



The Existence of Subak Teba Majalangu Ecotourism as a Protection Solution from Land Conversion

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Abstract. One of the top vacation spots for both domestic and international travelers is Bali. The richness, natural beauty and diversity of arts and culture are the main attractions. Therefore, the tourism sector in Bali is highly relied upon by the Bali Provincial Government and the Balinese people as the driving force of the Balinese economy. One of the tourist attractions and sites of cultural significance of Bali is Subak. Subak is a Balinese local wisdom organization that deals with the irrigation system of agricultural waters in a traditional way. Subak is not just a rice field irrigation management organization, UNESCO has recognized it as a part of Balinese society and as a global cultural asset. Currently, the existence of Subak is on the verge of extinction. The extinction in question is the decreasing agricultural land due to land conversion. Subak is currently facing the problem of land conversion which is increasing over time. To overcome this, innovations are needed that support agriculture as a tourism partner, with the aim of reducing land conversion. Development of ecotourism, a type of tourism that is accountable for the preservation of nature and contributes favorably to the welfare of local populations, is one of the suggested alternatives. Ecotourism is anticipated to lessen the conversion of rice fields that currently takes place.

Keywords: Bali, Tourism, Subak, Ecotourism, Land Conversion.

1 Introduction

The interaction between travelers, service providers, the tourism sector, and the government in providing infrastructure and services that support tourism activities gives rise to the phenomena known as tourism. A system made up of these many interactions is related to one another. According to Gunn and Var, the tourist system is influenced by at least nine external influences, including: (a) natural assets; culture; (c) entrepreneurship; (d) monetary and financial; (e) work; (f) rivalry; (g) community; (h) the amount of tourist development may be impacted by government policies, including those made at the national, regional, and local levels; and (i) organizations and

institutions. Gun (2002) In this case, Bali Island is one concrete example of tourism that fulfills these factors. Bali Island is one of the tourism centers in Indonesia that is able to improve the economy of the Balinese people, and Indonesia, so it is not strange if the wider community gives the nickname that Bali as a tourist island. As a tourist destination, Bali has one mainstay that can be used as a *prima donna* for tourists, namely the community with its culture, so Bali is dubbed the island of Culture. The island of Bali is increasingly crammed with visitors who are very interested in a variety of cultures that contain a lot of local wisdom that still has a distinctive Hindu spirituality.

Basically, local wisdom is not an independent identity. The culture of a society is strongly influenced by the environmental conditions in which the community is located. Geographical conditions, climate, natural potential and natural challenges determine the form of culture. The diversity of livelihoods, patterns of life and aspects of cultural aspects that are born subsequently ranging from physical culture to community ideology are strongly influenced by natural factors. Therefore, culture is said to be a human strategy in adapting to their environment, because different natural conditions are very potential for the formation of cultural diversity of the people who occupy it. Purwanto (2000) Bali's local wisdom is an attraction for tourists and the biggest source of foreign exchange for the country. Based on information from the 2019 Indonesian Ministry of Tourism and Creative Economy, the tourism sector contributed around 5.5% to Indonesia's Gross Domestic Product, with the number of tourists reaching around 16.1 million people. This data is inversely proportional to the number of tourist visits in 2021, which has decreased significantly from 2019. This is the impact of the covid-19 pandemic that occurred in 2020 which caused the Indonesian tourism sector to not be optimal. Therefore, it is important for the government to optimize the cultural tourism sector in Bali Province.

The local wisdom that lives and was born in Bali is very diverse. One of the local wisdom of the Balinese people is the cultural heritage of the Balinese people regarding subak. Subak is an organization of local wisdom of the Balinese people concerning the irrigation system in managing irrigation in agricultural land which has socio-agrarian, religious, and economic characteristics. The Regional Regulation (Perda) of Bali Province Number 9 of 2012 concerning Subak, in Article 1 paragraph (4), defines Subak as a traditional organization in the field of water use and or crop management at the farm level in indigenous peoples in Bali that is socio-agrarian, religious, and economically active and has grown and developed over time. The subak irrigation system is distinctive because of these features. The religious rites that subak members regularly carry out in accordance with the stages of rice growth, from soil management to the rice harvest kept in the *lumbung*, demonstrate the distinctiveness of the subak irrigation system.

Subak is not just a rice field irrigation management organization, it is also a Balinese identity. Subak reflects a combination of management, democracy, tenacity, a high sense of community, and cultural values, which can still be shown as a living culture followed by indigenous people Christofer. The Subak system in Bali is a Balinese cultural heritage to be proud of. Subak as an irrigation system is a commensurate technology that blends with the socio- cultural of the local community. Tri Hita Karana's reflection is called Subak. The Tri Hita Karana philosophy emphasizes the importance of upholding harmony among God, people, and environment. Due to the fact that subak is an application of the Tri Hita Karana Concept and that it is on the point of extinction, UNESCO has recognized the subak system as a part of the world's cultural heritage. The extinction in question is the decreasing agricultural land due to land conversion. Control of land function experts in the current era is very important for the sustainability of human life. Ecotourism is a solution for agricultural land (subak) to suppress land conversion. Ecotourism itself is a tourism activity that gives full attention to the preservation of the natural environment, cultural uniqueness and realizes welfare for the surrounding community. Ecotourism is a type of tourist activity that is professionally promoted, trained, and includes educational components. It is a

form of economic activity that emphasizes cultural heritage, attempts to conserve natural resources, and the welfare of locals. The concept of ecotourism seeks to combine several important components in the form of nature and cultural conservation, empowering local communities and increasing awareness of the environment. Iwan (2011). According to the International Ecotourism Society, ecotourism is ethical nature travel that enhances community welfare while protecting the environment. Ecotourism is ethical nature travel that improves community welfare while preserving the environment, according to the International Ecotourism Society Damanik (2005).

According to Act No. 10 of 2009 concerning Tourism, tourism is a crucial component of national development that is carried out methodically, planned, integrated, sustainably, and responsibly while still offering protection for religious values, culture that is alive in society, environmental sustainability and quality, and national interests. By exploiting the beauty of currently available natural resources, Subak ecotourism is one type of sustainable tourism that is anticipated to promote the program to prevent paddy fields from being converted and raise farmers' income from tourism enterprises. Applying subak ecotourism might help prevent cases of land conversion, particularly on subak and other green, open spaces. Farmers can play two roles so that their money comes from ecotourism destinations as well as from farm crops. Farmers can profit from the scenic value of their rice fields by marketing ecotourism. Ecotourism can improve farmers' well-being. The issue of land conversion and the loss of green open space in the middle of the environment, particularly metropolitan areas, can be solved by subak ecotourism.

2 Research Method

This study falls under the category of normative legal research, which focuses on gathering legal materials through literature reviews. The major legal sources for the used legal materials are drawn through library research and are based on Regional Regulation (Perda) of Bali Province Number 9 of 2012 concerning Subak. Secondary legal materials are obtained from various kinds of readings or literature and expert opinions related to this paper. The technique of collecting legal materials is done by collecting various books, literatures, and other legal materials related to this paper. With the aim of providing an overview of the existence of ecotourism in Subak Teba Majalangu as a protection solution from land conversion.

3 Discussion

3.1 Existence of Subak Teba Majalangu as Ecotourism

According to the understanding of Balinese indigenous people, subak is an irrigation system that is run traditionally and has been an activity for generations to cultivate agricultural land. Another definition of subak is provided in Article 1 letter h of Government Regulation No. 23 of 1982, which defines it as a community governed by customary law that is socially religious in nature and has historically grown and developed as a group involved in farm-level water use. Subak irrigation system can basically be viewed as a system of commensurate technology, and also viewed as a cultural system. From the existence of these phenomena and understanding, it is often mentioned that the subak system is a technological system that has become part of the culture of the local community or such a system is also mentioned as a technological system that has developed into a cultural phenomenon of society. Poeswardojo (1993) Because the subak system is seen as a technological system, it has the ability to be transformed to other areas. Meanwhile, because the subak system is seen as a cultural system, it has subsystems such as mind-set, social, and artifacts. Apart from being an irrigation sys-

tem, subak also has the potential for sustainable tourism by making subak an ecotourism. Ecotourism is a type of tourism that places a high priority on protecting the environment, cultural uniqueness and realizes welfare for the surrounding community. One example of subak ecotourism that is still active in Bali is Subak Teba Majalangu.

Subak Teba Majalangu is one of the ecotourism destinations owned by Kesiman Kertalangu Village which is located in the Kertalangu Cultural Village. Carrying the concept of Balinese agricultural education, Subak Teba Majalangu introduces various agricultural tools, agricultural methods to practice in the field. The definition of Teba Majalangu itself, consists of two words *teba* in Balinese terms also known as the backyard of the house and *Majalangu* is a kingdom that once existed in the Kesiman Kertalangu Village area. Holistically, *teba* also stands for Nature Learning Place, so that all existing facilities and infrastructure are made with the concept of being friendly to the environment. The ant statue is the icon of Subak Teba Majalangu Educational Tourism. Subak Teba Majalangu is one of the ecotourisms in the middle of the city.

Ecotourism itself is regulated in the Guidelines for Ecotourism Development in the Region, Minister of Home Affairs Regulation No. 33 of 2009, which regulates the types and principles of Ecotourism, planning, utilization and control of ecotourism, authority in ecotourism, provision of incentives and facilities, community empowerment, guidance and reporting and funding issues. The 2018–2029 Regional Tourism Development Master Plan is governed by Denpasar City Regional Regulation Number 3 of 2019, in addition to regional autonomy. Subak *teba majalangu* presents ecotourism in the horticultural area. Subak *teba majalangu* ecotourism was formed in 2019 with funding from the village budget. In addition to getting funds from the APBDes in the management of subak *majalangu* ecotourism is assisted by CSR (Corporate Social Responsibility). One of the companies that became CSR (Corporate Social Responsibility) from Subak Teba Majalangu is Astra. The establishment of ecotourism in Subak Teba Majalangu aims to utilize the potential of the environment as a nature-based tourist location. Regarding the management of ecotourism is carried out by BUMDES.

Until now, Subak Teba Majalangu is still active by developing its ecotourism with innovative activities. So that for tourists who will visit not only presented the natural scenery of rice fields but also given education about subak activities. Some activities that can be obtained by tourists are agricultural education activities which are learning activities for tourists. In the process in the field they will be accompanied by instructors who will teach and provide understanding related to agriculture. Not only theoretically, students are also invited to jump directly to try various activities such as learning to *matekap* using cows, learning to plant rice and learning to *ngangon* ducks. The Subak Museum is also one of the interesting places in the Teba Majalangu area. The museum area contains a number of old agricultural tools used in agricultural activities. The subak museum will present information starting from the name of the tool, its function and become an important part of the student learning process later in the field. In addition, the Feeding Animal activity which is exciting especially for children is also a tourist innovation, where they will be invited to interact and feed animals directly. The education process will also teach the types of animals that are usually used in traditional Balinese ceremonies/*upakara* activities. Then the seedling house as a place / exhibition to display displays of organic seeds that have been made by farmer groups. Tourists can see what kind of seeds / plants are in the *teba Majalangu* area and are given general education related to the function of each plant.

There is no doubt that the existence of Subak Teba Majalangu is an example of ecotourism that successfully combines Balinese agricultural education, environmentally friendly management, and direct interaction with local communities. Through innovative activities such as learning agriculture, subak museums, animal interaction, and organic seedling exhibi-

tions, Subak Teba Majelangu remains active in developing ecotourism and providing an engaging experience for tourists, while promoting natural preservation, cultural uniqueness, and the welfare of the local community.

3.2 Protection of Subak Teba Majelangu from Land Conversion with the Concept of Ecotourism Implementation

In article 1 paragraph 2 of Presidential Regulation No. 59/2009 concerning Control of Paddy Field Conversion, according to one definition, paddy field conversion refers to the temporary or permanent conversion of paddy fields to other types of fields. Controlling the conversion of paddy fields is a series of activities intended to control the conversion of paddy fields into non-fields either permanently or temporarily. Land conversion has significantly increased in Denpasar city during the past four years, particularly in agricultural areas. In 2016, the existing land in Denpasar reached 2,444 hectares, but in 2017 it decreased to 2,409 hectares. Furthermore, in 2018, the land decreased again and remained only 2,170 hectares. In fact, in 2019, the remaining agricultural land area in Denpasar City was only 1,958 hectares. The number of subak has also decreased in various sub-districts. In East Denpasar, there are only 14 subak with a total area of 616 hectares. In North Denpasar, there are 10 subak with a total agricultural land area of 589 hectares. In West Denpasar, there are only 8 subak with an area of 2017 hectares, and in South Denpasar, there are 10 subak with a land area of only 536 hectares.

This information indicates that Denpasar City's sustainable agricultural land area has drastically decreased. In line with Law No. 41 of 2009's article 1 paragraph 7, what is referred to as a Sustainable Food Agriculture Area is an agricultural cultivation area, especially in rural areas, which has a large area for sustainable food production and/or a large area for sustainable food production reserve land and its supporting elements with the main function to support national food independence, security and sovereignty. In this context, the application of the ecotourism concept is a promising solution to protect green agricultural areas, such as subak, from the threat of land conversion. By integrating sustainable food agriculture tourism activities, such as education about traditional agriculture, irrigation water management, and subak life to tourists, it can give farmers and nearby people a second source of income. In addition, the ecotourism approach can also raise awareness of the importance of preserving subak as a valuable cultural heritage

and ecosystem. One clear example of reduced land conversion in agricultural green areas as a result of ecotourism development is Subak Teba Majalangu.

Subak Teba Majalangu is a 1.4 hectare area located in Kesiman Kertalangu Village, Denpasar City. According to Article 5 Number 4 Letter b, Perda Number 8 of 2021 concerning the Denpasar City Spatial Plan, part of the Kesiman Kertalangu Village area is included in SWP (Sub Planning Area) B which functions as a center for agricultural activities, housing, and trade. Article 39 of the regulation also regulates the Agricultural Area, and Kesiman Kertalangu Village is included in the Food Crop Area which is intended for wetland food crops (paddy rice) with natural or technical irrigation managed by subak groups. Kesiman Kertalangu Village is also included in the Sustainable Food Agriculture Area (KP2B) and Horticulture Area which is an area for ornamental plants, fruits, vegetables, and biopharmaca, as well as the development of urban Cultivation Areas.

As a horticultural area that has a large area of land and space, Subak Teba Majalangu also has the status of an ecotourism area that is protected by law. According to Article 1 paragraph 3 of Local Regulation Number 3 of 2019, ecotourism is the concept of developing and organizing tourism activities based on the utilization of the environment for protection (conservation) purposes. The utilization of the environment for protection aims to maintain the environment's and natural resources' long-term viability so that it remains sustainable and does not experience damage, especially in terms of land conversion. In the field of land conversion, this can be interpreted as an effort to use land wisely and not damage the surrounding environment. For example, through reforestation of land that has been converted for development, so as to maintain soil fertility and reduce adverse impacts on the environment.

Wise utilization of the environment can also encourage sustainable economic development, such as through the development of nature tourism or ecotourism, which provides economic benefits to local communities. Land conversion, especially on agricultural land, which continues to occur in Bali is a threat to food security on the Island of the Gods, especially with the increasing population growth and increasing food needs. Every year, around 600 hectares to 1000 hectares of agricultural land in Bali is converted into housing, hotels, restaurants, and other buildings that support the tourism industry and

other industries. The impact of agricultural land conversion on the neighborhood's socio-economic situation is very complex, ranging from increasing food prices, loss of employment for farmers, to high rates of urbanization. Due to the construction of structures on land that was once paddy fields, there is also a drop in the younger generation's interest in agriculture as well as harm to irrigation channels.

By applying the concept of ecotourism to agricultural areas, especially subak, in the middle of urban areas, it is hoped that it can reduce the number of land conversion that occurs. Agricultural land that previously only relied on agricultural products can now get additional income from the tourism sector. Through ecotourism, there is not only an increase in income, but also welfare for farmers. Sustainable tourism that benefits both the environment and society is known as ecotourism. Sustainable tourism plays an important role in maintaining the sustainability of Subak Teba Majelangu. Through ecotourism, rice fields are not only utilized for agriculture, but also as a tourism attraction. Ecotourism becomes a means to introduce the rich peasant culture in Bali, especially in the context of Subak Teba Majelangu. The peasant culture that lives and develops in Bali is not only inherited from ancestors, but also a source of income through the tourism sec-

or.

By applying the concept of ecotourism to subaks throughout Bali, it is hoped that the rate of land conversion can be significantly reduced. Agricultural land that was previously considered less profitable, is now a tourism potential that generates better income. However, in this effort, the role of the government is very important in establishing regulations and supervision related to land conversion. The government must have and enforce strict regulations to ensure the sustainability and protection of subak. In addition, cooperation between all stakeholders in this case the government, local communities, and tourism actors also needs to be improved. Through active participation from all parties, awareness can be built on the importance of preserving subak as a valuable cultural heritage and ecosystem. Education and socialization on environmental sustainability and local cultural values need to be improved to strengthen commitment to safeguarding subak and prevent harmful land conversion. In addition, ecotourism development also needs to be accompanied by good management efforts. Careful planning, environmental maintenance, and regulation of tourist visits need to be considered. By ensuring that tourism ac-

tivities do not damage the environment and local culture, ecotourism can be a sustainable source of additional income for farmers and local communities. With the concept of ecotourism in agricultural areas, such as subak in Denpasar City, it is expected to create a balance between agricultural and tourism interests. This approach not only generates economic benefits, but also protects cultural heritage, maintains environmental sustainability, and improves the welfare of local communities. Thus, ecotourism is a promising solution to protect agricultural green areas, such as subak, from the threat of land conversion.

The government, the community, and tourist stakeholders must work closely together to execute the idea of ecotourism in rural areas, particularly subak in Denpasar City. The government as a regulator must take an active role in establishing policies and regulations that support the development of ecotourism. This includes strict supervision of land use change, environmental management, and protection of cultural heritage. Local communities also have an important role in maintaining the sustainability of ecotourism. They must be involved in managing and making decisions in agricultural regions. In this case, the participation of farmers, subak groups and surrounding communities is essential. Communities need to be empowered to participate in ecotourism activities, such as managing homestays, providing local agricultural products, or becoming tour guides who introduce the uniqueness of subak and farming culture to tourists.

Meanwhile, tourism players must also carry out environmentally and culturally responsible practices. They need to comply with rules and guidelines set by the government regarding tourist visits, use of natural resources, and preservation of cultural heritage. Tourism players can also play a role in educating tourists about the importance of maintaining local ecosystems and cultures and making direct contributions to local communities through sustainable economic partnership programs. The role of the government as the main actor in implementing and enforcing regulations regarding ecotourism as a form of solution to the transfer of land functions is expected to be firm in implementing existing regulations so that the rate of land conversion can be suppressed.

4 Conclusions and Suggestions

4.1 Conclusion

1. Subak Teba Majelangu is one example of ecotourism that successfully combines Balinese agricultural education, environmentally friendly management, and direct interaction with local communities. In its management, Subak Teba Majelangu is funded by the village budget and assisted by CSR from companies such as Astra. The success of Subak Teba Majelangu in developing ecotourism lies in innovative activities such as learning agriculture, subak museum, interaction with animals, and exhibition of organic seeds. Through these activities, Subak Teba Majelangu provides an exciting experience for tourists, while promoting natural preservation, cultural uniqueness, and the welfare of the local community. Thus, Subak Teba Majelangu becomes an ecotourism destination that combines education, environmental preservation, and community welfare holistically.
2. Based on the data and information presented, in agricultural regions, they must be active in management and decision-making, especially subak areas, has decreased significantly in recent years. The region's ability to sustain its crops and ensure food security is put in jeopardy by this. Therefore, measures are needed to protect green agricultural areas from the threat of land conversion. The application of the ecotourism concept is a promising solution in protecting agricultural areas, such as subak, from land conversion. By integrating sustainable agricultural tourism activities, such as education about traditional agriculture, irrigation water management, and subak life to tourists, it can provide an additional source of income for farmers and local communities. The ecotourism approach can also raise awareness of the importance of preserving subak as a priceless ecology and cultural legacy. The development of ecotourism in agricultural areas requires an active role from the government, local communities, and tourism actors. The government needs to take a role in establishing policies and regulations that support the development of ecotourism, including supervision of land conversion and protection of cultural heritage. Local communities need to be involved in decision-making and management of agricultural areas, while tourism actors must carry out environmentally and culturally responsible practices. With the implementation of the ecotourism concept, it is hoped that a balance can be created between the interests of agriculture and tourism. This not only generates economic benefits, but also protects cultural heritage, maintains environmental sustainability, and improves the welfare of local communities. There needs to be close cooperation between all relevant parties to achieve this goal, as well as strict enforcement of regulations to control land conversion. In maintaining the sustainability of subak and preventing harmful land conversion, education and socialization on environmental sustainability and local cultural values need to be improved. Ecotourism development also needs to be accompanied by good management, including careful planning, environmental maintenance, and regulation of tourist visits. Thus, the development of ecotourism in agricultural areas, especially subak in Denpasar City, is a promising solution in protecting green agricultural areas from the threat of land conversion. Through these measures, it is expected that the num-

4.2 Suggestions

1. For the government, it is important to first brainstorm regulations to avoid overlapping regulations between the village government and the municipal and/or provincial governments, as well as to emphasize enforcement of existing rules and/or regulations.
2. For the community, to make this study a knowledge that it is critical to spread awareness of the significance of preserving local culture and the environment, as well as to aid in raising public awareness of and care for the preservation of agricultural areas.
3. For other researchers, to conduct further research studies on the impact of ecotourism on the environment, culture and economy in agricultural areas. This will help in designing a more sustainable ecotourism development strategy and reduce its negative impacts. Other researchers can also conduct mapping and inventory of natural, cultural and social resources in agricultural areas. This will help in better planning and management and maintain the sustainability of agricultural areas.

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