The Potential of Subak Uma Lambing in Sibangkaja Abiansemal Village, Badung Based on Organic Farming Culture as Ectourism

I Wayan Wesna Astara1*, I Wayan Budiarta2, Kadek Merta Wijaya3, I Gusti Agus Maha Putra Sanjaya4, Tanjung Subrata5, Desak Ketristiana Sukmadewi6, Naori Miyazawa7

1Fakultas Hukum, Universitas Warmadewa, Bali
2Fakultas Sastra, Universitas Warmadewa, Bali
3Fakultas Teknik dan Perencanaan, Universitas Warmadewa, Bali
4,6 Fakultas Pertanian, Universitas Warmadewa, Bali
5Fakultas Kedokteran dan Ilmu Sosial, Universitas Warmadewa, Bali
7Universitas Waseda

Corresponding Author: I Wayan Wesna Astara wesnaastara58@gmail.com

ARTICLE INFO
Keywords: Ecotourism, Organic Farming, Farmer's Added Value

Received : 21 June
Revised : 25 June
Accepted: 27 August

ABSTRACT
Partners in this service are Prajuru Subak Umalambing, which involves organic and non-organic farmers in Subak Umalambing Sibangkaja Ecotourism. The partner's problems are the developed Subak Lambing ecotourism has not been able to implement state law and local law (adat law, awig-awig, and perarem) as part of legal certainty. Objectives: First, to provide legal awareness of ecotourism and organic farming-based culture with the expectation that the law has a cultural meaning in managing ecotourism; second, the potential of Subak Umalambing as ecotourism organic farming requires synergy between Kelian Subak and the Astungkara Way Foundation in managing small tradition-based agriculture (farmers) that can provide added value to farmers. Third, Subak Umalambing Ecotourism in a "redesign" manner and public health needs continuous education and state intervention, especially village government Sibangkaja, to design sustainable ecotourism with the protection of state law
INTRODUCTION
Bali is famous as an international tourism destination area. The practice of mass tourism has exploited natural resources without regard for sustainability and marginalized the interests of local communities (Nyoman Suksma Arida, 2017). The new paradigm of tourism then emerges as a criticism of all deviations from mass tourism practices. Ecotourism (Fennel, 1999) is sustainable nature-based tourism with a focus on experience and education about nature, managed with a certain management system, has the lowest negative impact on the environment, is not consumptive, and is locally oriented (in terms of control and benefits that can be taken in from business activities). This new tourism, in the eyes of tourists, tends to like tourist objects with special interests, such as cultural tourism, nature-based tourism, or adventure tourism and is more concerned with genuine experiences (pristine) and short experiences in only one tourist area. The concept of tourism development, which pays attention to the existence of a balance between aspects of natural and economic sustainability as well as ecotourism activities, is of special interest to tourists.

The development of Bali tourism provides a special interest in developing ecotourism as an alternative for the welfare of Subak Krama. Subak is one of the tourist attractions in Bali. Subak can be defined as an irrigation and agricultural institution with a socio-religious pattern, primarily engaged in water management for annual crop production, especially rice, based on the Tri Hita Karana principle (Sutawan, 2008). Subak has administrators, or Kelian Subak, whose job is to manage irrigation in their working area. Each subak in Bali has the potential to become an ecotourism attraction. One of the Subak Uma Lambing Ecotourism Objects is located in Sibang Kaja Village, Abiansemal District, Badung Regency, Bali Province. This ecotourism object presents beautiful and original views of agricultural areas with natural farmer activities. In this place, tourists will be invited to get involved in the lives of farmers in the fields, where during the harvest season they can also directly harvest the rice and dry it so that it can then be processed into rice.

Figure 1. Servants in the Uma lambing Subak
The land area for Subak Uma Lambing is 86.77 ha. The potential for planting in this subak is rice, henna flowers, pandanus, etc. Ecotourism activities in this subak began in 2018 with various efforts towards ecotourism based on nature and culture. Then it was Krama who took the initiative to plan ecotourism in partnership with the Astungkara Way Foundation and the Green School. The potential for newly developed organic farming is only 20% of the land area, with the development pattern of duck rice (in planting rice, there are ducks in it, and the advantage is that there are fewer pests and no need to chase them). This means that conventional farming patterns are free of chemicals and return to natural farming patterns. The number of Subak Krama before COVID-19 was 240, and after the COVID-19 pandemic, there were 275. Referring to the opinion of I Wayan Wesna Astara, related to the management of ecotourism in Bali, ecotourism activities that are responsible for the environment or conservation are managed by natural principles, where the aim is not only to enjoy the natural beauty of agricultural rice fields but also involves elements of education (I Wayan Wesna Astara, 2022).

Partner Problems: (1) Subak Uma Lambing Sibangkaja Village has the potential to become an ecotourism tourism destination area. In the legal aspect, it does not meet the requirements for legal ecotourism. In harmonizing the interests of Subak with those who wish to develop organic farming-based ecotourism, a legality principle or legal regulation is required. (2) Ecotourism based on organic farming requires the management of various Subak parties, aspects of Subak public health, the Astungkara Way Foundation Manager, and the Ulamambing Subak donors regarding organic farming-based ecotourism management by implementing culturally meaningful legal theory. (3) The Tri Hita Karana philosophy in managing Subak as ecotourism requires planning related to farmer culture, both physically and culturally, sustainably by developing the potential of Balinese local wisdom.
LITERATURE REVIEW

This concept has been implemented in the development of ecotourism in the Uma Lambing subak. Subak Uma Lambing is maintained as ecotourism so that land conversion does not occur, both for residential, business, and other social interests. If this is allowed to threaten the existence of Subak in the future, as a consequence, subak is one of the most urgent efforts to overcome this problem by controlling land conversion and transforming non-agricultural workers through subak engineering as an ecotourism attraction. Even so, the potential attraction of subak-based ecotourism is still feared, and it only exploits subak but forgets its empowerment. So it is necessary to look for the potential of its own subak considering that so far it has been more inclined to develop dominant tourist attractions from the perspective of entrepreneurs or investors (Muh, Febrianto, et al., 2021).

Agriculture in Bali, especially in Badung Regency, is unique in Indonesia, where agriculture in Badung Regency is managed by traditional irrigation institutions that are often known as subak. UNESCO, at its 36th session on June 29, 2012, in St. Petersburg, Russia, officially announced the recognition of subak irrigated land as a world cultural heritage with the attributes Cultural Landscape of Bali Province: The Subak System as A Manifestation of The Tri Hita Karana Philosophy.

Judging from the data from the Badung Regency Agriculture and Food Service from 2016–2018, the conversion of agricultural land that occurred in Badung Regency, which was previously only 51 hectares, jumped very high to 160 hectares in 2018. The impact on people's lives in Badung Regency due to the change of function Human life, which is mostly dependent on land, both for livelihoods, clothing needs, boards or shelter, food, and religious needs, are the needs of the people in Badung Regency. In fact, the existing community will always try to protect an inch of land (Amanda, 2021).

Furthermore, clearer rules governing regulations regarding the protection of agricultural land in Badung Regency can be seen in Badung Regency Regional Regulation Number 26 of 2013 concerning Spatial Plans for Badung Regency 2013-2033. In Article 81 Paragraph (2), which states the Zoning Regulations for the Allotted Area for Agriculture for the Cultivation of Food Crops as referred to in paragraph (1) letter a, it includes a. Securing Subak-based productive food crop cultivation areas as sustainable agricultural land areas.

The battle for cultural politics and legal politics in the management of ecotourism based on the Tri Hita Karana Philosophy (a Reflection) written by I Wayan Wesna Astara indicates that Balinese culture as a whole has been disrupted. Hindus, if mismanaged by the government, and entrepreneurs who use Balinese land will not be peaceful, and land cases in Bali have cultural nuances (I Wayan Wesna Astara, 2022). If what is developed is based on mass tutorism, capitalism and liberalization tourism will grow. Subak Umalambing Sibangkaja ecotourism needs assistance from various aspects, namely legal aspects, farmer culture, organic farming management, farmer health, and sustainable ecotourism planning.
METHODOLOGY

The implementation method is carried out using a case study approach, namely: 1) Legal aspect assistance in the management of Subak Uma Lambing ecotourism in terms of legality and legal certainty, so that it becomes a legal order in ecotourism management on another matter, legal counseling is also given related to preventive legal protection so that land conversion does not occur, so subak ecotourism is an alternative to tourism based on nature conservation; 2) Participation, assistance, and mediation in providing an understanding of ecotourism aspects of public health, providing an understanding of ecotourism based on organic farming, management of various subak parties, with the Astungkara Way Foundation Management, by implementing culturally meaningful legal theory; 3) The mentoring method in implementing the Tri Hita Karana philosophy in managing Subak as ecotourism requires planning related to farmer culture, both physically and culturally, in a sustainable manner by developing the potential for local Balinese wisdom at the Uma Lambing Subak location; 4) Training in drafting and writing regulations to strengthen the presence of ecotourism based on organic farming; 5) Evaluation of Subak ecotourism activities based on organic farming to ensure that all activities are in accordance with the standards that are at the heart of the problem partners are given solutions to; 6) The data collection technique used was observation of the activities of Subak Umalambing and the facilities and roles of Kelian Pekaseh Subak Umalambing, Astungkara Way Foundation, Renuture Foundation, and Green School in generating Subak Umalambing ecotourism activities. Based on the results of the research, we will check again with (check and recheck) the birth of Subak Umalambing Ecotourism from 2018 to 2023 to see how the dynamics of activities, supporting ecotourism, including legal arrangements, management, and subsequent plans, can be sustainable.

RESEARCH RESULT AND DISCUSSION

Community Empowerment of Subak Uma Lambing in the Legal Aspect of Ecotourism

Empowerment, according to Simon (Harry Hikmat, 2004), is a reflexive activity, a process that can be initiated and maintained only by agents or subjects who seek strength or self-determination. Meanwhile, other processes only provide the climate, relationships, resources, and procedural tools through which people can improve their lives. Empowerment is a system that interacts with the social and physical environment. In the context of empowering the Umalambing Subak, it is discussed that the law is a tool for changing society. It is hoped that after the FGD is held, special assistance will be provided in writing the amendments to the awigg-awig and/or Pararem. The aim is that Prajuru Subak Umalambing, accompanied by a team, will be able to amend the awigg-awig and/or make Pararem regarding Subak Umalambing Ecotourism.

The existence of Subak is one of the local Wisdom that still exists in several areas of Bali, namely the traditional organization of water distribution in paddy fields. Subak organizations have four elements, such as agricultural land (rice fields), water sources, subak members, and the Subak Temple. So in every subak organization, these four elements will always be present and are an absolute
requirement for a subak organization. Members of the Ulamambing Subak were 240 before the COVID-19 pandemic, and during the COVID-19 pandemic, the number of Subak members increased to 277.

Subak Umalambing Sibangkaja has de facto developed into an ecotourism destination whose potential is derived from Subak's activities in managing agricultural products. Farmers in Subak Umalambing, through the Subak clan, have the idea to develop Subak Ecotourism to get additional agricultural produce in the fields. This was captured by Subak Kelian and Subak Krama to develop ecotourism. To protect Bali from the onslaught of the conversion of agricultural land into housing and other industries.

The history of the birth of the Subak Umalambing Ecowissata in 2018 was the collaboration of the Green School with Kelian Subak Umalambing. This ecotourism activity is driven by the Astungkara Way Foundation. Activities related to farmers are expected to grow organic rice. The agricultural area in Subak Ulamambing is 86.77 ha. For farmers who grow rice on organic terms, it is purchased by the Astungkara Way Foundation. (Interview with: Wayan Suwendi Artha, Kelian Subak Ulamambing) The number of krama farmers is 240. Ecotourism activities in Umalambing include 4-5 km of trekking, and every Friday there is an agricultural market. The buyers are foreign tourists, and we offer cooking tours of Subak Umalambing agricultural products. The point of ecotourism in Subak Ulamambing is to return agriculture to nature.

Rice fields are an inheritance that never ran out throughout the ages. If managed properly, rice fields can trade products of food that can be traded as a source of people's lives, and then rice fields can be used as tourist objects for example green rice fields, as well as when rice fields are readily harvested, they look like gold and are spread out wide so that they make coolness and inspiration for tourists (Putu Ambara et al., 2021). In FGD activities with farmers in Subak, Umalambing, and Sibangkaja with the Service Team, they were given counseling and assistance related to ecotourism law. Kelian Subak asked, regarding the history of the birth of ecotourism, is it enough for a de facto establishment of ecotourism in collaboration with the Astungkara Way Foundation? Farmers also hope that the Badung Regency government can provide legal protection to farmers, especially when selling paddy at a stable price. Subak Umalambing ecotourism legal issues can be established based on Balinese customary law and/or Subak Umalambing ecotourism Pararem. Bali Provincial Regulation Number 5 of 2020, regarding Cultural Tourism Standards, Article 5 (1) Components of Tourism Destinations include: a. DTW; b. tourism village; c. accessibility; and D. facilities, public infrastructure, and tourism facilities. (2) DTW and tourism villages as referred to in paragraph (1), letters a and b, include a. natural; b. culture; c. spiritual; and D. artificial. In paragraph (1), letter (a), there is still a blurring of norms, whether it includes Subak, which is the basis of Balinese life in agriculture. When Subak can also become a tourist destination area, there should be a clear explanation as to who can manage it. However, some articles expressly provide an opportunity to manage tourism villages "not called ecotourism," such as Article 8, paragraph (1). Traditional villages, traditional institutions, and community groups have the right to develop rural tourism
based on local potential and the provisions of laws and regulations. invitation. For this reason, Prajuru Subak Umalambing Astungkara Way and Pemabdi held a focus group discussion to unite perceptions about ecotourism management. Law as a tool and/or means of community advancement by providing a culturally meaningful legal understanding the law is a cultural process; it can be realized in the behavior of the community, which is patterned after the law that lives in the Ulamambing Subak community. This potential is explored considering the potential of nature, farmer culture, and religion to be a strength in building Subak Umalambing ecotourism.

As a comparison in ecotourism management, Subak-based ecotourism activities are also carried out in North Denpasar, namely ecotourism in Sembung. Subak Sembung is one of the subtasks that preserve nature. This subak, because it is part of the Denpasar city area, is prone to land conversion. Then, to maintain the function of Subak, ecotourism was developed with awig-awig facilities to maintain function of rice fields (I Putu Putra Wiguna et al., 2018). In the FGD, the servant provides learning and empowering legal knowledge quickly and concisely so that ecotourism legal knowledge becomes a guide and reference for managing Subak-based ecotourism as Balinese local wisdom. In addition, Subak Ulamambing officers need to understand the legal products related to Badung Regency Regional Regulation Number 26 of 2013 concerning the Spatial Plan for the Badung Regency Area for 2013-2033, which contains policies regarding land use regulations, such as the determination of the Regional Spatial Plan, especially for agricultural areas. This is given to the Subak management, who develop ecotourism. The reason is so as not to violate regional regulations related to spatial plans in Badung Regency. Then, after counseling on ecotourism law and Badung Regency Spatial Planning Law was held, there was an increase in legal understanding about ecotourism and Badung Regency spatial planning, which increased by 20%.
Organic Agriculture-Based Ecotourism: Subak Between Agricultural Interests and Ecotourism Development Diversification of Subak Functions as Ecotourism Attractions

In developing the Indonesian government's organic agriculture through Law Number 22 of 2019 concerning the Sustainable Agricultural Cultivation System, which is a substitute for Law Number 12 of 1992 concerning the Plant Cultivation System, it is explained that a sustainable development system needs to be developed in agriculture through an agricultural cultivation system to achieve food sovereignty by taking into account the carrying capacity of ecosystems, mitigation, and adaptation to climate change to realize an advanced, efficient, resilient, and sustainable agricultural system. In addition, through the Nawacita program, the Indonesian government has announced the formation of 1,000 organic villages, which consist of 600 organic food villages, 250 horticultural organic villages, and 150 plantation organic villages (Yuriansyah et al., 2020; Astiko et al., 2020). Currently, in Indonesia, the trend toward consuming organic products has increased significantly, between 20 and 25 percent per year (Dadi Dadi, 2021).

Sibangkaja Abiansemal Badung Village has Subak Umalambing, which also manages ecotourism in collaboration with Astungkara Way. Subak Umalambing ecotourism was born in collaboration with the Green School in 2018 to introduce students to subak and agriculture. Based on the results of interviews and FGDs with Wayan Suwandi Artha Kelian Subak Umalambing, the organic crop development pattern covers only 20% of the agricultural area in the Umalambing subak, which is around 86.77 ha. Then the number of subak krama is 240. However, after the COVID-19 pandemic, there was an increase in subak krama to 275 people. This means that this increase is actually a strong economy in Balinese society. In ecotourism, Subak Umalambing Tangguh's economy is agriculture. Subak Umalambing, which is supported by the Astungkara Way Foundation, is engaged in the social field, which offers an alternative to mass tourism while supporting the potential of Subak, which is worked on by the Balinese people. Through walks and educational programs, they offer tourists the opportunity to learn more about Balinese culture while encouraging locals to practice regenerative agriculture.

Regenerative agriculture is slowly inviting people to reduce the use of synthetic fertilizers as well as the use of pesticides in pest control. This process is carried out in stages; if the entire use of synthetic fertilizers and pesticides is immediately stopped, of course, it will greatly affect soil fertility, and rice production will decrease drastically. The initial steps that can be taken are reducing the use of synthetic fertilizers, such as initially using 100% of the recommended dose and reducing it to 50% of the recommended dose by combining it with other fertilizers such as organic fertilizers and biological fertilizers. This process will slowly lead to sustainable agriculture.

Preliminary research conducted on rice plants showed that the number of tillers in the 100% NPK formulation produced the highest number of tillers. However, when compared with the 50% NPK + solid biological fertilizer treatment, the results were close to the 100% NPK treatment, as were the 50% NPK + liquid biological fertilizer treatment and the organic fertilizer + liquid...
biological fertilizer treatment, which were also close to the 100% NPK treatment. This indicates that in terms of the number of tillers, the combination of 50% NPK + solid biofertilizer, 50% NPK + liquid biofertilizer, and 50% NPK + liquid biofertilizer is capable of substituting 100% NPK treatment. On the plant height parameter, the 50% NPK treatment plus liquid biofertilizer showed higher yields than the other treatments. Based on these results, it is possible to gradually substitute the use of synthetic NPK so that the resulting agricultural products become healthier and more environmentally friendly. Environmentally friendly agricultural practices will also have added value or attractiveness for the development of subak ecotourism.

The success of agricultural development so far has provided very high support for meeting the needs and food security of the Indonesian people, but it needs to be realized that behind this success several weaknesses need to be corrected in-depth, through the implementation of a sustainable agricultural system based on organic farming, in it is hoped that the Indonesian people will be able to increase economic income sustainably, the sustainable agricultural system itself can be interpreted as a process that focuses on developing farming that is holistic, environmentally friendly, and acceptable to society as a whole, besides that there are several models of business systems farmers who are often found in Indonesia, one of which is the development of organic farming. The concept of organic farming is based on animal and plant productivity. Besides that, the process depends on the long-term maintenance of natural resources. Organic farming itself is a model that is designed and managed in such a way that the goal is centered on limiting the use of inorganic fertilizers that can provide nutrients for plants, improve land conditions, and, most importantly, maintain the balance of the ecosystem as a whole.

The sustainability of agricultural land resources and environmental quality, as well as the sustainability of the production system, are critical for agricultural businesses in tropical countries, including Indonesia. This agricultural development paradigm rests on the nation's ability to realize community welfare with its own capabilities and pay attention to the potential for environmental sustainability (Imanullah, 2017; Masrul et al., 2020).

As explained earlier, Astungkara Way built a learning center and supported the effort by building recycled plastic cabins equipped with bathrooms and toilets for guests who wished to stay overnight for sightseeing. In addition, they also purchased rice from the Ulamambing Subak Krama, which was grown by farmers who collaborated with this project, for all restaurants in the village. By doing this, you can establish direct relationships with farmers while transforming hectares of land to produce healthy, regenerative rice. By using this natural farming system, the Astungkara Way actively helps reduce the amount of carbon released into the atmosphere.
Awig-Awig Subak Uma Lambing and the Tri Hita Karana Philosophy in Managing Ecotourism: The Battle for the Conversion of Agricultural Land and Subak Culture

According to the Regional Regulation of the Province of Bali No. 02/PD/DPRD/1972 Subak is a customary law community that has religious agrarian characteristics, which are associations of farmers who manage irrigation water in paddy fields. Subak has its own rules for managing its members and also has an organizational structure with their respective duties and functions; the same is the case with traditional banjars or traditional villages. In running the organization based on the concept of Tri Hita Karana, the balance between God, humans, and the environment is maintained.

Awig-awig Subak Umalambing philosophically regulates the Sukerta Tata ParHyangan, Sukerta Tata Palemahan, and Sukerta Tata Pawongan. Related to Parhyangan, each subak has an island of subak collectors and empelan collectors. In the Subak Umalambing awig-awig of 2013, Article 20, at Pengulun Subak Temple, there are stakeholders as leaders of religious rituals.

Article 21, paragraph 3, the authority for mralina Pura Sungsung among the Subak prade and the same wewidangan Subak magentos wiguna, the pura said it should be said directly by krama anyar sane wenten ring wewidangan said. (Free translation: not allowed, does not function, Subak Temple) when there is a change in the function of agricultural land, and it is hoped that the people living in the Subak environment will take care of it. The occurrence of land conversion in Subak Umalambing has been anticipated in the past, considering the growth of the population of landowners in Subak. Likewise, considering that the community was built on Subak land for the benefit of living, there was no other choice because the only community-owned the agricultural land. For this reason, the Subak residents built a residence in the Subak Umalamambing environment (I Putu Gede Ambara Putra et al., 2021).

Based on the research results of I Made Sudikan and I Ketut Sukanti, the Subak Umalambing Ecotourism Object presents beautiful and original views of agricultural areas with natural farmer activities. In this place, tourists will be invited to get involved in the lives of farmers in the fields, where during the harvest season they can also directly harvest the rice and dry it in the sun so that it can then be processed into rice. The priority problems faced by the Subak Uma Lambing Ecotourism Manager in Sibang Kaja Village are the unavailability of visitor car parks close to ecotourism objects; there is no signpost or location map on the jogging track area; the low quality of managing human resources; from a marketing standpoint, it is still limited by word of mouth. The outputs to be achieved from this PKM are: completing several supporting facilities, such as location maps and directions; and increasing the knowledge of managers in the field of financial management (I Gusti Made Sudika, Ni Ketut Sukanti, 2022). The important thing to study further is that the agreement with Astungkara Way, which manages ecotourism, has not been legally managed. This is still based on trust and verbal agreements, and when it has developed properly, it will be handed over to the Ulamambing Subak Management. It should be endeavored to write Pararem loosely related to the formation of ecotourism. Another alternative is that the Sibangkaja Village Representative Body can form Subak
Umalambing Ecotourism with provisions on how the percentage is for the village government Dinas and how the percentage is for Subak Umalambing as the owner of the object, and that will be further discussed in the next community service activities as part of the policy. public. The law can be used as a social engineering tool to regulate the order of life in society (Wayan Wesna Astara, 2022).

CONCLUSIONS AND RECOMMENDATIONS

Empowerment of Subak Umalambing in the legal aspect can be effective for Subak residents if traditionally it can benefit Subak residents as agriculture is developed into ecotourism based on organic farming with the potential that exists in Subak. In the context of ecotourism law, it can be empowered to become a tourist attraction in developing ecotourism based on Village Representative Body Regulations, based on the Subak awig-awig and/or Pararem regarding ecotourism and the dynamics of the cultural process in Subak.

Subak Umalambing runs ecotourism based on organic farming. In the development of organic rice plants, only 20% of the total agricultural area of Subak Ulamambing is 86.7 hectares. In developing ecotourism in collaboration with the Astungkara Way Foundation.

ADVANCED RESEARCH

The hope is that the development of Subak Ulamambing into ecotourism will prevent the conversion of agricultural land for non-agricultural purposes. In normative reality, Prajuru Subak Umalambing has anticipated in the awig-awig subak Umalambing 2013, article 21, paragraph (3), that Subak will continue to manage rice farming so that Puru Subak will still be supported by krama subak Umalambing.

ACKNOWLEDGMENT

Acknowledgment and gratitude to the Chancellor of Warmadewa University and the Head of the Warmadewa University Research Institute for receiving research grants from our institution. Hopefully, the results of this work can be taken into consideration by the Provincial Government of Bali in developing ecotourism in Bali.
REFERENCES


