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**THE SUBAK-BASED AGRO-TOURISM MANAGEMENT MODEL IN THE
WORLD CULTURAL HERITAGE AREA OF CATUR ANGGA BATUKARU
TABANAN REGENCY, BALI PROVINCE, INDONESIA**

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ABSTRACT

When it was designated as a World Cultural Heritage (WCH) in 2012, there were 14 Subak organizations formed in Catur Angga Batukaru Area. However, it seems that only Subak Jatiluwih has the privilege to experience rapid development as a tourism destination. The other 13 Subak area in Catur Angga Batukaru has not been well developed. The beauty of their rice terraces, plantation fields, temples and rivers has not been appropriately exposed to the tourists. Further studies are required to investigate the potencies of 13 Subak areas in the Catur Angga Batukaru Area as tourism destinations. An adequate management model would properly assess the potencies of these areas and simultaneously enhance the farmers' well-being, improve the tourist satisfaction level and conserve the environment. The existence of the 13 Subak in Catur Angga Batukaru and its potencies should have developed through the agro-ecotourism-based management model. Hence, this study aimed to organize a Subak-based agro-ecotourism management model in the WCH of Catur Angga Batukaru. The study's primary data were collected from farmers' respondents through a direct survey using a questionnaire prepared prior to the data collection. In-depth interviews were also conducted to gather the study data. This study applied qualitative and quantitative descriptive methods. Findings revealed that the rest of the areas required to be properly built in the WCH of Catur Angga Batukaru Area. These areas would provide spaces to enjoy the beauty of the Subak terraces and the local plantation fields. Hiking tourism in this area has been developed by the Subak organizations and local travel agents under the surveillance of the local tourism departments. Several tourism supporting facilities such as restaurants and home stays also should have been managed by Subak or local investors. It would help the tourism sites to directly contribute to the well-being of the local community, especially the members of Subak. The future management of agro-ecotourism is also required to involve all Subak organizations in the area. A proper management model not only helps Subak to present themselves as the main subject of a tourism program but also makes them capable to experience the advantageous impacts of the agro-ecotourism development.

Key words: agro-ecotourism, Mount Batukaru, rice cultivation, sustainability, Subak, terrace, WCH

INTRODUCTION

The landscape in Bali was formed from community culture, especially farming culture and its philosophy [1, 2]. Subak in the Catur Angga Batukau Area, Tabanan Regency is one of the World Cultural Heritage areas (WCH) in the Cultural Landscape of Bali Province. Subak is a community organization that regulates irrigation systems in rice fields that are socio-agricultural, religious, economic and dynamic and based on the philosophy of tri hita karana (Parahyangan, palemahan, pawongan)[3]. The irrigation system in Subak was not based on administrative boundaries, but it was based on the ability of a water source to supply water to the land [3]. Since the boundary is a natural boundary, Subak's landscape consists of rice field terraces, hydrological systems, forests and their buffer areas as well as temples [4]. Subak also has a traditional organization consisting of Pekaseh (Kelihan Subak), Petajuh (Vice Kelihan Subak), Kesiroman (Instructor), and Subak's farmer members; they were bound by a regulation (awig-awig) which must be obeyed by all Subak members. Awig-awig not only regulates the management and distribution of water between farmers (Pawongan), but also regulates religious rituals that need to be performed during rice planting (Parahyangan). Thus, awig-awig also regulates farming activities to remain in harmony with nature (Pawongan).

When it was designated as WCH in 2012, there were 14 Subaks in the Catur Angga Batukaru area [5] and in its development until now, only Subak Jatiluwih has experienced rapid development in terms of tourist visits. The uniqueness of Subak Jatiluwih is the various activities that can be enjoyed by tourists, starting from its natural beauty in the form of terraced rice fields with a backdrop of Mount Batur, Yeh Ho Waterfall and Taksu Agung Temple (a place to ask for taksu or charisma and authority from God) (Jatiluwih Village 2020). Besides rice, local plants used by local people for medicine, ceremonies, animal feed, building materials, handicrafts such as *Cocos nucifera* L., *Psidium guajava* L., *Areca catechu* L. and *Musa paradisiaca* L. can also be found in Jatiluwih [6]. The farming culture in a traditional way accompanied by religious rituals is also a uniqueness of Subak Jatiluwih. According to Prasiasa and Widari [7], Jatiluwih always tried to produce 3 colors of rice each year, which were red, white and black as a symbol of Tri Datu. Various traditional arts existed in Jatiluwih Village such as Baris Memedi (Baris Keraras), Baris Tombak, Topeng Sidakarya, Topeng Perembon, Joged Bumbung, Puppet, Angklung, Sekaha Gong Lanang and Sekaha Gong Istri [8]. In addition, the existence of tourist facilities such as restaurants, art shops, lodgings, parking spaces, bicycle rentals, horses and others made Subak Jatiluwih attractive to visit.

Meanwhile, thirteen (13) other Subaks in the Catur Angga Batukaru area have not yet been developed even though they also have potential in the form of natural beauty of rice terraces in combination with the plantations around the area, temple and river [9]. Based on these potencies, a management model can be formed according to local conditions which in turn can improve the welfare of farmers in the Catur Angga Batukaru area. In addition, development also provided satisfaction to tourists and was still able to support environmental sustainability. The potency of the 13 Subaks in the Catur Angga Batukaru area should ideally be developed with an agro-ecotourism-based management model. Agro-ecotourism is a synergy of agro-tourism and eco-tourism, where the development of agro-tourism still pays attention to the principles of balance and environmental sustainability. The results of this research were expected to be used as a reference by the decision makers in the areas concerned. The innovation of this research was to create a community-based management model for the Subak area, while still paying attention to the environmental and cultural sustainability of the Balinese people. The aim of this research was to create a Subak-based agro-ecotourism management model in the Catur Angga Batukaru WCH area.

MATERIALS AND METHODS

Collected in this research were primary data and secondary data. Primary data was produce through interviews with farmers included general matters, research subject matters and issues that could support the research. Secondary data was obtained from relevant agencies such as the Regional Development Planning Agency Office, Public Works Agency, Tourism Office, Central Bureau of Statistics, Regional Revenue Agency Office/Sedahan Agung, Cultural Agency, Agriculture Agency and other related offices according to the research interests.

All primary data were collected through a survey; by visiting and then directly interviewing respondents using a list of questions that had been prepared in advance. In addition, in-depth interviews were also conducted with several informants. Through these in-depth interviews, it was expected to obtain more detailed information to draw more comprehensive conclusions. In addition, field search was also conducted to get a real picture of the research location.

A list of questions/statements was created to identify the system. System identification was needed to find out the variables that affected the system as a whole. The variables explored were the current existing conditions and the potential for agro-ecotourism development. The process of digging data was conducted by using snow-ball technique.

The aim of this research was to create a Subak-based agro-ecotourism management model in the Catur Angga Batukaru WCH area. To meet this aim, qualitative descriptive and quantitative descriptive analysis methods were used, as described in a fishbone diagram below (Chart flow 1).

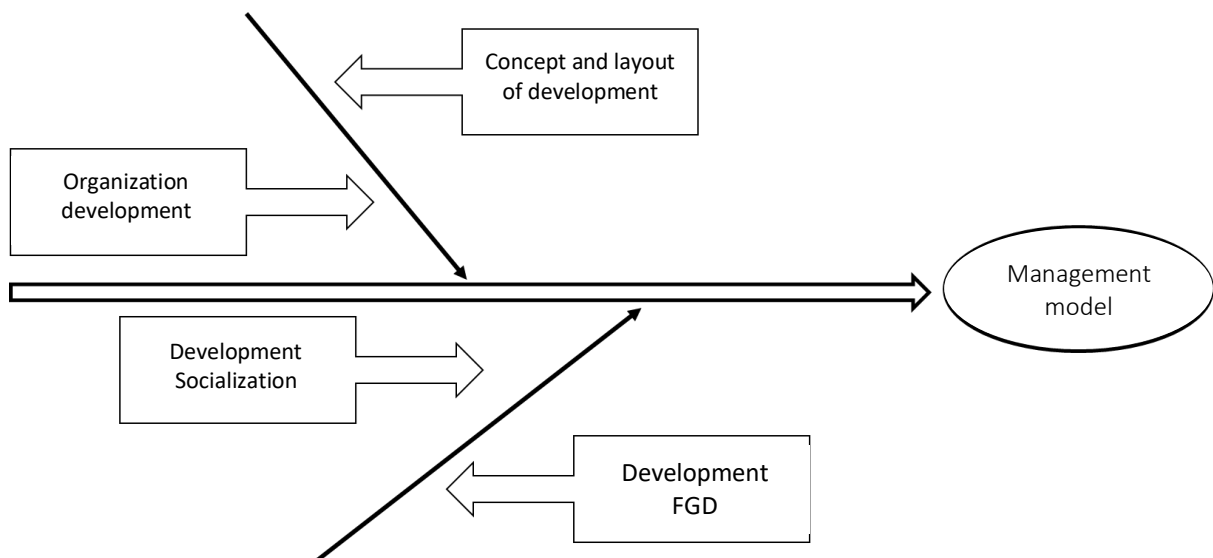


Chart flow 1: Fishbone diagram of research

RESULTS AND DISCUSSION

Subak-Based Agro-Ecotourism Management Model in Catur Angga Batukaru WCH Area

Agro-tourism is a tourism activity that provides agricultural experiences to tourists; the concept of agro-tourism is allegedly able to increase the welfare opportunities of farmers and the surrounding community without leaving their agrarian culture. Tourism plays an important role in economic development, especially in developing countries where Khan [10] found that a 1% increase in tourism significantly increases gross domestic product (GDP) by 0.051%, foreign direct investment by 2.647%, energy development by 0.134% and agricultural development by 0.26%, and reducing poverty by 0.51% in the long term in Pakistan. In order for tourism to be sustainable, Boers Band recommended integrating several criteria such as development objectives, visitor experience preferences, carrying capacity standards and resource impacts into infrastructure planning [11]. In addition, Abdullah, Razak and Jaafar added that a specific infrastructure maintenance needs to be planned [12].

The agro-ecotourism management model in Subak in the Catur Angga Batukaru area is based on the potential of its infrastructure such as: parking lots, roads, rest

areas, restaurants and lodging. Mandić, Mrnjavac and Kordić stated that there was a significant correlation between the development of tourist destinations and the number of tourist visits, and the demand for increased infrastructure and tourist facilities in Croatia [13]. Blazeska, Strezovski and Klimoska stated four basic elements for tourism infrastructure which were: accommodation facilities, gastronomy facilities, accompanying facilities and communication facilities which greatly influence tourist satisfaction in tourist destinations [14]. The presence of the Subak institution is recognized as an essential strength factor. Subak is a customary law community with religious-socio-agrarian traits that organized the rice field irrigation system [15].

Sight Seeing Tour

Through observations that have been made, it is recommended to start the sightseeing tour from Embung (Weir) Telaga Tunjung. This weir was magically stunning surrounded by plantation as if it was a small forest. The final tour was in Batukaru Temples. The required infrastructure that needed to be built or reconstructed is in the area where the tour started in Embung Telaga Tunjung. Some of the lands are under the ownership of Tabanan Regency that need to be further reconstructed and arranged to be a parking lot.

In this area, there was also a restaurant that strongly supported the development of this agro-ecotourism. The condition of the road from the Embung Telaga Tunjung to Batukaru Temple was paved. Along the way, it was necessary to build stop areas in Subak Mengesta, Subak Piling, Subak Bedugul, Subak Tengkidak, Subak Pancoran Sari and Subak Penatahan to enjoy the beautiful terraced rice fields integrated with plantations that look like a small forest thus creating the impression of an unspoiled landscape.

The quality and placement of the rest area was very important for tourists because it would affect their comfort and safety, the formation of a local image as a tourist attraction and would provide economic benefits to the people who also managed the place [16, 17]. The existence of rest areas provided opportunities for the surrounding community to offer the physical needs of tourists as well as the needs of vehicles. The rest areas also provided tourists with the opportunity to rest and enjoy the landscape as well as experience in the place [18].

This tour also passed through residential areas. The community can build a homestay (local people's houses for rent for tourists to stay); therefore the development of this tourism was based on people's tourism. Tourists can interact directly with the community and understand the life and culture of the local

community. This route ended at Batukaru Temple which is also a cultural tourist attraction. In the parking lot of Batukaru temples, the tourists would be able to shop for souvenirs. In the same area, restaurants that serve Balinese signature food and drink called "Entil" and brown rice tea.

The tour should be managed in collaboration between Subak organization and the traditional village because the tour route passes Subak as well. Villages in Bali were both official (based on administrative area) and traditional. Based on the Peraturan Daerah Provinsi Bali [19], a traditional village or Pakraman village is a customary law community unit in Bali, which has territory, position, original structure, traditional rights, own assets, traditions, etiquette of social life from generation to generation in the bonds of sacred places (kahyangan Tiga or kahyangan desa), duties and authorities as well as the right to regulate and manage their own household. Traditional Villages have village administrators (Prajuru Desa Adat) and village members (Krama Desa Adat) consisting of Balinese Hindus and registered as members of the local Traditional Village. In general, Balinese Traditional villages have rules (awig-awig) and obligations that were made, agreed upon and performed together. The obligations were related to the activities to maintain a harmonious relationship among the community, God and the environment. If there was a violation of awig-awig in any way, there would be a penalty. The penalties can be social or legal (in accordance with applicable laws in Indonesia). Therefore, tourism managers should collaborate with Subak and Traditional Villages because they have a great influence in a Balinese Hindu community.

In the development of tourist facilities, the government's role was also needed to build the necessary infrastructure such as: parking lots in the Embung Telaga Tunjung area, stop areas, and management development for managers. Besides, the role of private parties such as travel agents was also needed to bring in tourists, including promotions.

Spiritual Tourism

The spiritual tourism targeted local visitors but did not rule out foreign tourists. Nowadays, spiritual tourism is in great demand because of the people's desire to balance physical and spiritual health or psychology. There are two spiritual tourist attractions in the world cultural heritage area of Catur Angga Batukaru, which are: 1- Tamba Waras Temple, as a spiritual tourism place to ask for health or healing for someone who is suffering from an illness, and 2- Muncaksari Temple as a place to ask for success in business and trade. Temples are generally sacred places to worship God (Sang Hyang Widhi Wasa) and ancestors. Dewi and Marbun defined

the word “Pura” based on its origin, Phur means bull/castle/fence, so that “Pura” is defined as a spiritual fence for Hindu people [19]. Therefore, in every cardinal direction on the island of Bali, there are majestic temples that were built with the aim of fortifying people against attacks or bad influences. The Kahyangan Agung temples are located in the eight cardinal points of the compass: Batur Temple is in the North, Lord Vishnu; Besakih Temple is in the North-East, was the God of Sambhu palace; Lempuyang Temple is located in the East, was Dewa Iswara palace; Goa Lawah Temple is located in the South-East, was Dewa Maheswara palace.

Temples in Bali have various levels ranging from those in the home yard (family scale), villages, to Pura Agung [20]. Temples in Bali are unique in terms of building architecture and the philosophy of space division which divided the area in the temple into 3 levels, resulting in the designations/activities and elements that built up each space were also different [21]. Tanah Lot in Tabanan Regency, Bali Province is one of the locations for spiritual tourism in Bali because the main object was a temple located on a coastal cliff. A research conducted by Kusuma and Suryasih [22] showed that the special motivation of tourists doing spiritual tourism there was to seek/add spiritual and cultural experiences and seek/get inner peace. Tirta Empul in Gianyar Regency, Bali Province is also one of the spiritual tourism sites that is famous for its 22 showers, these showers were used for melukad (spiritual cleansing). Hartini & Dewi [23] found that in Tirta Empul there were 4 contributing factors influencing tourism, there are physical, cultural, psychological and tourism infrastructures (accessibility). The research of Wismayani, Wiswasta and Sumantra [24] at Pura Goa Lawah, Klungkung Regency, Bali, showed that good supporting facilities, road access and additional services were potential for developing spiritual tourism here, in addition to religious ceremonies which were the main attraction.

The road infrastructure to the Tamba Waras Temple and Muncaksari Temple was quite good, so were parking and shopping facilities for ritual needs and for consumption. The improvements only needed to be made in the management. The management was performed by the Traditional Village who are/were responsible for taking care of "ngempon" each of the temples. In order for the management to run professionally from the aspect of service and administration, it was necessary to engineer traditional village institutions. In other words, there should be one special unit reserved for the management of the spiritual tourism. This unit in the organization structure is responsible to the head of traditional village (Bendesa).

Trekking Tourism

The development of trekking tourism was intended for tourists who were adventurous. The potential for trekking routes was in one Subak area and even between Subaks by crossing rivers (irrigation canal). Trekking alternatives between Subaks included Subak Sangketan and Subak Keloncing or Subak Piak, and Subak Tingkih Kerep or Subak Penatahan, while trekking alternatives within the Subak itself included: Subak Tegallinggah, Subak Pesagi, Subak Rejasa, Subak Wongaya Betan, Subak Umedalem, and Subak Srigumana. Trekking paths both within Subaks and between Subaks can cross rice fields, plantations and also cross rivers [9]. Besides being physically healthy, this tour aimed to understand the socio-cultural activities of Subak. Tourists were given an explanation to understand the farming activities conducted by Subak members; the ultimate goal was to get results (economic orientation). However, in the farming process, socio-cultural activities were performed. Social activities, for example: mutual assistance in repairing irrigation canals, deliberation in determining cropping patterns and varieties that were planted, and determining planting schedules. Cultural-religious activities, for example, were reflected in the many religious ritual activities that were performed in farming, ranging from the mapag toya ceremony (picking up and purifying the water that will enter the subak area), the mewinih ceremony (sowing seeds), the nuasen ceremony (starting planting), the ngerorasin ceremony (after the plant is 12 days old), the biyukukung ceremony (in the milk stage), and so on, until the rice was placed in the barn (storage area). This ceremony was conducted both at the individual farmer level and at the Subak level. In addition, there was also a piodalan ceremony held at several temples in Bali, which was believed by Subak to be related to water sources [5]. Meanwhile, cultural evolution is a sequence of human efforts to adapt or respond to changes in the physical and social environment that occurred temporally [25].

Aspects of the infrastructure that needed to be improved were: parking lots at the starting point, a resting place in the Subak area in the form of a cafe/restaurant. Parking lot in the final destination of trekking route, and whether the trekking is one way or two ways. The trekking path that passes through rice fields should be maintained as naturally as possible, including the bridge when crossing the river. The management was fully performed by Subak with infrastructure development and assistance from the government. Furthermore, the management should cooperate with travel agents to bring guests and for promotions purposes. The communities/farmers can also develop home stays, so that they have a direct impact on Subak community members/farmers. Tourists can interact directly with the community/farmers and better understand the socio-cultural life of the community/farmers.

Possible Benefits of This Agrotourism Model

The Catur Angga Batukaru World Cultural Heritage Area certainly causes farming carried out in the area to have a selling value as a tourist attraction for visitors. The establishment of the Catur Angga Batukaru World Cultural Heritage Area is useful for adding economic value to the parties involved in its management, as well as adding environmental value to conserve the Subak area so that it remains sustainable.

Agrotourism managers involve parties in the Catur Angga Batukaru area. The parties referred to in this case are the community and farmers who run farming in the Catur Angga Batukaru area. The involvement referred to in this case is to make farmers partners in efforts to develop agro-tourism areas. The implementation of the programs by the agro-tourism manager will involve the community around the Catur Angga Batukaru area as well as the farmers who run the farming business in Subak.

CONCLUSION

It is necessary to reorganize existing tourist support facilities such as starting points, information counters, and parking areas in order to develop sight-seeing and spiritual tourism in the Telaga Tunjung Embung Area. However, the effort to develop an Agrotourism should focus on how to build several stop areas along the trekking routes. The stop area would enable tourists to enjoy the Subak landscape combined with the plantation area. The collaboration between the traditional village and Subak organization is needed to develop sightseeing tourism while the collaboration between the traditional village and the temple "pengempon" is believed to be the best way to build a spiritual tourism.

It was necessary to build a parking area as a starting place as well as a finish place. It was also necessary to build a resting and refreshments and to enjoy the beautiful rice terraces in the Subak area in half way. Trekking tours were managed by Subak, in collaboration with travel agents and developed by the government. The development of supporting facilities such as restaurants and lodging places should also be managed by Subak or investors from local communities/ farmers of Subak, thus the benefits will be felt directly by the community/farmers of Subak. Based on the study's findings, it is recommended to the Tabanan Regency Government and the authorities in the Catur Angga Batukaru area to explore and develop Subak's potential in the Catur Angga Batukaru area, so that it can develop in the future like Subak Jatuliwih. Based on this study, it is suggested to pay

attention to the Subak's potency to develop agro-ecotourism in Catur Angga Batukaru area. It will give other Subaks other than Jatiluwih Subak opportunity to expand their potential. The agro-ecotourism management should strengthen Subaks' roles in the area, so that Subak is not only an object of tourism but the main subject in the management. It is expected Subak is not merely as the donor of the agro-ecotourism but Subak must receive a direct benefit from the agro-ecotourism.

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Declaration of interest statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.



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