



Utilization of eco-tourism in Bangli regency of Penglipuran village as a bamboo forest conservation center in Bali

I Wayan Muliawan¹, Ni Made Widya Pratiwi^{1*}

¹Warmadewa University, Terompong Street No. 24, Sumerta Kelod, District. East Denpasar, Denpasar, 80239, Indonesia
[*deee.widya@gmail.com](mailto:deee.widya@gmail.com)

Received on 16 April 2023, accepted on 25 May 2023, published on 30 June 2023

ABSTRACT

Penglipuran Village is one of the icons of tourism in Bali which is located in Kubu District, Bangli Regency. Penglipuran Village has its own uniqueness and charm, one of which is the existence of a bamboo forest that protects the village. This bamboo forest has an area of up to 45 hectares that surrounds this village and continues to be maintained and preserved. The people of Penglipuran Village believe that the bamboo forest has a function as a water catchment area, so this forest is called a village protection forest. This study focuses on the use of ecotourism in Penglipuran Village, Bangli Regency as a center for bamboo forest conservation in Bali, which can create a balanced community economic growth between humans and nature. The method used in this study, namely quantitatively by conducting interviews with Penglipuran Village owners related to bamboo forest management, then analyzed using SWOT to determine the strategy for using ecotourism in Penglipuran Village, Bangli Regency as a Bamboo Forest Preservation Center in Bali. From the results, it was found that the strength in the use of ecotourism in Penglipuran Village is the existence of community support for the preservation of bamboo forests, with a weakness that is limited sources of funds for development. Opportunities from the use of ecotourism are that the need for tourist objects is increasing, with the threat of forest degradation threatening sustainability.

Keywords: bamboo; ecotourism; forest; penglipuran,

1 Introduction

Ecotourism and village tourism became a good combination to give social and economic motivation and benefit to community that live side by side with the conserved forest and various water springs. If the community has the motivation to conserve the forest, then the community can receive the benefit. With the concept and mindset of social entrepreneurship, can be developed into an Ecotourism Village [1]

Bamboo resources in Indonesia, especially in the province of Bali are quite potential, where the use of bamboo can increase economic growth. The use of bamboo in the province of Bali is generally used for ceremonies, culture, handicrafts, light construction, and others. Bamboo is a material that is easily found with a very fast growth. This material is often used by the community for various types, including as crafts, furniture, and building materials. other than that bamboo can also be used as the structure of the building and construction because it has properties that easily updated, lightweight and strength also

flexibility that can withstand the vibrations [2]-[4]. In the use of bamboo in a building, Bamboo has a lifespan durability fit for use for up to 5 years[2].

Due to its fertile growth, bamboo forests are easily expanded, meanwhile the use of bamboo as a building material has been increasingly abandoned. The nature of bamboo that dominates other plants is also a problem because it causes bamboo forests to invade other plantations[5].

Penglipuran Village is one of the icons of tourism in Bali which is located in Kubu District, Bangli Regency. With the title of one of the cleanest villages in the world, Penglipuran Village also has its own uniqueness and charm, one of which is the existence of a bamboo forest that protects the village. This bamboo forest has an area of up to 45 hectares or about 40 percent of the total village area. Where the bamboo forest that surrounds this village continues to be maintained and preserved to this day as a form of preserving the heritage of the ancestors and a tangible manifestation of maintaining the balance between humans and nature. The people of Penglipuran Village

believe that the bamboo forest has a function as a water catchment area, so this forest is called a village protection forest [6].

Tourism development in Penglipuran Village is based on the ideology of community-based tourism and the ideology of Tri Hita Karana. The implementation of community-based ideology can be observed in the tourism management system that involves the community, starting from planning, implementation and evaluation. Meanwhile, the implementation of Tri Hita Karana can be observed from tourism management which pays attention to the harmonization of the relationship between humans and God, humans and humans and humans and the environment [7]

Penglipuran traditional village is an integrated residential and has a unique architecture that it's still existence. The concept of traditional settlement of penglipuran has no different social status and they are one in togetherness. This can be seen from the house in Penglipuran use of bamboo as building materials [8].

2 Data and Methods

Data was collected using non-experimental methods, namely exploratory descriptive, field observations (observation) and literature study to collect the required data. Meanwhile, the data sources consist of primary data sources obtained directly at the research site, through the interview process with informants and secondary data sources in the form of data obtained through literature studies that are relevant to the research conducted. Data collection techniques were carried out by observation, interviews, and document studies. Observations were made through observation, recording of the behavior of the Penglipuran Village community related to bamboo forest management. In addition to direct observations and interviews with informants, this study also uses document studies. Prior to the analysis, all collected data, both primary and secondary data, were identified and clarified according to the problems posed. Furthermore, the data is classified, analyzed by the SWOT method.

Strengths-Weaknesses-Opportunities and Threats Analysis (SWOT) analysis is a methodology or analyzing a company from an internal and external perspective in order to generate strategies for the firm [9].

3 Results and Discussion

Penglipuran Village is located in Kubu Village, Bangli District, Bangli Regency, with an altitude of 500-600 m above sea level and the coordinates of Penglipuran Village are 8.0292893 degrees South Latitude, 115.03036 degrees East Longitude. Penglipuran Village is 5 km north of Bangli city and 45 km from Denpasar city. The distance from Ngurah Rai

International Airport to Penglipuran Village is approximately 56 km.

According to the elders, the word Penglipuran comes from the word "Pengeling Pura" which means a sacred place to remember the ancestors. This place is very meaningful since their ancestors came from Bayung Gede village to Penglipuran which is quite far away, therefore the Penglipuran people built the same temple as the one in Bayung Gede village. In this case, it means that Penglipuran people still know their origins. Another opinion says that Penglipuran comes from the word "Penglipur" which means "entertainer" because during the royal era this place was used as a resting place.

Penglipuran indigenous people believe that their ancestors came from Bayung Gede Village, Kintamani. Previously the village of Panglipuran was named Kubu Bayung. In ancient times the king of Bali ordered the residents of Bayung Gede to work on projects in Kubu Bayung, but in the end the residents decided to settle in the village of Kubu Bayung. In terms of tradition, Penglipuran Village uses an upstream government system. The traditional village administration consists of traditional upstream soldiers and traditional warriors. The soldiers of Hulu Apad consist of Jero Kubayan, Jero Dome, Jero Singgukan, Jero Cacar, Jero Balung and Jero Pati.

Ecotourism is responsible tourism that conserves natural areas and improves the wellbeing of locals. Based on the principles of sustainability, ecotourism focuses primarily on nature experience and education, ethical management, non-consumptive behavior, local orientation, and contribution to the conservation of the area [10], [11]

3.1 Penglipuran Traditional Village Forest Conservation Effort

3.1.1 Awig Awig

Awig-awig is a rule made by the customary village courts and or Banjar Adat Krama which serves as a guide in the implementation of Tri Hita Karana, namely the harmonious relationship between humans and God Almighty (Prahyanan), harmonious relations between humans and humans (Pawongan) and harmony the relationship between humans and the natural environment (Palemahan). Thus awig-awig is a legal (customary) rule that functions to regulate the life of the Traditional Village community in order to create order, peace and peace, as well as a sense of justice in the Traditional Village community. So that the awig-awig are strictly adhered to from generation to generation by the manners of the Traditional Villages in Bali

In 1989, the awig-awig of the Penglipuran Traditional Village was established in writing [12]

a) Article 5, paragraph 25 concerning "village property rights"

Pura profit land, village owned land, Karang kitri, village father land. Setra, belongs to the traditional village. So the residents' yards are customary village lands, with residents' usufructuary rights.

b) Article 16, paragraph 27, 28, 29, 33

The boundary of the yard facing the road must have a boundary in the form of a wall so that it is beautiful, village residents are not allowed to lie down, release animals on the road or in the forest, and flower plants must be planted.

3.1.2 Community Empowerment in Bamboo Forest Conservation

The concept of community empowerment in Penglipuran Village is based on the philosophy of Hinduism, namely Tri Hita Karana. Where this philosophy is implemented into three aspects, namely Parahyangan, Pawongan, and Palemahan. The involvement of local communities in the management of Penglipuran Village as a tourist village through the development of a tourist village in Penglipuran goes through three stages, namely the awareness stage, the capacity stage, and the empowerment stage.

3.1.3 Basis in Bamboo Forest Conservation

In the preservation of bamboo forests in Penglipuran Village, it is based on the following.

1. Bamboo Forest is seen as a hereditary heritage
The bamboo forest in Penglipuran Village is managed by 45 families with ownership status as village father land. Where these 45 families have the status of traditional village nyagra, which are people who are fully responsible for the survival of the traditional village, especially the needs of traditional villages that use bamboo materials.
2. Bamboo as a Medium in honing the cultural capital of the community
People use bamboo in their daily lives, such as buildings, ceremonial utensils, cooking utensils, and so on.
3. The economic value of bamboo plants
Optimizing the economic value of bamboo by processing bamboo into works of art and classic designs made from bamboo.
4. Ecological Value
The existence of bamboo forests in Penglipuran Village is able to hold water so that the threat of flooding has never been experienced by the community.

3.1.4 Penglipuran Village Internal Factors

1. Strength
 - a. The potential of bamboo forests can be used as ecotourism products
Penglipuran Village has good natural resource potential for ecotourism development. The potential offered by ecotourism in Penglipuran Village is its attractiveness and uniqueness, such as

biophysical potential. The beauty of the natural panorama, the diversity of flora, fauna and diverse ecosystems as well as the challenges of the terrain are often the main attraction. Field observations show that the aesthetic form of the landscape is found in Penglipuran Village, namely the existence of a bamboo forest with 13 types of bamboo including jajang aya bamboo, Balinese jajang, jajang panteg, jajang taluh, jajang papah, stone jajang, ivory mine, mine, petung reed, suet rope reed. , rope, gadung, and ampel.

b. Creating job opportunities in the field of ecotourism

Empowerment of local communities in nature tourism activities plays a role in optimizing income. The ability to creatively process tourism products and services will change the paradigm, the more visitors, the greater the chance of selling tourism products or services. The behavior of traders will also have an influence on the development of entrepreneurship. The Penglipuran Village community is expected to focus more on the quality of products or services at competitive prices. Through the creative economy, it is hoped that the value of the product or service will become a long-term reference. Conditions that are considered better than short-term expectations on the chances of selling high-volume, low-quality products or services

c. There is community support for forest conservation

The community in Penglipuran Village strongly supports the development of ecotourism in bamboo forests in Penglipuran Village, with the hope that the development of bamboo forests in Penglipuran Village as ecotourism will increase income for Penglipuran Village. The community also hopes that the development in this bamboo forest will be well managed, so that it can provide more jobs for the community without leaving the awig-awig of Penglipuran Village.

d. Easy access from downtown Bangli

The condition of road facilities in villages and between sub-districts in Bangli Regency is in the form of asphalt roads which are still in good condition. To get to Penglipuran Village, it is only a distance of 45.6 km from Denpasar City, and a distance of 5 km from the center of Bangli City.

2. Weakness

- a. Supporting facilities do not yet exist
Tourist facilities serve to meet the needs of visitors during the trip to add to the taste in enjoying tourist activities. The more tourist

facilities that are served, not a benchmark, the more tourists. However, distinctive, unique and attractive facilities with natural nuances can be certain tourist objects become a priority choice in traveling. Therefore, tourists also want facilities that are able to meet their needs during tourist activities. The usual facilities that are generally located or found in tourist attractions are accommodation facilities, restaurants, gazebos, souvenirs, electricity and other service facilities. Improvement of facilities is also to strengthen supervision, in the development of an area to become more useful, it cannot be separated from the efforts of certain parties to carry out harmful disturbances.

- b. Lack of human resources who know about ecotourism

The community is an inseparable part of bamboo forest management in Penglipuran Village. The community utilizes the natural resources in the bamboo forest to meet their daily needs. The community's perception is their knowledge and views on the development of ecotourism in the bamboo forest. Community perceptions can be seen from their knowledge and understanding of bamboo forests, knowledge of tourist destinations that will visit bamboo forests, approval of ecotourism development in bamboo forests, desire to be directly involved in management and desire to participate more actively in the future. Most of the people who agree and support also not all of them can understand about natural tourism they assume that tourism development in question is like tourism in general which will bring in many tourists for one visit. This situation shows that the level of public awareness and concern for the importance of

The bamboo forest can be said to be quite good, although the understanding of nature tourism itself needs to be improved again. Therefore, it is necessary to provide counseling to the local community about nature tourism and its development, so that people do not get the wrong perception. Besides that, according to them, with the existence of ecotourism special interest nature tourism later in the area, the community hopes that the government can open better access to the area, especially transportation roads and tracks or routes to get to the bamboo forest.

- c. Lack of cooperation with partners engaged in ecotourism management

In an effort to develop ecotourism in the bamboo forest of Penglipuran Village,

collaboration with various parties is very important to increase public awareness by involving groups or non-governmental organizations as companions or institutions engaged in natural resource conservation to reintroduce the potential of bamboo forest tourism in the village. Outreach to the public.

- d. There is dependence on the surrounding community

In an effort to develop the Bamboo Forest in Penglipuran Village as a tourist attraction, it cannot be separated from the actual conditions that exist as well as internal and external problems. Various studies and studies on the potential of the Bamboo Forest in Penglipuran Village have been carried out by various parties, including the survey conducted in this study. The interpretation given to the Bamboo Forest in Penglipuran Village is that this area is unique and has the potential as a promising tourist attraction. Nevertheless, problems were identified that could hinder efforts to manage the Bamboo Forest area in Penglipuran Village into a tourist attraction that still maintains its authenticity. Because it is realized that to make the Bamboo Forest in Penglipuran Village a tourist attraction that still avoids environmental damage, various obstacles must be suppressed as low as possible. An area of 45 hectares of land from Penglipuran Village consists of bamboo forests. This bamboo forest is highly guarded by the people of Penglipuran Village for generations. As time changes and population growth increases, it becomes another threat to the encroachment of bamboo forests as residential land. This is considered as one of the factors that threaten the sustainability of the bamboo forest in Penglipuran Village.

- e. Limited sources of funds for ecotourism development

Constraints in the management of bamboo forests in Penglipuran Village are the lack of management funds, lack of facilities and human resources in development and protection activities, so that the management of bamboo forests in Penglipuran Village is still not optimal. Penglipuran Village managers need financial assistance from the region to manage this bamboo forest. The bamboo forest in Penglipuran Village is considered quite strategic if it is used as a tourist destination, especially as a natural tourist attraction. The potential of unspoiled natural wealth is a potential tourist attraction in itself. It's just that, it needs professional management, transportation facilities, accommodation and reliable tour guides.

3.1.5 External Factors of Penglipuran Village

1. Opportunity

- a. The need for tourist objects is increasing
In today's era, people are more likely to like back to nature tourism, namely tourism with natural nuances to get closer to nature with reasons for relaxation, fun, adventure, and recreation to spend a long vacation. This is due to a very busy daily routine and a lack of green open space.
- b. To attract tourists coming to Bangli Regency
The existing supporting facilities and infrastructure around Penglipuran Village in order to support the development of the area can attract tourists to come, such as adequate transportation facilities, accommodation and consumption facilities, communication facilities, banking facilities, and market and trade facilities that are already available[13].
- c. Become a research location for bamboo forests
The bamboo forest in Penglipuran Village can be used as research, both for flora and fauna research, as well as other research related to bamboo forests. As previously explained in the segment of strength of internal factors, the diversity of flora and fauna species that are still maintained is a strength and can be used as an opportunity to develop an ecotourism development strategy.
- d. There is a cooperative relationship with related parties by involving the community
Opportunities in developing bamboo forests as ecotourism can be done by building cooperation with institutions related to the Penglipuran Village community regarding: 1) Mechanisms for protecting and securing the area from bamboo theft by outsiders, encroachment and other forest damage. The written agreement contains the position and role of each Stakeholder along with their rights and obligations, 2) Involvement of village officials and the surrounding community in the management of the bamboo forest area which is tied institutionally through Village Regulations.
- e. Investment opportunities for partners to encourage investors in ecotourism
One of the strategies for developing ecotourism in bamboo forests is to create opportunities to invest in doing business in the field of ecotourism without reducing the function of bamboo forests. The existence of biophysical potential can be used as an indicator to encourage investors to invest in the development of bamboo forests in

Penglipuran Village. In addition, the varied facilities and infrastructure and the distance not so far from the city center provide important points as capital to invite investors to join.

2. Threat

- a. Damage to the ecological and aesthetic potential due to human activities
Along with the changing times, the planned development of bamboo forest ecotourism in Penglipuran Village, resulted in the potential for ecological and aesthetic damage caused by tourists. However, the habitat conditions are still relatively good with the awig-awig of Penglipuran Village still being strong, the bamboo forest in Penglipuran Village is still very well preserved. As one of the relatively intact forest areas, the bamboo forest in Penglipuran Village has a very important role, including as a village protector to hold water, so that the threat of flooding is never experienced by the community.
- b. Lack of ability of ecotourism actors
Lack of ability of tourism actors, among others, in terms of guides, food providers, skills in making souvenirs and managing economic businesses. The quality of human resources in the community around Penglipuran Village needs to be improved to be able to follow various developments and access as a result of tourism objects. It is hoped that the community will not be isolated in their own area. The quality of human resources is also prepared to capture various economic opportunities while upholding the prevailing norms. The need for training and skills and counseling to improve human resources related to ecotourism development efforts. This is important because it can increase knowledge and increase awareness of the surrounding community that ecotourism activities in the bamboo forest in Penglipuran Village can be beneficial for economic benefits for their lives.
- c. Forest degradation threatens sustainability
In general, forest degradation occurs due to damage to a point where the awig-awig regarding the preservation of bamboo forests in Penglipuran Village begins to fade, which can also be interpreted as degraded forest as a condition where the ecological, economic and social functions of the forest are not fulfilled.

3.1.6 Ecotourism Development Strategy in Bamboo Forest in Penglipuran Village

The impact of ecotourism activities on Penglipuran Village and the community can be analyzed with a SWOT analysis, the impact is directly

classified into external factors (opportunities and threats). While the indirect impact is classified into internal factors (strengths and weaknesses). Both of these factors have a positive impact that comes from opportunities and strengths and a negative impact that comes from threats and weaknesses. By using internal and external matrices, weights and ratings can be assigned to predetermined parameters, so that a value (score) will be obtained. This value will

provide direction on future prospects for obtaining strategic concepts in the development of ecotourism in bamboo forests in Penglipuran Village.

The technique of determining the strategy in the SWOT analysis is through a cross strategy from the data of the four factors as listed in the following figure.

Internal	<p>Strength (S)</p> <ol style="list-style-type: none"> 1. The potential of bamboo forests can be used as ecotourism products 2. Creating job opportunities in the field of ecotourism 3. There is community support for forest conservation 4. Easy access from downtown Bangli 	<p>Weaknesses (W)</p> <ol style="list-style-type: none"> 1. Supporting facilities do not yet exist 2. Lack of human resources who know ecotourism 3. There is no collaboration with partners engaged in ecotourism management 4. There is dependence on the surrounding community 5. Limited sources of funds for ecotourism development
External	<p>Opportunities (O)</p> <ol style="list-style-type: none"> 1. The need for tourist objects is increasing 2. To attract tourists to Bangli Regency 3. Become a research location for bamboo forests 4. There is a cooperative relationship with related parties by involving the community 5. Investment opportunities for partners to encourage investors in ecotourism 	<p>Strategy (SO)</p> <p>Utilizing the beauty, uniqueness and diversity of natural wealth with clear village awig-awig and community support to open up job and business opportunities</p>
	<p>Treaths (T)</p> <ol style="list-style-type: none"> 1. Damage to the ecological and aesthetic potential due to various human activities 2. Lack of ability of ecotourism actors 3. Forest degradation threatens sustainability 	<p>Strategy (ST)</p> <p>Opening an agreement with the community for the protection of the area and cooperation with various parties</p>
		<p>Strategy (WO)</p> <p>Improving facilities, improving the quality of human resources, opening cooperation with related parties</p>
		<p>Strategy (WT)</p> <p>Training and skills to improve human resources related to nature tourism development</p>

Figure 1. Strategy determination technique

The ecotourism development strategy referred to in the SWOT analysis is to maximize the strengths and opportunities of development activities for local communities, but simultaneously minimize the weaknesses and threats contained therein. In the description of various criteria and indicators that will be used in the development of ecotourism. Thus, the aim is to identify and evaluate various ecotourism criteria that affect ecotourism development areas including calculating the carrying capacity of

ecotourism special interest tourism in bamboo forests in Penglipuran Village.

Based on the results of the SWOT analysis, the strategy for using ecotourism in Penglipuran Village as a center for preserving bamboo forests in Bali can be done by mobilizing forces to take advantage of existing opportunities. The strategy for using ecotourism can be done as follows.

1. Develop policies for the development and use of ecotourism as a means of preparing local communities to face the development of

ecotourism utilization for the preservation of bamboo forests.

2. Promote bamboo forests to become tourist destinations through ecotourism.
3. The need for cooperation between related agencies to develop joint development and supervision programs.
4. The need for education and training activities for local communities to prepare all the needs to support the use of ecotourism in the preservation of bamboo forests.

Strategies that can be carried out in the use of ecotourism for the preservation of bamboo forests are as follows.

1. Consolidation of ecotourism development and utilization planning.
2. Development of ecotourism products so that tourists are interested in owning and utilizing the products of bamboo forests.
3. Increased conservation awareness development program, aimed at increasing public understanding of tourism.
4. Institutional stabilization, including the utilization and capacity building of institutions as a mechanism that can regulate various interests, drafting and perfecting laws and regulations, improving the quality of resources.

4 Conclusion

Based on the results of the discussion obtained, in identifying the internal and external factors of ecotourism utilization in Penglipuran Village as a center for bamboo forest conservation in Bali, the following conclusions can be drawn.

1. Strength, namely the high value of community support for the preservation of bamboo forests.
2. Weaknesses, namely limited sources of funds for development.
3. Opportunities, namely where the need for tourist objects is increasing.
4. Threats, namely forest degradation caused by the lack of ability of ecotourism actors.

The strategy for using ecotourism in Penglipuran Village as a center for preserving bamboo forests in Bali can be done by mobilizing forces to take advantage of existing opportunities. The strategy for using ecotourism can be done as follows.

1. Develop policies for the development and use of ecotourism as a means of preparing local communities to face the development of the use of ecotourism for the preservation of bamboo forests, in the form of awig-awig.
2. Promote bamboo forests to become tourist destinations through ecotourism.
3. The need for cooperation between related agencies to develop joint development and supervision programs.
4. The need for education and training activities for local communities to prepare all the needs to

support the use of ecotourism in the preservation of bamboo forests.

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