SUSTAINABLE TOURISM AND LOCAL WISDOM: A TWO-SIDED PHENOMENON OF THE IMPLEMENTATION OF TRI HITA KARANA IN TOURISM IN BALI

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Abstract: The tourism development in Bali has put large environmental pressure on the island. This research critically examines the application of local wisdom values as cultural philosophical tenets in terms of sustainable tourism activities. It employs qualitative rapid appraisal approach and literature reviews in seeking the environmental issues accompanying the tourism activities, critically examining the causes of these problems and to gain better understanding of these problems in relation to Tri Hita Karana in Ubud District, Bali. Results show that the largest environmental problems in the island is waste. The waste is generated from the community activities regarding traditional ceremonies as well as tourist activities. It turns out that the is paradox in the practice of Tri Hita Karana in the context of sustainable tourism. Such concept that seeks to maintain the harmony of man's relationship with God, others and nature has not been able to necessarily overcome the waste problem.

Keywords: sustainable tourism, local wisdom, Tri Hita Karana

A. INTRODUCTION

Tourism, the mainstay of Bali's development, is the largest contributor to the island's environmental problems (Philip, 2012). The development of Bali's tourism has led to land use change, which has resulted in an agricultural land crisis (Wardana, 2019). The tourism sector has created a crisis in the clean water supply in Bali (Adhariani, 2019; Benge & Neef, 2018). Furthermore, a study by the Bali Partnership found that the 16 million tourists visiting Bali generate 13% more waste than the local population (Bali Partnership Platform, 2019). Waste is such a serious problem that it has

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knocked Bali out of the world's tourism rankings (Budiman, 2022; Oliphant, 2017; Satrya, 2022).

The environmental problems associated with waste have received a great deal of attention. Considerable efforts have been made to address them. These have included technical aspects such as the implementation of information systems for the placement of bins in strategic locations (Crisnapati, Wibawa, Sarjana et al., 2019) and non-technical efforts involving multi-stakeholder collaboration and critical thinking (Cole, 2012; Roth & Sedana, 2015; Wardana, 2019). To optimise waste management, the integration of local wisdom values is also promoted (Gorda & Wardani, 2020) either through certain moments such as art festivals (Wulandari & Mahagangga, 2021) or the integration of local wisdom into the educational curriculum of the schools in Bali (Arimbawa, Atmadja, & Natajaya, 2018; Ramastuti, Atmaja, & Lasmawan, 2019).

However, incorporating local wisdom into planning and developing Bali as a sustainable destination does not necessarily result in positive environmental change (Gorda & Wardani, 2020). The research questions to be answered in this study are: What are the environmental problems that Bali is facing? How do these environmental issues arise? In the current environmental problems, what role does local wisdom play?

With a branding image that promotes Bali as a sustainable tourist destination that is supposed to integrate local wisdom into its spatial planning, this research argues that the integration of local wisdom, which is frequently echoed, actually masks a critical discussion of the dimensions of environmental behaviour that have a serious impact on the environment in Bali.

This article begins by reflecting on the concept of Tri Hita Karana. Balinese people have always had the wisdom to manage the environment or develop land extensively based on the concept of Tri Hita Karana (Runa, 2012). Trihita Karana is defined in indigenous knowledge as the three causes of good (harmony and happiness), which manifests the noble relation between the three (Kementerian PPN/Bappenas, 2021). It regulates the relationship of human beings with the Creator or the spiritual world (Parahyangan), the relationship with fellow human beings (Pawongan) and the relationship of human beings with their environment (Palemahan). Tri Hita Kirana aims to raise awareness of the importance of caring for the environment. In terms of the socio-political dimension, the resources found in a particular area can mobilise political support. This can lead
to preferential treatment for investors (Roth & Sedana, 2015).

In many studies of the concept of Tri Hita Karana as a Balinese cultural product, the focus is either on the positive side or on the benefits (Dibya, 2018; Pertwi & Ludigo, 2013; Sudiarta, 2021; Udayana, 2017; Yamin, 2022). This includes government documents that support the integration of the Tri Hata Karana concept in the regional spatial plan (Kementerian PPN/Bappenas, 2021). In contrast, there is little discussion of the critical study of the concept of local wisdom and how local wisdom itself is actually applied in the middle of an environment that involves Balinese people and a continuous flow of tourists.

Understanding Tri Hita Karana as an enduring cultural value can be critically re-examined through academic discourse. Roth and Sedana (2015) review and evaluate the application of Tri Hita Karana in a traditional irrigation system in Bali, known as subak. They discuss two aspects that could be used in a scientific critical review of the wisdom of the Tri Hita Karana concept. First, the study of Balinese society and Indonesian cultural politics. The second one is the aspect of the culture and the local wisdom.

Roth & Sedana (2015) argue that in the study of Balinese society and Indonesian cultural policies, Bali is often discussed as an ‘introverted culture’. Bali is understood as a place that is different from the rest of Indonesia. This view ignores the delicate relationship between national unity, cultural diversity and ethnicity. At its extreme, studying Balinese society reveals no clear boundary between culture, tradition and religion. In terms of cultural politics in Indonesia, references to culture, custom and religion in Bali are issues that involve a process of political negotiation, redefinition and state engineering. In a sense, rather than understanding the differences between the three as natural or as the way they are, the distinction between these three terms has been a matter of political negotiation and state engineering. Since the colonial period, the distinction between the three has always been contested. In other words, the study of Balinese society that emphasises the uniqueness of culture, tradition and religion is a consequence of colonialism and continues to exist.

From the point of view of culture and local wisdom, it can be seen in the development context. In development, the idea of culture with discrete and coherent characteristics is often associated with mixing local wisdom or knowledge. In valuing local wisdom embedded in development, Roth and Sedana describe two contradictions. On the one hand, science should not be allowed to distort local wisdom, and on
the other hand, local wisdom should not be taken for granted without any consideration of its validity. Understanding that local wisdom is an oversimplification of the complexity of life in the real world supports the suggestion that local wisdom should be taken seriously. Furthermore, Roth and Sadana are of the view that knowledge is dynamic. This means that knowledge can be created, negotiated, changed or rejected in accordance with political context and power. Thus, local wisdom or local knowledge is not something universal and independent. Local wisdom has its own context to be applied.

Culture is not a patent product (Roth & Sedana, 2015). Human beings tend to imbue the social and cultural values with which they are surrounded. These social and cultural values are usually diverse and selective in their application. People are confronted with different social and cultural systems wherever and whenever they go. The influence of the power and political authority of a region cannot be separated from the diversity of the application of social and cultural values in different environments. In this way it can be understood that a certain cultural value will only be applied in a certain place if it is supported by a sufficient amount of power. This power support is important for materialising cultural values in social life.

a. Bali tourism activities at Tri Hita Karana

The implementation of sustainable tourism in Bali is based on the principles of utility, kinship, independence, balance, sustainability, participatory, sustainable, fair and just, democratic, equality and unity, infused with the values of Hinduism, by applying the philosophy of Tri Hita Karana (Sudiarta, 2021). An example of how Tri Hita Karana is integrated into the promotion of sustainable tourism in Bali is the implementation of building height regulations. Bali has a building height limit of 15m above ground. In everyday Balinese, it's taken to mean that a building should only be built as high as a coconut tree (Senastri & Dewi, 2018). Tri Hita Karana is the local wisdom that is at the heart of the vision for sustainable tourism in Bali. It is described in the White Paper Integrated Masterplan for Ulapan Tourism Area (Kementerian PPN/Bappenas, 2021).

The values of local wisdom are integrated by business actors. They are generally packaged in the concept of Corporate Social Responsibility (CSR). The findings show that the integration of local knowledge values into corporate accountability to the community and the environment, called CSR, has a high chance of succeeding in creating a
sustainable tourism industry. CSR is a tool that has the potential to help companies identify and implement their obligations to balance commercial and non-commercial priorities (Pertiwi & Ludigo, 2013; Rini, Damayanti, & Utami, 2020). The concept of CSR stresses two elements, namely the relationship between the company and the community and the harmony of the company’s relationship with the environment. In Bali, the implementation of corporate social responsibility based on Tri Hita Karana focuses on corporate responsibility by paying more attention to the community. This is related to the element of pawongan, while the element of nature and environment in CSR is related to palemahan in Tri Hita Karana.

b. The paradox of tourism

Alongside the wealth of natural resources, the sustainability of tourism development depends on the cultural wealth of a region. Pitana (2010, p. 148) discusses how Bali’s rich culture creates two contradictory situations. On the one hand, Bali is exposing its culture for tourism; on the other hand, Bali is also using tourism activities as an agent that works for cultural preservation. In other words, it can also be said that the use of culture as a tourist attraction brings with it negative impacts such as conflict, commercialisation and commodification of the culture itself, which is actually a threat to the cultural conservation activities themselves. In different contexts, other parties have been able to demonstrate that tourism activities are an effective tool in cultural conservation efforts, especially in terms of raising funds for conservation. Furthermore, Chong (2019) mentions that developing mass tourism has opened up huge employment opportunities for locals, despite having complex environmental consequences.

Bali’s rapid development as a tourist destination has obvious environmental consequences. Chong (2020) discusses that the problems are a worrying side effect of mass tourism. He also mentioned that the phenomenon of mass tourism is a consequence of the rapid development of tourism. Utama & Yamin (2022) discuss Bali’s changing land functions in addition to rapid tourism development. Rapid land function change is threatening the degraded environment. The tourism industry unknowingly requires resources to operate and it also generates much waste. Another hidden source of waste is the development of infrastructure to support tourism development in Bali. Infrastructure such as hotels, villas, bungalows, restaurants, shops and so on are created with the aim of facilitating...
tourism facilities and infrastructure at the same time playing a role in environmental problems in this case is waste.

c. Bali as a tourist destination

Bali, one of Indonesia’s leading tourist destinations, is getting squeezed. Bali has been one of Indonesia’s biggest tourist destinations since the New Order (Mudana, Suamba, Putra et al., 2018) before the Covid-19 pandemic finally struck. As with other places that have been affected by the Covid-19 virus, Bali has not been able to escape the effects of Covid-19. Based on the statistical data released by the Tourism Office of the Province of Bali, it has been observed that the number of foreign tourist visits to the island of Bali has decreased after the Covid-19 pandemic (Dinas Pariwisata Provinsi Bali, 2020, 2021). In 2020, a total of 1,529,858 foreign tourists visited Bali. This number decreased in 2021, when there were 100,620 tourists. This decrease is attributed to the measures taken by various governments to control the spread of Covid-19 from 2020 to 2021. However, the number of domestic tourists was quite high compared to foreign tourist visits, namely 2,423,770 in 2020 and 2,493,739 in 2021.

The Official Statistics News recorded a positive trend in the number of foreign tourist visits to Bali, along with the development of an improved situation and the implementation of the Covid 19 vaccination programme. Foreign tourists coming directly to Bali province in October 2022 were recorded at 305,244 visits, up 4.84 percent from the previous month, which was recorded at 291,162 visits (Badan Pusat Statistik Provinsi Bali, 2022).

One destination for these tourists is Ubud, Gianyar Regency. This visit is inextricably linked to the promotion of Ubud by the government through the branding of Ubud The Healing Paradise. Ubud district is one of the leading destinations in Gianyar Regency as part of the Ulapan National Tourism Strategic Area (Ubud, Tegallang and Payangan) (Kementerian PPN/Bappenas, 2021). This branding is based on the cultural aspects which play an important role in tourism in Ubud, Tegallalang and Payangan. Culture-based tourism is one of the strategies to organise tourism activities that are economically beneficial yet do not lose the Ubud culture that is cherished by the community. Therefore, Culturally Based Tourism for Ulapan is the proposed concept. As Ubud continues to develop, it faces various issues including cultural, social, economic, infrastructural, spatial and environmental. The most commonly studied environmental issue is related to
the development of tourism activities in the centre of Ubud, where there is a fear of exceeding the carrying capacity of the environment, e.g. traffic congestion problems and limited parking spaces. A survey of 170 respondents by Ernawati, Sudarmini & Sukmawati (2018) find that although tourism activities have a positive impact in supporting development in Ubud, the same activities are detrimental to the environment.

B. METHOD

This research is qualitative research with a qualitative rapid appraisal approach. It differs from the qualitative approach, which generally aims to explore and reflect the meaning of a phenomenon using big theories and takes a long time. Rapid appraisal has been used extensively in studies with limited research time and more participatory research design (McNall & Foster-Fishman, 2007). This approach aims to describe the experiences of those interviewed (McCann, 2019) and to gain specific knowledge, but deep insight, in a short time spent in the field (Patton, 2015).

Techniques used to collect information include literature review, fieldwork and interviewing. The selection of interviewees is based on convenience sampling or the availability of interviewees in the tourist destinations during the data collection period (Stratford & Bradshaw, 2021). In this study, local tour guides were interviewed. This research departs from the theoretical approach. Therefore, the justification for the validity of the results and the analysis of the research is based on the sharpness of discourse analysis. The analysis of the data was then carried out by identifying and describing the results of the data in the field reflected on the concept of the Tri Hita Karana.

C. RESULTS AND DISCUSSION

C.1. RESULTS

a. Characterising Bali's environmental problems

The tradition of making offerings to the community is a sacred ritual that is an integral part of the daily life of Balinese Hindus. For example, the canang. Balinese people offer canang, made from areca nut, betel nut, janur (young coconut leaves) and lime in a rectangular container with incense, every morning before starting activities. Slices of sugar cane, bananas and Balinese pastries are also placed inside the canang sari. These offerings are placed in front of homes, shops, along roadsides (Figure 1) and to Balinese gods often found along roadsides (Figure 2). It is a ritual and a tradition that has a deep meaning for the smooth and safe running of daily life. These fresh and fragrant offerings are beautiful to look at.
However, the beautiful scene changes when one sees the collection of offerings turn into a heap of garbage. Wedhana (2014) refers to this phenomenon as the side of Bali that you don't want to see. Some believe that the heaps of waste left behind by Bali's praying and ceremonial activities are organic and harmless.

Among them, Wijaya & Putra (2021) mention that, in general, littering tends to occur during traditional ceremonies, prayers or rituals. They also highlighted that waste problems occur when the amount of waste that is generated sometimes exceeds the availability of the waste containers that are provided at the temple (Pura).

Furthermore, Juniartwa, Antara & Sudarma (2019) found that organic waste dominates waste generated by communities. They described the waste characteristics in Pakraman Padangtegal village, Ubud district, which consisted of 83.88% organic, 7.24% plastic, 4.42% paper, 2.18% bottle, 1.28% glass and 0.97% metal waste.

b. How waste is generated

Based on field observations, the occurrence of environmental problems in Bali seems to be related to ritual and tourism activities. Bali has many temples and the regular performance of ritual activities is part of the daily life of Balinese people. Ritual activities are accompanied by waste generated from ceremonies. By positioning the temple as both a place of worship and a tourist attraction, the cause of the generation of waste is seen to be inextricably linked to
the behaviour of two parties, namely the community and the tourists.

The use of single-use items by the public and tourists is the major cause of Bali’s environmental waste issues. The use of disposable items such as plastic, plastic bags or paper by the public and tourists when visiting temples and tourist attractions is still very high. This behaviour causes the waste recycling process to be re-sorted. This requires extra time and effort.

Figure 2 Piles of Canang that are no longer fresh. Source: Own fieldwork, 2022

The community as one of the waste generators is evident from the latest research presented by I Made Wahyu Wijaya and I Kadek Ardi Putra. Based on the results of their research at the household level, it is known that there is a significant increase in the production of ceremonial waste on holy days compared to ordinary days. The average amount of ceremonial waste produced was 0.8 kg per day on weekdays and 2.4 kg per day on holy days (Wijaya & Putra, 2021). Traditional ceremonial waste includes flowers, leaves, coconuts, fruit, bamboo, food waste, cloth and plastic. Plastic is commonly used as an offering container when going to the temple. This is due to its low cost and ease of use. With regard to the rampant use of plastics, Suda (2019, p. 29) explains that the Balinese people are entangled in a life of consumerism, with the adoption of various industrial products, including various items made of plastic.

In terms of tourist behaviour, the largest contributor to waste is food and beverage packaging. The packaging materials used are usually not environmentally friendly, are made of plastic and cannot be recycled. The real problem arises when this plastic waste mixes with organic waste in limited bins. From observations in the field, it is known that the segregation of waste on the basis of its type has not been optimally seen.

Although waste management has not been optimised, people specifically involved in the tourism industry still participate in addressing waste problems within their business environment.
During the fieldwork, the author observed a group of students taking a lunch break at a rest stop in a souvenir centre in Ubud district. After lunch, in the corner of the rest area, there was a pile of rubbish from rice box packaging. Someone was seen sorting the waste into plastic waste, box/paper packaging and food waste or organic waste.

Figure 3. Mixed rubbish heaps on Kuta beach
Source: Own fieldwork, 2022

In terms of countermeasures, the waste problem has become a concern of the government. However, the environmental problems have not been completely overcome. In the sub-district of Ubud, there are serious environmental problems due to tourism activities. The cause of flooding in this sub-district is cited as being due to poor waste management. During heavy rains, piles of rubbish carried by the river block the flow of water. The water then overflows onto the pavement. Some plastic waste management initiatives have actually been undertaken by the local government through incentives for residents to sort their plastic waste. In general, there are five types of waste that people sort: plastic waste, paper waste, metal waste, glass bottles and other types of waste. Each type has a different price. Depending on the type, plastic costs between Rp 100 and Rp 2,000 per kg. Metal waste, such as iron, costs Rp 700, while copper can cost up to Rp 30,000 per kg (Muhajir, 2019).

C.2. DISCUSSION

The idea that the rubbish left over from the communal prayer offering is harmless organic waste used to be true. The motivation and sacred purpose of worship is clear to people in Bali. There is no question that offerings made from fresh and environmentally friendly ingredients are sacred. This custom was consistent in the past, when people were not as consumptive as they are today. However, there have been changes in the packaging used in the procurement of the various fresh ingredients. Plastic bags, for example, replaced the use of coconut and banana leaves as packaging. The use of plastic materials has then spread to the various activities of the community. This means that while in the past products such as food, drinks, etc. were packaged with environmentally friendly materials, today various materials that are not
environmentally friendly are used by the general public without any restrictions. In extreme cases, after the ceremony is over, it is possible to find large piles of rubbish where organic waste is mixed with non-environmentally friendly waste.

The use of local wisdom in sustainable development has long been of particular interest to academics, cultural activists, researchers and policy makers in regional development. This research has emerged as a response to the development paradigm dominated by the Western perspective. This paradigm is oriented towards external interventions, involving values from outside the community itself. In order to explore in depth the extent to which local wisdom underpins the success of sustainable development, a number of studies continue to be undertaken.

There have been many studies on the application of Tri Hita Karana in the context of sustainable tourism development in Bali. These studies often suggest that the sustainability of tourism development in Bali cannot be separated from harmonising community activities with the philosophical values of Tri Hita Karana (Dibya, 2018; Runa, 2012; Sudiarta, 2021; Utama & Yamin, 2022). Despite the unwavering practice of its noble values in Balinese society, field observations show that awareness of Tri Hita Karana's philosophical values does not necessarily have a positive environmental impact.

Some of the ways in which Tri Hita Karana is used in the daily life of the Balinese, as observed in the field, can be understood as follows. First is the activity of ritual offering. Worship is a way of life for the Balinese people. It is part of the three principles that cause happiness or Tri Hita Karana. Worship, or Parahyangan, is a form of the harmonious relationship between the people and their God. The activity is carried out on various sacred days, such as the full moon, the dead moon, the ceremony of the day of knowledge, and so on.

As part of the worship service, offerings of flowers, leaves, fruit and bamboo are made in almost every traditional and religious ceremony. On some days, offerings that are no longer fresh do not pose a problem for the environment. Environmental problems arise when there are large traditional ceremonies where large amounts of fresh offerings are used. Apart from the large quantity, the problem arises because the waste bins are unable to cope with the volume of waste produced. Considering that traditional events are one of the tourist attractions in Bali, the amount of
waste will also increase as more tourists come to witness the ceremonies.

Moreover, the form of parahayangan in terms of waste management should include aspects of pawongan and palemahan as a unity. In looking at their environment, the Balinese people see that there is an inseparable unity between the human being and their natural environment. (Suda, 2019, p. 27). Thus, it can be said that the Balinese conceptually implement palemahan.

The second way in which the Trihita Karana, palemahan can be applied through the implementation of Corporate Social Accountability (CSR). It is a form of corporate responsibility towards the environment in which the company is also responsible for the preservation of the environment around its business activities. The implementation of CSR on the basis of palemahan is to periodically work together with the surrounding community in maintaining the cleanliness of the surrounding rivers.

When it comes to dealing with environmental problems or waste, Balinese people act together. They help each other and work together as a community (gotong royong). (Pertiwi & Ludigo, 2013; Rini, Damayanti, & Utami, 2020). In other words, the people of Bali are applying pawongan. The third manifestation of Tri Hata Karana, in pawongan, is related to the role of the Balinese government in supporting its people by providing incentives to help them get rid of waste.

Study on applying local development wisdom in Bali by (Adityanandana & Gerber, 2019) helps to open up the realisation that conflicts over the implementation of sustainable tourism can arise in the application of Tri Hita Karana. In particular, within the romanticism of the integration of local wisdom values in sustainable tourism development, their study provides a space for the contradiction of the application of Tri Hita Karana. This article argues that the contradiction of applying Tri Hita Karana principles in Balinese daily life is inseparable from traditional ceremonial and tourism activities. This is consistent with the critical thinking presented by (Sudama, 2020) in his study Conflict within Tri Hita Karana’s field (Konflik dalam Tri Hita Karana). Sudama (2020) argues that Tri Hita Karana generally focuses only on harmonising life according to the elements of Tri Hita Karana in certain areas, failing to critically discuss the behavioural aspects related to its real application. He mentions that a conflict can arise when the analysis moves from
the idealisation to the practice of daily life, which takes into account differences in the agency or the will of the community.

In relation to the environment, the Tri Hita Karana can be seen as a principle that governs the behaviour of human beings in relation to nature. Sudama (2020) states that there will be no conflict as long as the use of natural resources as capital is within natural limits. At a conceptual level, this limit acts as a 'rule' that can be treated as a *boundary concept*. Sitohang (2022) discusses the concept of boundaries in the context of development as rules of the game that are constructed through community interactions and function to constrain and enable interactions in order to achieve development that benefits the community. It is a concept that bridges or connects the actors involved in tourism and environmental issues, which then regulates their behaviour in order not to cause harm to the environment (Roth & Sedana, 2015).

Furthermore, Roth & Sedana (2015) are a critical discussion of the role of local wisdom in sustainable development in Bali. They provide an alternative understanding of the Tri Hita Karana as follows. Notwithstanding the fact that Tri Hita Karana is a product of culture, tradition or local wisdom, the authors argue that Tri Hita Karana is not necessarily a normative perspective that can be simply applied. Making recommendations for integrating Tri Hita Karana into sustainable tourism development in Bali can also be seen as a contestation of individual and group commitments to maintaining environmental harmony.

D. CONCLUSION

This study shows that Bali's environmental problem is waste management from community activities, traditional ceremonies and tourist activities. This is particularly reflected in Ubud. Although the waste generated is organic, it is not environmentally hazardous. With the development of tourism in Bali, there has been a change in the type of waste generation in Bali. When this happens, the waste that has accumulated is no longer organic, but has become mixed with non-organic waste, such as food and drink wrapped by tourists. This situation makes the waste problem one of the most worrying environmental issues that Bali is facing.

In relation to local wisdom in the context of sustainable tourism in Bali, the people of Bali have an unshakable value for local wisdom. The possession of local wisdom in itself has not led to an optimal benefit for the environment. This
contradiction is understood conceptually and pragmatically.

Conceptually, the concept of Tri Hita Karana can function as a principle that regulates human interaction with God, fellow human beings and the environment. This rule can be understood as reflecting the struggle between awareness of Tri Hita Karana as a guide to Balinese life and actual social behaviour.

From a pragmatic point of view, Tri Hita Karana plays an important role in maintaining cultural and environmental sustainability. However, there are cases where the practice of dealing with environmental problems associated with waste management in Balinese society is less than optimal. In addition to the application of local wisdom by the community, continuous efforts involving various parties are needed to overcome the problem of waste. The results of this study provide confirmation that tourism development planning through the integration of local wisdom requires commitment to offset the increase in waste production from traditional events and the pace of tourist visits.

BIBLIOGRAPHY


Sitohang and Purnomo, Sustainable tourism and local wisdom .... 15


Journal of Linguistics, Literature and Culture, 6(6), 8-23. 
https://doi.org/https://doi.org/10.21744/jllc.v6n6.992


https://doi.org/https://doi.org/10.24252/ir.v4i1.28149

https://doi.org/https://doi.org/10.1007/978-981-13-2478-9_3

https://www.kompasiana.com/casualtraveler/54f6e5b9a33311ea608b4c11/sisi-bali-yang-tak-ingin-anda-lihat?page=all

https://e-journal.unmas.ac.id/index.php/ecotourisme/article/view/1763

https://iopscience.iop.org/article/10.1088/1755-1315/724/1/012100

https://doi.org/https://doi.org/10.24252/ir.v4i1.28149