

ADRI International Multidisciplinary Conference and Call for Paper



PROCEEDING

INTERNATIONAL MULTIDISCIPLINARY CONFERENCE AND CALL FOR PAPER REVITALIZATION OF PROFESSIONAL ASSOCIATION AND SCIENTIFIC KNOWLEDGE FOR HRD OF HIGHER EDUCATION

(Workshops as an Organization Profession, International Conference,
MoA/MoU Multy Kampus, OJS Training)

Pontianak, December 6-7, 2016

Organised jointly by



Hosted by:
Perkumpulan Ahli & Dosen Republik Indonesia (P-ADRI)
DPD Kalimantan Barat
Published by:
STKIP Singkawang

ISBN: 978 – 602 – 74918 – 1 – 6
www.p-adri.or.id/prosiding/prosiding4pontianak

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Address:

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x, 68 pages, 28 cm

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ISBN: 978 – 602 – 74918 – 1 – 6

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PREFACE

Praise being said to Allah Almighty God for all the grace and guidance that has been given to us all, so the Proceedings of the ADRI 2016 International Multidisciplinary Conference and Call for Papers. Proceedings contains a number of articles and research papers from lecturers, teachers, students, researchers and / or observers of the development of science and technology.

This seminar is the series of the International Seminar organized by ADRI, the first was held in Lombok, Mataram; The second was held in Denpasar, Bali October 15 to 17, 2016; the third was held in Surabaya, East Java, on November 10, 2016 and the fourth was held in Pontianak, West Kalimantan, on 6 to 7 November 2016. The fourth International Seminar in Pontianak's speakers came from 5 countries; Indonesia, Taiwan, United Kingdom, Italy and Malaysia. Call papers Participated in an international conference in Pontianak as much as 103 paper came from 5 countries, with a number of writers were 156 persons, from Indonesia came from 15 provinces. Most writers of West Kalimantan: 67 person and East Java: 41 people.

The international conference has been made to be held as the realization of cooperation between ADRI, National University of Kaohsiung in Taiwan, Universiti Tun Hussein Onn Malaysia, STKIP Singkawang, and all the universities participating in the MoU / MoA multi campus.

On this occasion let us give awards and gratitude to:

Keynote speaker

1. Prof., dr. Ali Ghufon Mukti, M.Sc., Ph.D., Dirjen Sumber Daya Ilmu Pengetahuan, Teknologi dan Pendidikan Tinggi
2. Dr. Ir. Jumain Appe, M.Sc., Direktur Jenderal Penguatan Inovasi, Kemenristek Dikti.
3. Prof. Dr. Paulina Pannen, M.Ls., Staf Ahli Bidang Akademik, Menristek Dikti.
4. Prof. Dr. I-Hsien Ting (Associate Professor Department of Information Management, National University of Kaohsiung, Taiwan)
5. Prof. Dr. Wahid Bin Razzaly, Universiti Tun Hussein Onn Malaysia (UTHM)
6. International speakers; Tirthendu Bagchi (Nottingham University, UK) and Cristina Lanteri (Italy)

In special award and we thank to:

1. Drs. Cornelis, M.H., Gubernur Kalimantan Barat.
2. Dr. H. Achmad Fathoni Rodli, M.Pd., General Chairman DPP P-ADRI Board.
3. Dr. M. Zeet Hamdy, Sekretaris Daerah Propinsi Kalimantan Barat.
4. Board of DPP ADRI
5. The Board of Trustees and Governing ADRI DPD Kalbar
6. Rector and Leadership College participant MoU / MoA multi-campus
7. Board of Editor, executive Editors and the Executive Committee in ADRI International Multidisciplinary Conference and Call for Papers in Pontianak
8. The sending of paper and parallel scientific conference speaker

In addition to the international conference, at the same time as a multi-campus realization cooperation activities, as well as activities carried out:

1. Inauguration of ADRI DPD West Kalimantan.
2. Training Open Journal System, as we know that from 2017 Kemenristek Dikti already requires all scientific journals should be based online by implementing OJS and scientific work for the maintenance of mandatory functional academic journals published in the OJS.

Proceedings are published in book form only contains abstract, distributed to participants in the form of compact disks (full paper) and published online at:

www.p-adri.or.id/prosiding/prosiding4pontianak.

Hopefully, these proceedings may give benefit to us all, for the development of science, technology, arts, culture, and sports. In addition, it is also expected to be a reference for the nation and state-building efforts so that science and technology become a strong pillar in the face of the ASEAN Economic Community.

Lastly, we are sorry if there are things less pleasing.

Sincerely,

Pontianak, December 6, 2016.
Chief Executive,

Drs. Andi Mursidi, M.Si.
Chairman ADRI DPD Kalbar

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POTENTIALS OF SUBAK TO DEVELOP AGRO-TOURISM IN BALI PROVINCE

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Abstract. Management of rice field in Bali is taken by the traditional irrigation system; called *subak*. Since 2012, *subak* has been awarded as the World Cultural Heritage by UNESCO due to its specific culture. The existence of *subak* has become one of the alternatives to be agro-tourism object as new tourism destination. The objective of this study is to describe the potential of *subak* to be an agro-tourism destination. The potentials of *subak* to develop agro-tourism in supporting rural economic development are: (i) the existence of natural landscape; (ii) culture within *subak* system; (iii) social values within *subak* system; and (iv) innovativeness of *subak*'s members. *Subak* as farmers' organization on rice farming activities could have alternative economic work in the relation to tourism. Potentials owned by *subak* have possibility to implement the agro-tourism. Basen on the experiences of some *subaks* in Bali (Jatiluwih and Tampaksiring areas as World Cultural Heritage), the agro-tourism implemented could provide social and economic benefits for farmers as individual and group.

Keywords: *Subak*, agro-tourism, culture, economic

I. INTRODUCTION

Indonesia is one of the big agricultural countries in the world, consisting of food crop, plantation crop, fishery, livestock/animal husbandry and forestry. Currently, the agricultural sector has played an important role in contributing to the economic development of the Indonesia which is likely in other developing countries (Thuvachote, 2007; Sarma and Vyas, 2014). In another side, the rapid growth of non-agricultural development within the past few decades, the contribution of agricultural sector has been gradually decreased toward the economic development.

In case of Bali province, the growth of non-agricultural development, such as tourism, is very high compared to other sector. Tourism development brings about the improved domestic income of the province and several regencies, as well. The local government tends to seek financial resources to increase revenue by more intensively explore tourism development. In fact, the tourism industry in Bali province has already become the main source of revenue for government. Even, this "threatens" another sector, agriculture. The existence of tourism development is needed for the government and the relevant private companies investing to some facilities for the visitors. Land conversion is one of the main problems happened in Bali due to the construction of physical infrastructures have been increased to support the development of tourism sector with urban areas and rural areas as well. Rice fields cultivated by smallholder farmers were converted to other functions, such as housing, road for transportation, building for industries. Its consequence is the areas of rice field have become smaller.

Management of rice field in Bali is taken by the traditional irrigation system, called *subak*. *Subak* has specific culture regarding the irrigation and rice farming activities that is based on *Tri Hita Karana* as its philosophy. *Tri Hita Karana* is the harmony concept for *subak*'s members consisting of *Parhyangan* (the harmony of relationship between the members with the God); *Pawongan* (the

harmony of relationship among the members and also members with the other people); and *Palemahan* (the harmony of relationship between the members with the physical environment).

Since 2012, *subak* has been awarded as the World Cultural Heritage by UNESCO due to its specific culture (Roth and Sedana, 2015; Sedana, *et al.*, 2014). Regarding Bali's tourism development with its cultural tourism basis, the existence of *subak* has become one of the alternatives to be agro-tourism object as new tourism destination or object as a product and service for the tourists. Tanupol *et al.* (2000) argued the ideas to combine the agriculture and tourism development, called agro-tourism should be developed to improve rural development. The objective of this study is to describe the potential of *subak* to be an agro-tourism destination.

II. POTENTIALS OF SUBAK TO BE AGRO-TOURISM DESTINATION

Subak as a traditional irrigation system in Bali with social, economic and religious nature has been established since thousands ago. *Subak* has potentials to develop agro-tourism in supporting rural economic development. The potentials of *subak* are: (i) the existence of natural landscape; (ii) culture within *subak* system; (iii) social values within *subak* system; and (iv) innovativeness of *subak*'s members. In term of agro-tourism development, these four potentials cited are integrated and have inter-related among each other.

Natural landscape of *subak* with terrace is one of the fantastic views for the visitors. The rice field terraces as natural landscapes could be managed by *subak* based on the irrigation water availability. Irrigation water would influence the cropping pattern and cropping schedule of rice farming. Traditional irrigation system owned by *subak* ensures the farmers to cultivate the rice field under the internal regulations and consensus among the members of *subak*. Rice growing on the terrace is very attractive for the tourists

to involve in the farming activities aside from its beautiful view. Some experts mention that agro-tourism has various functions such as allowing the tourists to get knowledge of agriculture and give appreciation of unique rural landscapes, being a place of rural tourism or farm tourism (Hall and Jenkins, 1998; Fleischer and Tchetchik, 2006). Having nice view of landscapes, the *subaks* within world cultural heritage have constructed the jogging track and bicycle track for the visitors. *Subak* could earn additional income by providing the tracking services.

Cultural aspects of *subak* have been well known by the people including the UNESCO which awarded the world cultural heritage to *subak*. Farming culture of *subak* system relates to the interaction among farmers for land preparation, transplanting, maintaining of crop and harvesting, and the other activities of *subak*. Social interaction of *subak*'s members also supports the Bali's culture for the tourism development, particularly on the ritual activities. The performance of ritual ceremonies in *subak* system makes it different with other irrigation system in other islands in Indonesia. The activities of ritual are conducted at the three level, individual, *subak* and among *subak* (Sutawan, 2005; Windia, 2006). Individual farmer perform ritual activities in the small temple located at his water inlet. Meanwhile temples owned by *subak* called Bedugul, Ulun Empelan and Ulun Suwi. The all members of *subak* would together conduct ritual activities in these temples. They always contribute cash money for the materials of offerings and other things needed for ritual activities. Farmers as member of *subak* have strong belief to the ritual activities as a part of implementation of Tri Hita Karana (*Parhyangan*).

Social values within *subak* system relate to social capital as features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit (Harriss dan Renzio, 1997). Social capital is the cumulative capacity of social groups to cooperate and work together for the common good (Montgomery, 1998).

Trust as one of the social capital becomes a significant value for the interaction among the farmers and management board. Regarding agro-tourism based on *subak*, the management board transparently inform the action plan that would be implemented. Trust of *subak* is equipped and strengthened by the social norm of *subak*, called *awig-awig*. For *subak*, the existence of *awig-awig* is being a glue of members to act based on their consensus and harmony. *Awig-awig* of *subak* contains what must be and must not be. Therefore, the respectful social values within *subak* system could support the activities of agro-tourism implemented in order to improve the quality of life of farmers, quality of environment and make sustainability of culture.

Innovativeness of *subak* has been found since the government firstly introduced new technology in farming activities. The introduction of high yielding varieties changing local variety got good response from the farmers. In term of agro-tourism is also positively responded by *subak*. *Subak* under the coordination of management board has thought that agro-tourism development might bring about the changes of farming activities. *Subak* has made plan about what should be developed in line with the natural resources and human resources within *subak*. One of the

plans implemented is making a clinic for agricultural demonstration.

Long experiences of *subak* in farming practices with its culture should be more attractive for the tourists who would know and learn how to conduct traditional farming. There are many values of *subak* which might be inform to visitors in the relation to traditional dates for ploughing land, making nursery, transplanting and other sequences of rice farming activities. As a clinic, the capabilities of *subak*'s management board should be improved, especially in the way how to presenting the information. Publication of traditional information is a part of the important things to be available in the clinic. Performing farming activities on the rice field should be interesting in order that the visitor might directly involve in the activities, such as land preparation by using cattle. The direct involvement of visitors into farming activities is becoming attractive event for them due to this is primarily core of agro-tourism. In developing agro-tourism, the farmers and local people could have attraction centres like dams, festivals/exhibitions, farm sites, and the others (Nnadi., and Akwiwu, 2005).

For the local people including farmers as *subak*'s members, agro-tourism development should bring additional income from the good or services offered to visitors. Czapiewska (2010) cites that one of the ways to increase rural areas and assist farmers including local people to earn extra income is establishment of agro-tourism. The more tourists visit *subak* area as agro-tourism, the more income gained by farmers due to the food and other agricultural provided to tourist (Sznajder, *et al.* 2009). Agro-tourism as a part of mass tourism is often referred to as a new kind of sugar which is attractive to people to involve in the relevant activities and being an invisible export and non-polluting industry, and so on (Pitana and Diarta, 2009).

III. BENEFITS OF AGRO-TOURISM

Subak as farmers' organization on rice farming activities could have alternative economic work in the relation to tourism. Potentials owned by *subak* have possibility to implement the agro-tourism. Experiences of some *subaks* in Bali (Jatiluwih and Tampaksiring areas as World Cultural Heritage), the agro-tourism implemented could provide social and economic benefits for farmers as individual and group. The benefits gained by *subak* and farmers are as follows: (i) enhancing farm activities; (ii) producing various processed products that are demanded by the visitors with local product material; (iii) increasing revenue of *subak*; (iv) raising innovation to respond the visitors' needs, such as food and drink services, souvenir, rental of bicycle, etc.; (v) improving awareness of farmers to keep clean the environment of *subak*; (vi) awareness of farmers to have safety, cleanliness, orderliness, comfort, beauty, hospitality to attract the visitors; (vii) having entrepreneurial spirit; (viii) having opportunity for recreation.

Agro-tourism based on *subak* that has been just introduced and implemented in Bali still needs improvement on the capacities of the *subak*'s management board. The capacities improvement relates to tourism development in the small-scale unit (at the *subak* level). Within the areas of world cultural heritage mentioned above, the management board got limited training on how to have good skill for the

tourism management. The *subaks* only rely on their experiences in welcoming visitors and provide services (food and drink) with simple technology. It looks different with the private company which is established in the surrounding of *subaks* area, in which the performance and services using modern technology.

IV. CONCLUSIONS

Presently, management of rice field in Bali is fully taken by the traditional irrigation system; called *subak*. Since 2012, *subak* has been awarded as the World Cultural Heritage by UNESCO due to its specific culture. Therefore, the existence of *subak* has become well known and one of the alternatives to be agro-tourism object as new tourism destination. There are some potentials of *subak* relate to develop agro-tourism in supporting rural economic development are: (i) the existence of natural landscape; (ii) culture within *subak* system; (iii) social values within *subak* system; and (iv) innovativeness of *subak*'s members. *Subak* as farmers' organization on rice farming activities could have alternative economic work in the relation to tourism. Relying on the long experiences in farming activities, some *subaks* in Bali (Jatiluwih and Tampaksiring areas as World Cultural Heritage), could implemented agro-tourism activity in order to provide social and economic benefits for farmers as individual and group.

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