topics can be categorized as follows.

3.3.1 Natural vegetation

3.3.2. Terrain conditions

3.3.3 Climate

3.4 Study situations, examples, comparison of studies to develop educational models, 4 case studies for environmentally friendly design

3.4.1 Case Study 1: Asita Eco Resort, Samut Songkhram Province, decorated with environmentally friendly and safe materials.

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Figure 1 Asita Eco Resort Source: Asita Eco Resort. (Online).



Figure 2 Ecological activities Source: Chillpainai (2019)



Figure 3 The design respects the identity of the local identity. Source: Chillpainai (2019)

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3.4.2 Case Study 2: Sukantara Cascade Resort and Spa, Chiang Mai, Mae Rim District has a concept that preserves the most natural forest trees. As a result, all 16 Lanna residences are designed to be hidden in various angles, in harmony with trees and large waterfalls, which are the least disturbing nature.



Figure 4 Sukantara Cascade Resort and Spa Source: Readme.me. (2018)



Figure 5 Sukantara Cascade Resort and Spa Source: Booking (online)

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Figure 6 Sukantara Cascade Resort and Spa Source: Booking (online)



Figure 7 Sukantara Cascade Resort and Spa Source: Booking (online)

3.4.3 Case Study 3: The Float House River Kwai, Kanchanaburi, The Float House River Kwai Resort has improved the living for local people. Including promoting care Preserve the environment around the resort.

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Figure 8 The Float House River Kwai Resort Source: Thefloathouseriverkwai. (online).

3.4.4 Case Study 4: Anantara golden triangle Chiangrai, one of the ten most environmentally friendly hotels in Asia from Agoda.com; The resort is surrounded by nature overlooking the Mekong River and has a policy not to convert any ecosystems, resulting in many rare birds.



Figure 9 Anantara golden triangle Chiangrai Source: Hotels2thailand. (online).

4. Results and Discussion

From the case study of researches by studying the theory of eco-design And study the resorts that have environmentally friendly design policies to compare with the theories to get the design guidelines that are environmentally friendly by the River Kwai, Kanchanaburi Province. The results of the research are summarized as follows.

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 Table 1 Comparison between the theory of ecological design and the case study of 4 examples of resort ecological design policies.

	4 case studies			
Ecological design theory	1 (Asita Eco)	2 (Sukantara Cascade)	3 (The Float House River Kwai)	4 (Anantara golden triangle Chiangrai)
1. Seeing the importance of the natural system	\checkmark	\checkmark	\checkmark	\checkmark
2 natural materials in the design	\checkmark	\checkmark	\checkmark	\checkmark
3. Air ventilation system that helps reduce energy use	\checkmark	\checkmark	\checkmark	\checkmark
4. Automatic energy-saving technology	\checkmark	\checkmark	\checkmark	\checkmark
5. Design with cost-effective use of resources	\checkmark	\checkmark	\checkmark	\checkmark
6. Alternative energy such as solar cells, wind turbines	\checkmark			
7. The organic vegetable planting area	\checkmark			
8. There are ecological activities	\checkmark	\checkmark	\checkmark	\checkmark
9. The design respects the identity of the local identity.	\checkmark	\checkmark	\checkmark	\checkmark

From the theory of ecological design, when compared with the four case studies of eco-friendly resorts, there are nine theoretical theories in the case of seven resort examples, and the other two are not the case studies. Example 2, 3, and 4 may be due to potential space not being used or not suitable. The theory of alternative energy and organic vegetable growing areas May require further research and research about the said theory. The research, therefore, concluded that an ecology resort should have seven theoretical principles in resort design.

5. Conclusion

From the research that leads to the case study from four examples, the environmentally friendly design helps the researchers to get the design guidelines for the eco-friendly resort as follows.

- 5.1 Seeing the importance of the natural system
- 5.2 Natural materials in the design
- 5.3 Air ventilation system that helps reduce energy use
- 5.4 Automatic energy-saving technology
- 5.5 Design with cost-effective use of resources
- 5.6 There are ecological activities
- 5.7 The design respects the identity of the local identity

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