



Water Empowerment and Conservation for Sustainable Ecotourism (The Case of Bali Jungle Camping)

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Abstract

Purpose: The purpose of this study was to determine the extent of water empowerment activities carried out by Bali Jungle Camping in Tabanan Regency, Indonesia, in order to establish sustainable ecotourism.

Research methods: The study uses a qualitative descriptive method with data collection techniques of observation and documentation.

Findings: Bali Jungle Camping has good natural potential to be developed into sustainable ecotourism. In its operation which lasted approximately 4 years, the development was carried out based on environmental sustainability and empowerment of the surrounding community.

Implications: Bali Jungle Camping has made several efforts in empowering water but still has several task points towards sustainable ecotourism.

Keywords: water empowerment and conservation, sustainable ecotourism, jungle camping.

INTRODUCTION

Traveling nowadays can be said a lifestyle for it can make people mind calmer after doing monotonous daily activities. It can be done alone, with family, or with friends. The number of types of tourism that can be chosen today, has begun to encourage tourism actors' awareness of the impact of environmental problems arising from tourism activities. This has led to the emergence of tourism businesses that carry the theme of ecotourism as their business orientation.

Ecotourism itself is not something new in the field of tourism, as seen from the first widely accepted definition of ecotourism is the definition given by The Ecotourism Society in 1991 (in Cheia, 2013: 57) that "ecotourism is a responsible travel to natural areas to conserve the environment and improve the welfare of local communities". Cheia (2013) explains that ecotourism is a well exploited segment on the tourist industry level and has a particular resonance among tourists, especially among those who even have special consideration for the environment, and want the best possible protection and conservation of it. However, this term and its variations are often eco-vacation, eco-tour, eco-adventure, eco-cruise, etc. Based on these definitions, it can be said that ecotourism is a tourism activity that can provide economic benefits for the community while maintaining culture and preserving nature and the surrounding environment.

Ecotourism is not just a natural tourism trip by enjoying the beauty of nature, breathing fresh air, but more towards what we do to preserve nature and the environment and ensure that there is no impact of environmental damage that results in a lack of natural resources in the future. As described by Page & Dowling (2001), ecotourism consists of three main principles, namely; conservation principles, community participation principles and economic principles. These three principles must be in harmony and in line with each other to create sustainable ecotourism.

Bali, which is a tourist area, certainly has many places that carry ecotourism as an attraction, and one of them is Bali Jungle Camping located in a village named Padangan, in Tabanan Regency, Bali Province. Various nature tourism activities are offered for tourists, such as camping, trekking, cycling, meditation, and cooking classes by utilizing the produce and products of the surrounding community. Bali Jungle Camping also has a program that they call "Sunday Sharing is Caring" where this program is a form of social responsibility towards the surrounding community. Increasing awareness of the preservation of the natural and cultural environment to carrying out activities that involve the surrounding community/community are activities based on the principles of ecotourism.

In the development of ecotourism, the use of nature must be done wisely. If nature and the environment are maintained, then all business sectors can continue their economic activities. Business should not only be about money, but about environmental, cultural and social responsibility. There will be no business on a dead planet (Hutomo, 14: 19). It is a very logical sentence: no business will run if nature is damaged. No matter how big the profit from the business, it will never be enough to repair the damage to nature. On the other hand, if there is no action to protect nature and the environment, there will be many problems that arise due to natural damage, such as contamination of water sources due to garbage and waste, landslides, floods and others. Water sources which are one of the important elements in nature must receive special attention so that they are not polluted and do not run out in the future. There are many ways that can be done to preserve this water source, one of which is conservation. Undang-undang Republik Indonesia Nomor 32 tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup (Law of the Republic of Indonesia Number 32 of 2009 concerning Environmental Protection and Management) Article 1 paragraph 18 states that natural resource conservation is the management of natural resources to ensure their wise use and sustainable availability while maintaining and improving the quality of their values and diversity.

According to Yuniawan (2014), the term conservation (conservation) etymologically comes from the words "con" (together) and "servare" (to keep, to save) which can be interpreted as an effort to maintain what we have (to keep, to save what we have), and use the property wisely (wise use). Water conservation can be interpreted as water maintenance and empowerment activities in order to maintain water quality free from waste and waste pollution and ensure the availability of water is maintained for the future. Water is a basic need for all creatures on earth. Humans need water for consumption and to rid themselves of dirt, trees need water to live and provide oxygen for earth's creatures (Puspawan, 2020). In line with what was conveyed by Ernawati et al., (2021) that to support all aspects of human life, animals and plants are determined by human

awareness of the importance of wisely utilizing natural resources in which water is also included.

Making good use of natural resources and water sources for the Balinese people has become a common thing to do. Adhering to the concept of *Tri Hita Karana* with the aim of teaching humans to achieve prosperity in human life itself and to achieve a balance in living their daily lives (Wijaya et al., 2021; Wijaya & Artajaya, 2020). According to Mudana et al., (2018) and Mudana et al (2021), the concept of *Tri Hita Karana* involves three things that cause material and spiritual prosperity; where “*tri*” means three; “*hita*” means material and spiritual wealth; “*karana*” means cause. *Tri Hita Karana* consists of three parts, namely *parahyangan* (relationship between human and the God), *pawongan* (relationship between human and human), and *palemahan* (relationship between human and physical environment/nature) (Puspawan, 2020). This concept has also been stated in Peraturan Daerah Provinsi Bali Nomor 04 Tahun 2019 tentang Desa Adat di Bali (Bali Provincial Regulation Number 04 of 2019 concerning Traditional Villages in Bali), it is said that *Tri Hita Karana* is sourced from the values of Balinese local wisdom, namely the six main sources of prosperity and happiness in the lives of Balinese people or known as *Sad Kerthi*. *Sad kerthi* includes: (1) purification of the soul (*atma kerthi*); (2) the purification of the sea (*segara kerthi*); (3) purification of water sources (*danu kerthi*); (4) purification of plants (*wana kerthi*); (5) human purification (*jana kerthi*); and (6) the purification of the universe (*jagat kerthi*).

The purification of water sources (*danu kerthi*) is interpreted as a way to foster human love for the environment, more precisely to maintain the sanctity and sustainability of water (Sanjaya et al., 2018). That is why efforts are needed in water conservation to support conservation activities to run well.

Here are some procedures for water empowerment that can be done. First, protection of water sources. Pay attention to sanitary arrangements. According to WHO (in Rakhmawati, 2015) sanitation is an effort that monitors several physical environmental factors that affect humans, especially those that have a detrimental effect on physical development, health, and survival. Poor sanitation can cause many diseases such as cholera, hepatitis A, typhoid fever (infection caused by *salmonella typhi* bacteria) and dysentery (infection caused by the *shigella* bacteria/parasite *entamoeba histolytica* (National Geographic Indonesia (NGI) Online Site). Bad water can also pollute water sources, so that the supply of clean water will be reduced in the future.

Second, savings in water use. Savings can be made in various ways, such as using a shower in the bathroom. The use of a shower saves more water than the use of a bath or shower. The next thing is to check the water pipes regularly to check if there are leaks in the water lines. Small leaks result in water wastage.

Third, recycle waste from operational activities. Waste is the residue of a business and/or activity. There are three types of waste that a business can produce, namely organic waste, inorganic waste and B3 (*bahan berbahaya dan beracun* or hazardous and toxic materials) waste.

Fourth, the application of environmentally friendly plantations. The use of organic fertilizers is an environmentally friendly material to fertilize plants on plantations. And for pest control, you can use environmentally friendly pesticides. According to Nurindah (2009), the development of environmentally friendly technology can be done through existing natural resource management approaches. One obvious example of the development of environmentally

friendly technology is the development of an integrated pest control system (*pengendalian hama secara terpadu/PHT* in Indonesia language).

Fifth, the watershed protection. Peraturan Pemerintah Republik Indonesia Nomor 37 tahun 2012 tentang Pengelolaan Daerah Aliran Sungai (Government Regulation of the Republic of Indonesia Number 37 of 2012 concerning Watershed Management), article 1 paragraph 2 states that watershed management is a human effort to regulate the reciprocal relationship between natural resources and humans in the watershed and all their activities, in order to realize the sustainability and harmony of the ecosystem and sustainable use of natural resources for humans. Watershed protection is needed to maintain water quality and minimize flooding. Its management must be carried out in an integrated manner, in collaboration with residents and village officials to maintain the sustainability, balance, and sustainability of the watershed (Umiyati & Mbete, 2020).

Sixth, the use of rainwater. Rainwater can be utilized if managed properly. It is for example by making rainwater infiltration wells, making rainwater reservoirs or biopore techniques. Management and utilization of rainwater with good infiltration wells is very beneficial for the supply of clean water. With the biopore technique, it can prevent floods, landslides, and at the same time conserve water. The use of rainwater as a source of water to meet the needs of drinking water and clean water has been carried out for a long time in various parts of the world, such as in the Dominican Republic, Singapore, Japan, China, Thailand and Indonesia (Rahardjo, 2015).

The purpose of this study was to find out how far the water empowerment activities carried out by Bali Jungle Camping in Tabanan, Bali, Indonesia, as well as to inform the importance of water empowerment so that this tourist attraction can become a sustainable ecotourism.

RESEARCH METHODS

The method used is qualitative with observation and documentation data collection techniques, which means that in this study the authors obtain the data needed by observing directly the facts, events and phenomena that occur in Bali Jungle Camping related to the extent to which activities water empowerment carried out and conducting interviews in which the results of the interviews were described (Sinuhaji et al., 2019). In addition, the authors also do documentation in the form of images which are then analyzed to support the research.

FINDINGS

Bali Jungle Camping carries the ecolodge theme when the owners Made Aryana and Ketut Sulamin bought a 30-acre garden for gardening where the results were enjoyed by themselves and distributed to relatives, friends and neighbors. In 2016 the owners bought a wooden house and started marketing it to his closest friends. Seeing a fairly good market share, the owners added 9 parachute tents and 4 dome tents. Bali Jungle Camping uses solar panels as the main power source. The use of conventional electricity is done because sometimes in some days the weather is cloudy and rainy.

From the results of interviews, observations and documentation conducted, it was found that several efforts have been made to empower water as follows. Bali Jungle Camping does not have a water source. To support their

operational activities, they use village water, where each month they pay Rp. 100,000 – Rp. 150,000/month.

In an effort to save water use, the manager has used a shower in the bathroom in wooden rooms and domes, but in the shared bathroom for tent users they still use a shower made of bamboo.



Figure 1. The use of bamboo showers and showers
[Source: Koma, 2021]

Periodic checks on water pipes are always carried out so as not to waste water in vain. There is no schedule for checking water pipes. When the staff cleans the area that also passes through the water pipes, they will check the water pipes they pass and immediately make repairs if there are leaks. Watering plants is not often done because the rainfall is quite frequent in the area.

The waste generated in operations is separated into organic and inorganic waste. For organic waste, holes will be made in the ground and stockpiled. Meanwhile, inorganic waste is collected and then disposed of at the local village TPS (garbage disposal site/*tempat pembuangan sampah* in Indonesian language).



Figure 2. Use of glass containers for storing foodstuffs and mineral water.
[Source: Koma, 2021]

The manager uses a glass container that can be used many times so as to reduce the amount of waste generated in its operational activities. For liquid waste from washing restaurant furniture, a shelter is made in the ground. “Kebun Kita” (Our Garden) is a garden managed by the owners with an area of 30 acres.

This garden is mostly planted with coffee trees, mangosteen, cocoa, coconut, banana and some other trees, such as chili, flower trees and medicinal trees. This garden still uses chemical fertilizers and pesticides to fertilize the plants and repel pests.

There is a small river at the back of Bali Jungle Camping. The river flow which is right in front of the dome tent and parachute tent is very clean and clear. The management always cleans it every day from garbage that comes from the upstream of the river. While the flow around the garden area, there is still a lot of plastic waste stuck in the rocks and trees around the river. The management has installed notice boards against the prohibition of dumping garbage into rivers near residential areas, it's just that there are still many residents who are not aware of the importance of protecting the environment and protecting watersheds.



Figure 3. The stream right behind the dome tent and parachute.
[Source: Koma, 2021]



Figure 4. River flows around the garden area.
[Source: Koma, 2021]

Having a fairly frequent rainfall makes the owners want to take advantage of rain water as a support for operational activities. The owners' desire to make rainwater gutters, build a reservoir and provide a filter to the tub so that the water can be used to support its operational activities has not been realized until now because it is hindered by unavailable funds. "I often explore on YouTube the "tiny house" show, where the house has solar panels, rainwater storage, has a composting system for toilet waste," said the one of the owners of Bali Jungle Camping. The owners already know and understand the rainwater utilization technique and has a great desire to develop his place towards ecotourism in the future, it's just that the funds are not enough to facilitate his desire.

CONCLUSION

Bali Jungle Camping is one of the tourist attractions located in the Tabanan area. In his journey, Made Aryana tried hard to make it by leading to the concept of sustainable ecotourism that adheres to the Tri Hita Karana concept. It can be seen in his efforts to build the first wooden room using recycled wood and using solar panels as a source of electricity in its operations. His great determination to advance the welfare of the people of Padangan Village, which is the place where Made Aryana and his wife come from, sparked ideas about how Bali Jungle Camping can make a good contribution to the environment and the surrounding community. The land that was originally only used as a garden to grow mangosteen, coffee and other trees, was developed into a place that could provide jobs for the surrounding community and introduce Padangan Village to the tourism industry.

To be able to lead to the concept of sustainable ecotourism, of course, there are still many tasks that must be done. As the authors found in the observations, the shared bathroom for parachute tent users has not used a shower to save water use. In waste management, the manager has separated organic and inorganic waste. Managers have also used glass containers to store food and beverage ingredients, so as to reduce plastic waste. The plastic waste generated in its operational activities has not been utilized and is directly disposed of to the village TPS. Plastic waste can be processed into several handicrafts such as shopping bags, decorative flowers, lamps and other crafts. This activity can be done by empowering the surrounding community, the results of these crafts can be sold and become additional income for the surrounding community considering that there are still many people throwing garbage in the river which then damages the ecosystem and the sustainability of the village's clean water. In terms of utilizing rainwater and liquid waste from washing furniture, you can start by making a reservoir containing a filter layer so that the water can be reused for watering plants and plantations.

Overall, Bali Jungle Camping has made several efforts in empowering water and still has several task points towards sustainable ecotourism. If this can be implemented then Bali Jungle Camping will make a major contribution to water empowerment and can become one of the sustainable ecotourism.

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