

# Journal of **INDONESIAN TOURISM AND DEVELOPMENT STUDIES**

A photograph of a tropical forest with tall palm trees and a person walking on a path. The person is carrying a basket on their head and another on their back. The sun is shining through the trees, creating a warm, golden light. The path is dirt and leads into the distance.

**Published by**

Postgraduate School, University of Brawijaya  
Collaboration with  
East Java Ecotourism Forum & Center of Tourism Study Brawijaya University

<http://jitode.ub.ac.id>

September, 2019

# Journal of Indonesian Tourism and Development Studies

## EDITORIAL BOARD

### Chief Editor

Luchman Hakim

**Ecotourism – Faculty of Mathematics and Natural Sciences, University of Brawijaya,  
Indonesia**

### Team Editor

- |  |  |
|--|--|
| • Akira Kikuchi<br><b>Department of Environmental<br/>University of Teknologi Malaysia, Malaysia</b>                       | Yusri Abdillah<br><b>Faculty of Administrative Sciences<br/>University of Brawijaya, Indonesia</b>   |
| • Soemarno Soemarno<br><b>Department of Soil Science<br/>Faculty of Agriculture<br/>University of Brawijaya, Indonesia</b> | Rukavina Baks<br><b>Faculty of Agriculture<br/>University of Tadulako, Indonesia</b>   |
| • Iwan Nugroho<br><b>Widyagama University – Indonesia</b>  | Regina Rosita Butarbutar<br><b>University of Sam Ratulangi, Indonesia</b>  |
| • Devi Roza K. Kausar<br><b>Faculty of Tourism<br/>Pancasila University, Indonesia</b>                                     | Hasan Zayadi<br><b>Department of Biology<br/>Faculty of Mathematics and Natural<br/>Sciences<br/>Islamic University of Malang, Indonesia</b> |

### Managing Editor

Jehan Ramdani Haryati  
Muhammad Qomaruddin

### Editorial Address

1<sup>st</sup> floor Building B of Postgraduate School, University of Brawijaya  
Mayor Jenderal Haryono street No. 169, Malang 65145, Indonesia  
Phone: +62341-571260 / Fax: +62341-580801

Email: [jitode@ub.ac.id](mailto:jitode@ub.ac.id)

Website: [jitode.ub.ac.id](http://jitode.ub.ac.id)



# TABLE OF CONTENT *Vol. 7 No. 3, September 2019*

---

## **Trickle-Down Economics' Arthur Lewis Fails: an economic development study of Mount Bromo in Ngadisari Village, Sukapura District, Probolinggo Regency, East Java**

Renny Candradewi Puspitarini, Isrofiatul Anggraini ..... 131-139  
DOI: 10.21776/ub.jitode.2019.007.03.01

## **Three Pillars Partnership in The Tourism Destinations Management in Order to Actualize Good Tourism Governance (Study on a Rafting Tour in Probolinggo Regency)**

Lely Indah Mindarti, Muhammad Fahmi Lazuardi ..... 140-145  
DOI: 10.21776/ub.jitode.2019.007.03.02

## **Halal Tourism: Its Attractiveness to Domestic Tourists Based on Their Religious Perspectives**

Ambara Purusottama, Gregorius Dimas Hapsoro Prastowo ..... 146-155  
DOI: 10.21776/ub.jitode.2019.007.03.03

## **Development of Community-Based Tourism in Pinusan Kragilan, Pogalan Village, Magelang Regency, Central Java, Indonesia**

Gatot Sasongko, Bagus Trianggono, Pamerdi Giri Wiloso ..... 156-165  
DOI: 10.21776/ub.jitode.2019.007.03.04

## **Village Development Index and ICT Infrastructure in Tourism Region**

AR. Rohman Taufiq Hidayat, Yanuar Eka Prasetya, Dian Dinanti ..... 166-174  
DOI: 10.21776/ub.jitode.2019.007.03.05

## **Policy Implementation of Tour Guides License in Maintaining the Quality of Tourism in Bali Province**

Kadek Rianita Indah Pratiwi, Choirul Saleh, I Gede Eko Putra Sri Sentanu ..... 175-183  
DOI: 10.21776/ub.jitode.2019.007.03.06

## **Risk Management of OHS for Landfilling Construction in Talangagung Edu-Tourism Landfill**

Dhyas Sulistyono Putro, Arief Rachmansyah, Bagyo Yanuwadi ..... 184-190  
DOI: 10.21776/ub.jitode.2019.007.03.07

## **Water Quality Evaluation of Kromoleo Swamp Tourist Area using Phytoplankton and Periphyton as Bioindicators in the Sumberpucung Sub-District, Malang, Indonesia**

Nudia Mella Pratikasari, Endang Arisoelaningsih, Catur Retnaningdyah ..... 191-199  
DOI: 10.21776/ub.jitode.2019.007.03.08

## **Socio-economic and Environmental Sustainability of Ecotourism Implementation: A Study in Ubud Monkey Forest-Bali, Indonesia**

Omar Sambou, Harsuko Riniwati, Zaenal Fanani ..... 200-204  
DOI: 10.21776/ub.jitode.2019.007.03.09

## **Strategy for the Development of Kampung Sasirangan as Edutourism Village**

Nasruddin Nasruddin, Ellyn Normelani, Rosalina Kumalawati ..... 205-210  
DOI: 10.21776/ub.jitode.2019.007.03.10



## Trickle-Down Economics' Arthur Lewis Fails: An Economic Development Study of Mount Bromo in Ngadisari Village, Sukapura District, Probolinggo Regency, East Java

Renny Candradewi Puspitarini\*, Isrofiatul Anggraini

Department of Public Administration, Faculty of Social and Political Science, Panca Marga University, Probolinggo, Indonesia

### Abstract

In this paper, we will examine if the trickle-down effect has ever taken in rural Indonesia. One of the cases draws attention in economic development study is poverty and income gap from wealthiest people to the less fortunate larger group of people. The argument goes as trickle-down effect appears to be the best solution to eradicate poverty as well as to solve the income gap. Tourism has become a strategy targeted by the government to spread the trickle-down effect to the less fortunate larger group of people. The government believes by sustaining the growth in tourism would accelerate the trickle-down effect and brings a less fortunate group of people to better living. In its fundamental theory, the trickle-down effect has offered delusion where jobs would be created as the conditions are met. However, this paper argues that even in tourism the trickle-down effect strategy has served less for what it has promised. Through qualitative research in Ngadisari Village, a remote area, where Mount Bromo has been a tourism landmark globally, this paper finds that trickle-down effect has come with little benefit to uplift the living standard of the poor. Thus, the trickle-down effect has served only as delusions of growth government has ever aspired.

**Keywords:** humanism, Mount Bromo, tourism economics, tourist destination, trickle-down economics.

### INTRODUCTION

The two-sector growth theory is often seen as a goal that inspires many development targets and economic growth. In the two-sector growth theory proposed by Arthur Lewis, growth may occur if it can take advantage of the abundant employment opportunities in the agricultural sector to encourage manufacturing and industrial growth in urban areas. This is what is prescribed as a precise recipe for boosting economic growth in developing countries throughout the 1980s [1-3].

This theory could gain popularity because it had become an icon of economic policy in Ronald Reagan's administration [4]. Therefore, such a familiar economic policy is called *Reaganomics*. The economic strategy that became the essence of Reagan economic policy that is *supply-side economics* or often known as *trickle-down economics*. Trickle-down economics is a term for economic policy that encourages growth in government spending, federal income tax cuts, and capital income taxes, reduces unnecessary government regulation and tightens money supply to curb inflation [3]. This was promoted by the government. The government believes the market has the best capability of realizing

economic growth and development, better than them. Government intervention is considered to impede balanced economic growth.

Arthur Lewis's two-sector growth theory presents a growth process that runs vertically. For example, in the context of tourist destinations, many investors are interested to develop a particular tourist destination. This investor was supported by the low levy of capital income tax, laid-back regulation that exist and build various places of entertainment, place to stay, a place to eat, and others as a package of capital invested around tourist destinations [5,6].

Places of entertainment, restaurant, homestay and hotel and others that opened will create employment opportunities for the community around. The community then took advantage of the tourist destinations. The community can benefit by doing economic activities such as cheap labor, hotel employees, employees at entertainment venues, and others. This potential opens opportunities for residents to earn income [7-9]. In the end, the purpose of developing tourist destinations both as a leading destination in the region and nationally is an effort to reduce poverty.

Through Home Visits construction of *trickle-down economics* is not without its flaws [10-13]. The drawback lies in the opportunity for investors to invest in technologies that precisely suppress the absorption of labor-intensive

---

Correspondence address:

Renny Candradewi Puspitarini

Email : [renny.candradewi@upm.ac.id](mailto:renny.candradewi@upm.ac.id)

Address : Dept. Public Administration, Panca Marga University, Probolinggo



workforce and the opportunity for investors to invest out to trigger capital flight [14,15]. This is also the main criticism of the theory of the development of two sectors at the same time doubt the effectiveness of *trickle-down economics development* [15]. Based on recent news, the Indonesian government has its strategic plan to develop tourism. Business tourism become the objective to seek what it calls New Bali. This plan also include developing a chain of Bromo Mountain-Tengger-Semeru Region as one of its roadmap [16]. Therefore, the author wishes to examine the extent to which this theory is applicable to be used in a developing country's economic approach, such as Indonesia. The author wants to know the extent to which *trickle-down economics* theory is applied to build a local economy in Mount Bromo.

The proposition of *trickle-down economics* emerged first in the post-World War II era, which often used as a claim to success western economic growth of its time [1,4,10,11]. Cutler and Katz [14] express *Trickle-down economics* was Okun first upgrading process in 1973. Anticipating many recent developments in the imperfect labor market theory, Okun believes that general growth can reach a hierarchy of skills, attract as many unemployed as possible and increase employment dealing with those trapped in cheap labor. At least until 1983, Cutler and Katz [14] thought Okun's argument was acceptable [12].

In summary, *trickle-down economics* drawn from traditional relationships between growth and poverty, which is why *trickle-down economics* able to run. This rate of growth raised through public intervention, in which policy also provides the means to overcome poverty and low income. Strategy *trickle-down economics* usually rely on political fetishism. While focused on raising overall average earnings, growth policies promise additional assistance to help those at the bottom of the growth pyramid.

*Trickle-down economics* implies that growth by itself will overcome the existing poverty with the assumption that growth will invite labor surplus [17]. Arestis questioned if growth could create excess employment, so based on Lewis's two-sector growth theory would automatically also create labor demand. Research conducted by Arestis on inland villages in India resulted in different conclusions. Arestis believes that economic growth followed by employment growth will make *Trickle-down economics* walk.

The fact that growth not always followed by job creation. Thus *Trickle-down economics* cannot run if growth goes on its own while not accompanied by the creation of labor.

*Trickle-down economics* theory is developed first by Arthur Lewis (1954) and expanded by Ranis and Fei (1968). The theory became one of the important topics in the literature on economic development in developing countries (Least Develop Countries/LDCs) in the 1950s and 1960s. This *trickle-down* theory became popular in America in Reagan's ex-President, but this approach has long since appeared in the United States. The application of this theory in the form of supply-side economics by President Reagan known as *Reaganomics* quite successfully suppress inflation and economic congestion in the United States. Among other things, there are two reasons for the success of *Reaganomics*. *Trickle-down economics* has the roots of the idea of classical liberalism revived by supporters of Ronald Reagan and Margaret Thatcher so often also called the school of neoliberalism. So that *trickle-down economics* is closely related to the economic ideology of neoliberalism [18].

*Trickle-down economics* theory explains that the progress of a group of people will themselves trickle down to create jobs and economic opportunities, which in turn will cultivate conditions for the uniform distribution of economic growth outcomes. The theory implies that economic growth followed by the vertical flow from the rich to the impoverished inhabitants themselves. The benefits of economic growth will be felt by the rich people first, and then in the next stage, the poor will begin to benefit when the rich start spending on the economic growth it has received.

This research is considerably less if not comparing with the previous research as comparison material. The comparison of the first study was Kurniawan [19] and the second was Santoso [20]. Kurniawan [19] and Santoso [20] explain specifically on the impacts of the tourism objects development in Umbul Sidomukti and *Songa Rafting*. Meanwhile, it is explained the economic impacts of tourism development. However, it lacks of explaining how economic growth theory is useful for providing comprehensive answers [21].

The objective of the research was to examine *trickle-down economics* capability to answer the problems in developing country, thus they can build its lagging region. The author wants to know the extent of *trickle-down economics*

theory can promise local economic development. The research approach of Arthur Lewis' *Trickle-down economics* on tourism was conducted for the economic development studies on the Mount Bromo tourism destination in Ngadisari Village, Sukapura District, Probolinggo Regency, East Java Year 2017-2018 need to be done given the lack of research around the same topic.

#### **MATERIAL AND METHOD**

This research is basic research that departs from a sense of interest in the theoretical gap between the two sectors theory which contains downward *trickle-down* economic growth. Location of the study where data were collected located in Ngadisari Village where Mount Bromo became a favorite tourist destination [22]. This research intends to recognize and obtain information on the characteristics possessed by Mount Bromo in explaining if there is a *trickle-down economics process*.

#### **Data Collection**

This research involves the process of collecting data that is analyzed qualitatively in which researchers can be involved in the test, reflect on the perception to achieve an understanding of human activities and social activities [23]. The researchers visit the location and made direct observations on the Ngadisari Village. Researchers conducted in-depth interviews to 20 respondents who can answer the research questions. These answers and observations company researchers to get the picture and formulate the conclusion. Snowball sampling is applied to collect approximately 100 people which encompasses workers in culinary and lodging sectors mini-stall owners.

#### **RESULT AND DISCUSSION**

##### **Tourism in Indonesia**

Globalization in the field of technology and information has now allowed people to have the desire to travel across many interesting places [24]. Supported by more diverse and accommodative modes of transportation, people travel more easily in less time than they used to.

Traveling is one form of movement of people from one place to another temporarily [24]. Often, we find more and more people upload photos when visiting a particular tourist destination. It is transmitted to others around it to do the same thing that we are familiar with traveling. Not only the traveling to domestic tourist destinations, have even more people

traveled out of the country. The fact that Indonesians love to go for travel is no longer a public secret. Indonesian people recorded to spend IDR 33 billion. It proved by the slump in the amount of revenue from online travel booking segment throughout 2017. From the data reported by Statista, the total revenue from the segment online travel booking in Indonesia until September 2017, reaching USD 2,417 million or almost IDR 33 billion [25].

According to Sharpley and Telfer [7], tourism is an effective tool that spurs income generation, employment, and creating a prospering community. Local governments who aware the tourism potential in their region can design development plans in the regions. Development in the area will trigger connectivity to the area [26-28]. Easy road access, adequate road guidance, adequate street lighting, which supported by the level of security will increase the tourist convenience during their visit. This needs strategic planning and policy maturity so that it can be realized [7].

In the current era of globalization, the tourism sector is the largest and strongest industry in financing the global economy. The tourism sector will be the main driver of the world economy in the 21st century and become one of the global industries [29-33]. Tourism has provided considerable foreign exchange for many countries [34]. Indonesia as the world's largest archipelago country consisting of 17,508 islands or also known as the archipelago or maritime country, has realized the importance of the tourism sector to the Indonesian economy as the growth of Indonesian tourism is always above the economic growth of Indonesia.

The tourist's expenditures can boost the income of the local population. The tourism industry is directed towards prioritizing large value-added, sustainable and inclusive tourism. Shopping for business travelers is always bigger than tourists in general. So, the tourism business is chosen as one of the important strategies [16]. Indicators of improving the quality of life seen on the level of connectivity both transport and data connections, the level of public participation in trade souvenirs typical area, as well as the level of communication between the community and tourists.

Visits of both foreign and domestic tourists are an economic blessing for people living around the tourist area. With the presence of adequate road connectivity and security and comfort, local people can quickly utilize it by building stalls.

These stalls provide the needs that tourists can easily get at a reasonable price. The development and advancement of remote areas can encourage the rising standard of living and the economic level of the tourist destination. Hopefully, if tourism in the region is encouraged to go forward so that many tourists visit, the local economy will improve and the local area will grow to offset other famous tourist destinations such as Bali, Manado, Nusa Dua, and others [35].

#### **Issue of Tourism Development**

Unfortunately, the local government cannot turn a blind eye to the latent issue surrounding the development of tourist destinations and the surrounding areas. *First*, the level of the highest competitiveness of Indonesia's tourism industry which is still being dominated by big cities.

The city of Denpasar is ranked highest in the Indonesian Tourism Index. From the range of the index scale of 0 to 5, the city got a score of 3.81. Environmental aspects of business support, governance, and infrastructure are the main proponents of excellence. Batam City was ranked next with a score of 3.73. Many tourist destinations are not less interesting, although the location is far from the residential population. Around 285 (57%) districts/cities are below the national average score [32]. As a result, the number of foreign and local tourists visiting Mount Bromo is still far from significant.

*Secondly*, there is a classic problem spanning tourist experiences during their visit. Namely, the needs around or near tourist destinations are always sold at an unusual higher price. If this requirement is sold at a price above the market price, then it is impossible for tourists to return to buy products sold. As a result, the food and beverage sales sector and other mild needs will be sluggish.

*Third*, investments invested in Ngadisari and surrounding areas, based on findings, came from residents who live in cities and cities such as Surabaya and Jakarta. The hotels and inns built around Ngadisari Village are partly owned by residents of Surabaya, Jakarta and Malang. Generally, this owner is a class of people who are already in the middle or upper society. Ngadisari villagers are generally the bottom of their society take advantage of economic opportunities by opening food stalls, drinks, and cigarettes. Unfortunately, the stall that opened this was most of the buyers are citizens who happen to drop in from daily activities. Thus it can be concluded that the type of economic society in

Ngadisari Village is a subsistence traditional economic society.

*Fourth*, the tourist destination of Mount Bromo has not become a favorite tourist destination for tourists because of the connectivity is still far from significant. The charm of Mount Bromo is still inferior to the charm of the beach and culture in the city of Denpasar and surrounding areas. Undeniably, the road that leads closer to Mount Bromo can only be traversed by a single car line. As a result, if there happens to be a car that passes, then one of the cars must give in and ready to touch the rocks. The problem is when certain occasions were held. For example, when Jazz Mountain was held the path density and congestion happens along this path.

*Fifth*, the connectivity that did not develop at all or very little progress made potentially perpetuating oligopoly power over tourist destinations. Almost ten years of public transportation paths to Mount Bromo as if not getting the attention of the local government even have the impression of omission. For almost ten years there is no widening of roads and minimal presence of security forces around this path. At night, this path included on the path of crime-prone. No wonder the emergence of the assumption that the deterioration of connectivity deliberately utilized to perpetuate the business rental car of *hardtop*. Streets that are rocky, less secure, prone to crime, and other security-prone areas cause only certain people who already know the terrain that can pass through without problems.

Supported by vehicle specifications, then the *hardtop* vehicle made the best choice to go through the gut test field. This is what makes foreign and local tourists directed to rent a *hardtop* rather than driving alone in the tourist area of Mount Bromo. This is the obstacle why tourist destination Mount Bromo has not become an attractive tourist destination in terms of connectivity is different from the city of Denpasar Bali, Batu City, and several other cities with the same tourist opportunities.

#### **Trickle-down Effect in Tourism Development**

The economy is sluggish amid US and China trade wars. That it needs a strategy to keep the economy running attractively for investors. Foreign exchange diversification become a considerable alternative [36]. One of the development strategies that can sustain the economy is the tourism sector. Deputy Director



of Bank Indonesia has compiled studies in several countries and concluded that tourism can be a source of new growth which is relatively more resilient to global economic shocks and uncertainties [37].

The relevance of business tourism is also due to the current trend of millennials spending which places expenditure on traveling as a priority. It also amplified by the increasingly advanced digital technology that enables traveling easier than before. Though we are recently entering the new industrial revolution era, local authenticity such as natural beauty, unique culture, and friendliness of the population cannot be produced by technological factors.

This sector can be endowment resource of inclusive economic growth to reduce poverty and reduce unemployment for its engagement to businesses growth/local-based industries, such as the handicraft industry, culinary, vehicle rental, and hospitality sectors. Moreover, the importance of developing tourism is due to its reasonably ready to sell that it provides quick yielding.

However, even though tourism potential is very large, space for performance improvement and aggregate competitiveness are still extensive. Based on the Travel and Tourism Competitiveness Index (2017) by the World Economic Forum (WEF), Indonesia places an impressive increase in competitiveness by 42nd rank, from the previous 50th rank. However, when compared to other emerging economies, such as Malaysia (ranked 26th), Thailand [36], India [38], and China [15], we are still relatively lagging [39].

Accordingly, data from the World Travel and Tourism Council (WTTC) show that Indonesia's total tourism contribution has only reached 5.8 percent of gross domestic product (GDP) in 2017, while Thailand is 21.2 percent and Malaysia is 13.4 percent. The supply of foreign exchange recorded for Indonesia reached 14.4 billion US dollars, which still behind Thailand 59.6 billion US dollars and Malaysia 18.5 billion US dollars [40].

It has been the spirit of the government, business tourism as one of the strategic plans to advance the tourism industry in 2020-2024. The implementation was planned to target 10 national priority destinations that have been established as New Bali. In the list, the Bromo-Tengger-Semeru tourist area is a strategic target for its development.

Business tourism was chosen because the tourist expenditure of this category is three times

from ordinary tourists. Business tourism can also function as an alternative when it is quiet. The government targets foreign tourists coming to Indonesia as many as 17 million in 2018 and 20 million in 2019. The foreign exchange target is 17 billion US dollars in 2018 and 20 billion US dollars in 2019 [16].

Head of the Yogyakarta Center for Economic and Public Policy Studies, Gadjah Mada University, stated that foreign exchange proceeds from exports. However, not all tourism foreign exchange can become foreign exchange reserves. From around 1,100 US dollars per tourist visit, it estimated that only 700 US dollars converted into rupiah. This happens because there are still many foreign hotels and travel services using overseas payment services. Regarding foreign exchange tourism, most of the foreign hotels already owned by Indonesian. However, there are still payment systems that use foreign operator services with an average cost of around 7 percent per transaction [41]. Meanwhile, village tourism can develop optimally if infrastructure developed. In addition to that, the village needs to be encouraged to create entrepreneurs who can package the tourism potential of the village.

In line with the national government, local governments are also aggressively developing community-based tourism also known as ecotourism. This form of tourism aims to pioneer and sustain the village economy. It is believed that this form of business tourism would escalate people's income. Ecotourism is also proven to reduce the number of unemployment and reduce urbanization [37,42].

The trickle-down effect occurs in many tourist destinations in the form of ecotourism in the Special Region of Yogyakarta. In the Special Region of Yogyakarta, villages such as Pentingsari Hamlet, Umbulharjo Village, Cangkringan Sub-District, Sleman Regency, and Bejiharjo Village, Karangmojo District, Gunungkidul Regency become desired tourist destinations [38].

Of that income, 90% of which is enjoyed by the local community, while the remaining 10% is to improve infrastructure, conservation, and tourism development. Communities who used to be working in agricultural sector, now receive additional income from the tourism sector. Manager Ecotourism in Pentingsari Village admits residents would receive additional income of IDR 1-2 million per month, including in-house services, village specialties, and tour guides [38].

Village income previously averages IDR 5 million per month, now rises to IDR 200 million

per month. The youth who migrated also began to return to the village because the wages of working in the village had exceeded the minimum wage of the DI Yogyakarta Province which this year was IDR 1.45 million per month. This condition is captured by Noor et al [43] which confirms the effect of ecotourism that's being amplified by social media engagement towards the local economy.

Even so, the impact of the trickle-down effect is unique. It doesn't guarantee that it would generate the same success on all tourist destinations. It caused by many factors such as synergy of institutions, political will, foreign payment systems, infrastructure, and sustainable tourism management.

**First, the weakness of political will** was voiced by Former Minister of Community Issues of President Abdurrahman Wahid Administration who wrote an opinion column in *Kompas Cetak* on March 13, 2010. According to him, political independence must include the determination of Indonesia's national tourism strategy. For example, by reviving tourism destinations that have been unnoticed, but only need a small touch to make them active again and become the main destination of tourists while reducing the pressure of excessive tourist burden that destroys Bali culture and nature.

Improving Indonesia's tourism must be done as quickly as possible, and the main requirement is to change the fundamental way of thinking of policy makers. The President must declare that tourism is a national priority and central or regional authorities, both government and private, are obliged to cooperate in this business. His recommendation includes building integrative infrastructure. With infrastructure investment, four places that are currently less well known can become potential tourist centers. It needs to be done to maintain the long-term continuation of the Indonesian tourism industry. As it reflected on research findings, Bromo Mountain and its tourism area still lack integrative infrastructure. Adequate improvements need to be built by the municipal government.

**Second, infrastructure problems.** Chairperson of the Institute for Research and Community Service at Atma Jaya University Jakarta writes predicaments faced by the tourism sector and the creative economy are typical of real economic problems in Indonesia. The competitiveness of the Indonesian economy in many cases held hostage to the poor availability of infrastructure and logistics systems. Not to

mention the matter of investment climate and bureaucracy that are not encouraging. Thus, market and private investors are hesitating to build ports, roads, airports, expensive and unprofitable electricity transmissions. If the government wants to be present in the economy, these parts become homework that must be done immediately [41].

Former Minister of Tourism and Creative Economy writes how important it is to pay attention to facilities to realize the potential of tourism's contribution to foreign exchange. One of the recommendations proposed is the enactment of a visa-free policy and facilities for entering and leaving Indonesia so that tourists can visit comfortably with secure funds. She also adds that the friendly and efficient airport lattice is the speed of goods collection, access and smooth transportation to and from the airport, cleanliness and comfort, as well as tourism information services regarding the city/country concerned.

Besides, it is also important to design readiness of human resources. Preparation is in terms of services and human resources to infrastructure. For example, if you want to welcome many tourists from China, you must be prepared with tour guides and human resources in various elements of tourism services that can speak Mandarin. The adequate infrastructure is related to airports or ports, transportation connectivity, including direct flights, infrastructure, and tourism facilities. Finally, she suggests that there are plans to prepare tourist destinations and various tourism products. This variety of products can be local because it has added value that cannot be replicated by technology. Variety of product is also a channel for quality home industry products and high ethnic values added. Thus, tourists will stay longer and expend more foreign exchange.

The basic paradigm of tourism says more tourists who come to appreciate the distinctiveness of a tourist destination, more local people who will feel proud of their cultural and natural heritage so that they are more motivated to preserve it. It will then bring more tourists into harmony. All this will result in a mutually upward spiral of support between the local community and tourists who come together to strengthen the local heritage. This paradigm must be understood well by municipal governments.

**Third, the synergy between institutions and local governments.** Taking into account the

results of the WEF's Travel and Tourism Competitiveness Index, three main factors that become records for tourism in the country, especially for the lowest competitiveness index, namely the availability of information and communication technology, tourism service infrastructure, and health and hygiene issues.

Indeed, the current government regime through relevant ministries has been enthusiastically active and highly committed to advancing the tourism industry over the past few years as outlined in the National Tourism Development Master Plan (2010-2025). Tourism development strategies designed include zoning (strategic areas), development of tourist destinations (creating *10 New Bali*, ranging from Toba in North Sumatra to Morotai in North Maluku), accessibility (facilities, infrastructure, and transportation), and community empowerment (tourism awareness). Then, promotion strategies (branding, advertising, and selling), including the implementation of international events; Meetings, Incentives, Conferences, Exhibitions (MICE); and halal tourism.

However, strategies and policy measures that have been intensively and extensively compiled by the central government, and the key to success is strongly influenced or dependent on the conditions/characteristics and responses of each region (province, city, and district).

#### **Trickle-Down Economics in Ngadisari Village**

There is central problem occurs in Mount Bromo Tourist Area near Ngadisari Village. Business tourism as a response to the development of Mount Bromo tourism was not mainly enjoyed by residents of Ngadisari Village but also from various regions outside Sukapura District. According to trickle-down economics approach, the advances promoted by private sectors will trickle instantly downward, creating jobs and economic opportunities; which in turn will foster conditions for a uniform distribution of economic growth outcomes. However, this condition is found inapplicable in Mount Bromo Tourist Area.

The theory implies that economic growth followed by the vertical flow from the rich to the self-impovertished population. As interviews have been conducted, we found that those who utilize the employment opportunities in Ngadisari Village are not natives of Ngadisari Village but from the regions other outside Sukapura District. Meanwhile, local people prefer to open their own business and do not work on the hotel

owned by investors. From the problem then the authors conclude that *trickle-down economics* not running maximum in Ngadisari Village.

*Trickle-down economics* does not run optimally due to a number of latent problems such as lack of infrastructure, institutions synergy, and unintegrative support payment. It doesn't mean that no one takes advantage of economic blessing from the existence of Mount Bromo Tourist Area.

Mount Bromo located in Ngadisari region is a blessing of its local economy. Local people have chances to run various business opportunities that can be offered to the tourists not only domestic but also the scope overseas ranging from selling knick-knacks, specialty foods, horses, *jeeps*, T-shirts, hotels, inns, and others. It makes the people's economy gradually increased, plus the community continues to do economic activities or the main livelihood of cultivation. Agriculture is the main livelihood of rural communities Ngadisari, given Ngadisari Village is suitable for agricultural activities, so many local people still farmed despite seeking additional economy by utilizing Mount Bromo Sightseeing [22].

From the trickle-down economics in Ngadisari Village explanation above, it is necessary for public to be open minded with towards all developments which will aim to improve economy of society. The society should utilize investor which open business opportunity that exploited its existence to become job opportunity for local community of Ngadisari Village. Therefore, equality of development can be realized in the poor society. This attitude can be realized by allowing the presence of local governments to make progress in the field of road connectivity and other public infrastructure, as well as the presence of law enforcement to ensure the security to the tourist destinations.

#### **CONCLUSION**

The existence of the development of the tourist destination of Mount Bromo that makes an economic change is an unavoidable thing. The result from the investment of private party and effort from society to improve the economy of its family, makes the society to find a gap that can increase its daily income as well as society in Ngadisari village though not maximal. Based on the findings, trickle-down economics in Ngadisari is a business opportunity for the tourism destination of Mount Bromo, which is utilized by some people of Ngadisari. Although only a small



portion utilizes investors from outside Ngadisari, it has not contributed enough to inclusive economic growth in Ngadisari. Thus, the trickle-down economics approach in Ngadisari was not maximal.

## REFERENCES

- [1] Ackerman, F. 1982. *Reaganomics: rhetoric vs. reality*. South End Press. Boston.
- [2] Ahmad, S.K. 2004. *Teori pembangunan ekonomi*. Utusan Publication and Distributors; (Siri pengajian dan pendidikan Utusan). Available at: <https://books.google.co.id/books?id=9v-Nk5z10TgC>.
- [3] Arestis, P., M. Baddeley, and J. S. L. McCombie. 2007. *Economic growth: new directions in theory and policy*. Edward Elgar Publishing. Cheltenham.
- [4] Bartlett, B. 2009. *The new American economy: the failure of Reaganomics and a new way forward*. St. Martin's Press. New York.
- [5] Buchanan, J. M. 1989. *Reaganomics and after*. Institute of Economic Affairs. London.
- [6] Collis, J. and R. Hussey. 2003. *Business research*. Palgrave Macmillan. New York.
- [7] Lehmans, D.J. 2015. *Understanding trickle-down economics*. CreateSpace Independent Publishing Platform. California.
- [8] Niskanen, W. A. 1988. *Reaganomics: an insider's account of the policies and the people*. Oxford University Press. Oxford.
- [9] Niskanen, W. A. 1992. *Reaganomics*. In: Henderson, D. R. (Ed). *Concise encyclopedia of economics*, 1<sup>st</sup> Ed. Library of Economics and Liberty.
- [10] Permadi, D. 2012. *Runtuhnya neo-liberalisme global : analisis ekonomi politik tentang kemunduran neo-liberalisme dan peluang kebangkitan neo-keynesianisme*. Department of International Relation, Gadjah Mada University. 2011 ed. Institute of International Studies; Available at: <http://hi.fisipol.ugm.ac.id/book/runtuhnya-neo-liberalisme-global-analisis-ekonomi-politik-tentang-kemunduran-neo-liberalisme-dan-peluang-kebangkitan-neo-keynesianisme/>.
- [11] Persky, J., D. Felzenshtain, and V. Carlson. 2004. *Does "trickle down" work?: economic development strategies and job chains in local labor markets*. W.E. Upjohn Institute. Michigan.
- [12] Pultar, G. 2014. *Imagined identities: identity formation in the age of globalization*. Syracuse University Press. New York.
- [13] Ritzer, G. and J. Stepnisky. 2017. *Modern sociological theory*. SAGE Publications.
- [14] Schaffner, J. 2014. *Development economics: theory, empirical research, and policy analysis*. NJ: Wiley. Hoboken.
- [15] Schumpeter, J. A. 1983. *The theory of economic development: an inquiry into profits, capital, credit, interest, and the business cycle*. NJ: Transaction Books, Social Science Classics Series. New Brunswick.
- [16] Seip, J., and D. W. 2016. *Harper the trickle-down delusion: how republican upward redistribution of economic and political power undermines our economy, democracy, institutions and health—and a liberal response*. UPA.
- [17] Selowsky, M. 1979. *Balancing trickle down and basic needs strategies: income distribution issues in large middle-income countries with special reference to Latin America*. World Bank.
- [18] Sharpley, R. and D. J. 2002. *Telfer tourism and development: concepts and issues*. Channel View Publications. Bristol.
- [19] Sowell, T. 2013. *Trickle down theory and tax cuts for the rich*. Hoover Press. Stanford.
- [20] Staff, B. S. G. 2011. *Reaganomics in plain and simple english*. BookCaps Study Guide.
- [21] Todaro, M. P. and S. C. Smith. 2006. *Economic development*. Erlangga. Jakarta.
- [22] Hakim, L. and M. Soemarno. 2017. *Biodiversity conservation, community development and geotourism development in bromo-tengger-semeru-arjuno biosphere reserve*. *Geojournal of Tourism and Geosites* 20(2), 220-230.
- [23] Yoety, O. A. 1999. *Industri pariwisata dan peluang kesempatan kerja*. Pertja Pubisher. Jakarta.
- [24] Yoety, O. A. 2008. *Ekonomi pariwisata: introduksi, informasi, dan aplikasi*. Kompas Book Publisher. Jakarta.
- [25] Morais, D. 2013. *Malaysia: truly asia. Double consciousness in Malaysia's tourism advertising, or the double jeopardy of being Malaysian*. 92-110.
- [26] Cutler, D. and Katz L. 1991. *Macroeconomic performance and the disadvantaged*. *Brookings Papers on Economic Activity* 2, 1-74.
- [27] Czaika, M. and H. de Haas. 2014. *The globalization of migration: has the world*

- become more migratory?. *International Migration Review* 48(2), 283-323.
- [28] Nirwandar, S. 2004. Pembangunan sektor pariwisata di era otonomi daerah. Ministry of Tourism. Jakarta.
- [29] Nizar, M. A. 2011. Pengaruh pariwisata terhadap pertumbuhan ekonomi di Indonesia. *Jurnal Kepariwisata Indonesia* 6(2), 195-211.
- [30] Okun, A. 1973. Upward mobility in a high-pressure economy. *Brookings Papers on Economic Activity* 1(1), 207-252.
- [31] Taufiqurrohman, M. 2014. Strategi pengembangan pariwisata serta kontribusinya pada penerimaan retribusi Kota Pekalongan. *Economics Development Analysis Journal* 3(1), 81-91.
- [32] Zaenuri, M. 2012. Perencanaan strategis kepariwisataan daerah konsep dan aplikasi. E-Gov Publishing. Yogyakarta.
- [33] Suwardiman. Memetakan daya saing industri pariwisata daerah. 2016. Available at: <https://kompas.id/baca/riset/2016/12/01/memetakan-daya-saing-industri-pariwisata-daerah/>.
- [34] Wartakota. 2017. Wah, Seoul sediakan informasi wisata dalam Bahasa Indonesia. Wartakota Available at: <http://wartakota.tribunnews.com/2017/05/04/wah-seol-sediakan-informasi-wisata-dalam-bahasa-indonesia>.
- [35] Hakim, L., M. Soemarno, and S. K. Hong. 2012. Challenges for conserving biodiversity and developing sustainable island tourism in North Sulawesi Province, Indonesia. *Journal of Ecology and Environment* 35(2), 61-71.
- [36] Yee, C. F. 2017. Singapore remains a central hub for company formations despite drop in overall Q4 figures. AntaraNEWS. Available at: <http://www.antaranews.com/en/news/103038/singapore-remains-a-central-hub-for-company-formations-despite-drop-in-overall-q4-figures>.
- [37] Aditya H., T. 2016. Diplomasi pariwisata Asean di pasar global. Master Thesis. Gadjah Mada University. Available at: [http://etd.repository.ugm.ac.id/index.php?mod=penelitian\\_detail&sub=PenelitianDetail&act=view&typ=html&buku\\_id=106472&obyek\\_id=4](http://etd.repository.ugm.ac.id/index.php?mod=penelitian_detail&sub=PenelitianDetail&act=view&typ=html&buku_id=106472&obyek_id=4).
- [38] Antara News. 2017. BI: sektor pariwisata berpotensi dorong pertumbuhan ekonomi Available at: <https://www.antaranews.com/berita/658816/bi-sektor-pariwisata-berpotensi-dorong-pertumbuhan-ekonomi>.
- [39] Harimawan, R. G. and W. Hidayati. 2012. Analisis keunggulan komparatif sektor pariwisata Indonesia di kawasan Asia Tenggara (ASEAN). Master Thesis. Gadjah Mada University. Available at: [http://etd.repository.ugm.ac.id/index.php?mod=penelitian\\_detail&sub=PenelitianDetail&act=view&typ=html&buku\\_id=55460&obyek\\_id=4](http://etd.repository.ugm.ac.id/index.php?mod=penelitian_detail&sub=PenelitianDetail&act=view&typ=html&buku_id=55460&obyek_id=4).
- [40] Rokhmah I., A. 2016. Faktor-faktor yang mempengaruhi penerimaan pariwisata internasional di Asean-5, 1999-2014. Master Thesis. Gadjah Mada University. Available at: [http://etd.repository.ugm.ac.id/index.php?mod=penelitian\\_detail&sub=PenelitianDetail&act=view&typ=html&buku\\_id=95838&obyek\\_id=4](http://etd.repository.ugm.ac.id/index.php?mod=penelitian_detail&sub=PenelitianDetail&act=view&typ=html&buku_id=95838&obyek_id=4).
- [41] Rahmayanti E. 2015. Daya saing pariwisata menuju komunitas ASEAN 2015. Bachelor Thesis. Gadjah Mada University. Available at: [http://etd.repository.ugm.ac.id/index.php?mod=penelitian\\_detail&sub=PenelitianDetail&act=view&typ=html&buku\\_id=90093&obyek\\_id=4](http://etd.repository.ugm.ac.id/index.php?mod=penelitian_detail&sub=PenelitianDetail&act=view&typ=html&buku_id=90093&obyek_id=4).
- [42] Utama, M. S. 2006. Pengaruh perkembangan pariwisata terhadap kinerja perekonomian dan perubahan struktur ekonomi serta kesejahteraan masyarakat di Provinsi Bali. PhD Thesis. Airlangga University. Surabaya.
- [43] Noor, A. R. 2017. Orang Indonesia doyan jalan-jalan, setahun habiskan Rp 33 Miliar Available at: <https://inet.detik.com/business/d-3778751/orang-indonesia-doyan-jalan-jalan-setahun-habiskan-rp-33-miliar>.

## Three Pillars Partnership in The Tourism Destinations Management in Order to Actualize Good Tourism Governance (Study on a Rafting Tour in Probolinggo Regency)

Lely Indah Mindarti\*, Muhammad Fahmi Lazuardi

Department of Public Administration, Faculty of Administrative Science, Universitas Brawijaya,  
Malang, Indonesia

### Abstract

Three pillars partnership in the tourism destinations management in order to actualize Good Tourism Governance has been studied with a special case on a rafting tour in Probolinggo Regency. In tourism development, the synergy of the three pillars (state, private companies, and society) is necessary. Probolinggo Regency Government in the management of the rafting tour services conducts a partnership with private sectors and society. According to the objectives of the study that have been set, the type of this research is descriptive research with a qualitative approach. In data collection, the data were collected from observations, interviews, and documents of agreement. The method of data analysis used the analysis of Miles and Huberman. The result of this research showed that Probolinggo Regency Government has conducted a partnership with the private companies and the society in managing the tourism destinations. In this case, the three pillars have their responsibility to manage the rafting tour. However, the partnership of those three pillars has to be conducted continuously to actualize Good Tourism Governance.

**Keywords:** Good tourism governance, Partnership, Three pillars, Tourism

### INTRODUCTION

Indonesia as a developing country should emphasize that development is a significant mechanism to increase the society life quality. One of the important development sectors to be expanded is Tourism. Indonesia as an archipelago country which has natural wealth makes Indonesia as a tourism destination that has a huge contribution for increasing economy aspect. It can be shown from the Ministry of Tourism and Creative Economy data informed that the tourism sector contributes foreign exchange of US\$ 10.69 billion, equivalent to Rp.136 trillion [1]. Thus it proved that the tourism sector is a potential sector which is enthused by all levels not only local but also international tourists.

Indonesia is as a country which has natural wealth and becomes the area for tourism development. Probolinggo Regency is one of the regencies in East Java has tourism wealth. One of the famous tourism in Probolinggo is rafting. The rafting tourism is located at Pekalen River that is originated from springs of Mount Argopuro [2].

However, Probolinggo still needs to increase the service management in terms of tourism destination so that it can give a positive effect on

the tourist inflow in Probolinggo and on the economy increase of the surrounding society. Therefore, with the existence of tourism objects in Probolinggo, society can be more empowered.

Consequently, upon all efforts of the tourism destination service improvement, Probolinggo needs good cooperation among the three pillars of Governance. They are State, Private Companies, and Society to reach their common goal of a good tourism destination service.

The objective of this study was to analyze the performance and the partnership between the three pillars of Governance in Probolinggo Regency. In the case of Probolinggo Regency of Tourism and Culture Department regarding the private parties and the societies about the management of tourism destination service to actualize good tourism government.

### Good Governance

Public administration is a process where the resources and public personnel are organized and coordinated to formulate, implement, and manage public decision and policy [3]. According to the World Conference on Governance, UNDP in module 1. C, D, E on Education and Leadership Training level II of State Administrative Agency (LAN) Study Paradigm (SPIMNAS) in Education and Training Centre in Leadership sector, Jakarta, 2012, Good Governance is a process of a good government system management, involving stakeholders toward various economic, social, and politic activities and the utilization of various

---

Correspondence address

Lely Indah Mindarti

Email : [lelyfia@ub.ac.id](mailto:lelyfia@ub.ac.id)

Address : Department of Public Administration, Faculty of  
Administrative Science, Universitas Brawijaya



natural, financial, and human resources for society interest that is conducted based on the principles: justice, equalization, equity, efficiency, transparency, and accountability [4].

Eight Good Governance Principles according to The United Nations Development Program's (UNDP) are as follows: Participation, Rule of Law, Transparency, Responsiveness, Consensus Orientation, Equity, Efficiency and Effectiveness, and Accountability. Sjamsuddin [5] explained the elements of Governance stakeholder consist of three sectors, as follows.

#### **State**

The definition of the state generally covers all political agency and public sectors. The state or government's role and responsibility involve public service performance, power enforcement to rule/government duty, and creating a conducive situation to reach the development goals either in local, national, or international level.

#### **Private sectors**

Private sectors, in this case, involve some companies in market system interaction, such as manufacture, trading, banking, cooperatives, and also the other informal sectors. The role of private sectors is very important for the government and development since their duty is as an opportunity to fix productivity, employment/job provider, income source, public investment, business expansion and, economic growth.

#### **Civil Society**

Civil society is an individual or a group of society who interacts and socializes socially, politically, and economically. Civil society does not only do check and balances toward the government authority and the private sectors but also gives a contribution to strengthen the other elements.

#### **Good Tourism Governance**

Good Tourism Governance is a coordination and synchronization program among the stakeholders and the actively synergic involvement (integrated and mutually reinforcing) among the government, private sectors/tourism industry and the related surrounding society [6]. In Good Tourism Governance, public sector needs a change in the way of thinking or acting, especially leaving the old centralistic government paradigm (Constitution No. 32/2004). In Tourism

Governance, there are some performance principles.

#### **Participation of Related Society**

In this case, society should be involved in deciding the vision, the mission, and the purpose of tourism development.

#### **Involvement of All Stakeholders**

The stakeholders should involve actively and productively in tourism development. The stakeholders here include the Non-Governmental Organization (LSM), volunteers, Local Government, Tourism Industry Association, Business Association, and the other related parties.

#### **Partnership of Local Ownership**

Tourism development should be able to give a contribution to the society that is the local people who live in the surrounding area.

#### **Continuously Resources Utilization**

Continuously Utilization means that tourism development should avoid the use of irreversible resources excessively.

#### **Society Aspiration Accommodation**

Society suggestion and aspiration should be able to be accommodated in the tourism activities program to generate harmonic relationship among the tourists, the business people, and the surrounding society.

#### **Environment Support Capacity**

Environment support society should be adjusted in developing various tourism facilities and activities.

#### **Monitoring and Evaluation Program**

Program of monitoring and evaluation in tourism development covers from guidelines creation, tourism activities effect evaluation, indicators development in measuring tourism effect, up to monitoring and evaluation.

#### **Environment Accountability**

Tourism development program strategy should pay attention to the job opportunity, the income and the health of the surrounding society, which are listed in the tourism development policy, program, and strategy.

#### **Training for the Related Society**

Society needs to be empowered. The society empowerment through education and training programs in order to give knowledge and skill for the society and to improve their business skill vocationally and professionally.

### **Promotion and Advocacy of Local Culture Value**

Good tourism development and management need promotion and advocacy of its local culture value. It means maintaining and conserving the cultural identity of the local society very well for visitors and tourist's satisfaction.

### **Public Services**

Public service is an endeavor that is done by a community or an individual or a bureaucracy to give help to society in reaching a certain goal [7]. Public service principles [8] consist of:

1. *Transparency*; Means that openness and accessibility for all parties.
2. *Accountability*; Can be accountable based on the applicable provision.
3. *Conditional*; Adjust with the principal condition toward efficiency and effectiveness.
4. *Participative*; Support the society role in public service.
5. *Rights Safety*; There is no discrimination
6. *Balance of Rights and Duties*; Rights and duties fulfillment between the service provider and the service receiver, in this term, they are the government and the society.

### **Partnership**

Public-Private Partnership is a work unit of government service provider or government business unit, such as Indonesian State-Owned Enterprise (BUMN) or Regional Owned Enterprise (BUMD) which cooperate with the private sectors and the third sector [9]. Public-Private Partnership is a cooperation of half government authority allocation toward the private sectors to conduct half or whole development activities and infrastructure operation [10].

### **Tourism**

Tourism is various tour activities which are supported by various facilities and services provided by society, entrepreneurs, government, and local government [11]. Tourists in tourism can be divided into five classifications [12]:

1. *Domestic Tourism* is tourism caused by people who stay and live in that country.
2. *Inbound Tourism* is tourism as the arrival of people who are not the natives of that country.
3. *Outbound Tourism* is tourism as a visit of natives of one country to another country.

4. *Internal Tourism* is a combination of Domestic Tourism and Outbound Tourism
5. *International Tourism* is a combination of Inbound Tourism and Outbound Tourism.

There are three main elements of tourism [13].

1. **Tourist** is an important actor in tourism activities
2. **Geography Elements**
  - The tourist original area*; is an area where the tourists are and do daily routines. From the tourist original area, they can access information related to the tourism destination they want.
  - Transit area*; is an area which is made as an area where tourists can stop temporarily and continue their journey again.
  - Tourism destination area*; is the targeted area by the tourists and should be managed well so that area can provide entertainment for the tourist.
3. **Tourism Industry** is an element which offers service, attractiveness, and excursion. Tourism industry consists of travel agencies which provide tourist accommodation.

Indonesian Constitution No. 10 of 2009, article 5 about tourism, explained the principles of tourism performance are:

- Upholding the religious norms and cultural values as an embodiment from the life concept in the balance of the relationship between human beings and God, the relationship among the human beings, and the relationship between human beings and the environment.
- Upholding human rights, cultural diversities, and local wisdom.
- Giving benefits for society welfare, justice, equality, and proportionality.
- Maintaining the nature conservation and environment.
- Empowering the local society.
- Guaranteeing the coherence among sectors, among regions, between the central government and local government which becomes one systemic unity in regional autonomy framework, and the coherence among the stakeholders.
- Obeying tourism ethic codes and International agreement in the tourism field.
- Strengthen the integrity of the Republic of Indonesian (NKRI).

### **Tourism Development Partnership**

According to Medium-Term Regional Development Plan of Probolinggo Regency period 2013-2018, tourism partnership is listed in point C in the program of Regional Work Units (SKPD) Culture and Tourism Department, on the other hand, the terms of tourism development is based on point C that is listed in Medium-Term Regional Development Plan program.

### **MATERIAL AND METHOD**

In this research, the researcher used a descriptive type of research with a qualitative approach [14]. The focuses of this research are (1) Tourism destination in Probolinggo Regency and (2) Partnership form among the three pillars of Governance in the rafting tour service management as an effort to actualize Good Tourism Governance.

The data source of this research was obtained through primary and secondary data. Data collection was obtained from the results of observations, interviews, and document of agreement. Data collection was carried out for four months with detailed observations; interviews with five informants (head of the department, marketing staff, tourists) also document of agreement.

Next, in data analysis, the researcher used data analysis steps based on Miles and Huberman in Sugiyono they are: data reduction, data display, and conclusion drawing/verification [15].

### **RESULT AND DISCUSSION**

#### **Tourism Destination in Probolinggo Regency**

Probolinggo is a region which has excellent natural resources. It makes Probolinggo Regency as a region which has national and international level tourism potency [16]. Probolinggo also has the other tourism destination in other sectors, such as beaches, lakes, and water sport, such as rafting which pumps adrenaline. The work units program in Medium-Term Regional Development Plan (RPJMD) of Probolinggo Regency listed in some points:

1. Tourism Marketing Development Program
2. Tourism Object Development Program
3. Tourism Service and Partnership Program

According to the Head of Tourism Division in Culture and Tourism Department of Probolinggo Regency, there are hundreds of tourism objects in Probolinggo Regency. However, they need to be improved and developed together by the three pillars of governance. Tourism destinations

which are managed by Probolinggo Regency Government are:

1. Mount Bromo
2. Madakaripura
3. Bentar Beach
4. Rafting
5. Ronggojalu Water Tourism
6. Ranu Segaran
7. Wisma Ucik (lodging house)

The tourism destinations above are managed by Probolinggo Regency Government through Culture and Tourism Department. It means that the income goes to Local Own-source Revenue (PAD). However, among all seven tourism destinations mentioned, there is only one that is managed by the government, private sectors, and society, it is Rafting. For the other five tourism destinations, they are managed fully by Probolinggo Regency Government. On the other hand, Mount Bromo is managed together with Bromo Tengger Semeru National Park (TNBTS) [17].

#### **Rafting Tour in Probolinggo Regency**

According to Head of Tourism Division of Culture and Tourism Department of Probolinggo Regency, rafting in Probolinggo Regency is located in Ranu Gedang Village, Tiris District, Probolinggo. It is located at Pekalen River that is originated from springs of Mount Argopuro and Mount Lamongan [2]. The width of the river is about 5-20 meters and the depth is about 1-3 meters. The rafting distance of the river is more or less than 12 km that takes three and a half hours with the rafting difficulty level is on grade II and grade III+.

The rafting tourism of Probolinggo Regency Government via Culture and Tourism Department conducts a partnership with the private sectors and society. The private sectors or the operators of the rafting that is trusted to conduct the partnership are:

1. PT. Condong Pandawa Nusantara (NOARS)
2. PT. Songa Alam Lestari
3. PT. Regulo Lintas Nusantara

Next, the society party consists of Tourism Awareness Community and Tourism Care Citizens who take a part in cooperating, maintaining, and conserving the beauty of tourism objects and giving tourism education toward the local and international tourists [18].



**Partnership Form among the Three Pillars of Governance in Managing the Rafting Tourism Object in Probolinggo Regency**

The partnership form among the three pillars of Governance in managing the rafting tourism object in Probolinggo Regency has been set in the cooperation agreement between Probolinggo Regency Government as the first party and the three operators of Rafting service provider by involving the society role as stated in the agreement number 181/87/428.12/212 (PT. Condong Pandawa Nusantara), number 181/88/426.12/212 (PT. Regulo Lintas Nusantara), and number 181/89/426.12/212 (PT. Songa Alam Lestari).

**Probolinggo Regency Government in Managing and Developing the Rafting Tourism Service**

Probolinggo Regency Government as the first party has several responsibilities.

1. Providing the management access of rafting attractiveness with some routes:
  - *Pekalen Atas River* including the river stream in Ranu Gedang Village, Jangkang Village, Pesawahan Village, Racek Village in Tiris District
  - *Pekalen Bawah River* including the river stream in Pesaahan Village, Racek Village in Tiris District, Brabe Village in Maron District, and Condong Village in Gading District.
2. Giving license and infrastructure facilities, such as path, bridge, and the other public facilities in order to accelerate the management of rafting attractiveness [18].
3. Giving support in the form of promotion of rafting attractiveness in order to increase the number of tourist visits in Probolinggo Regency [19].

**The Three Operators of Rafting Service Provider**

In this case are PT. Condong Pandawa Nusantara (NOARS), PT. Songa Alam Lestari, and PT. Regulo Lintas Nusantara. In managing and developing the rafting service, the three operators as the second party have some responsibilities, they are:

1. Paying contribution for Local Own-source Revenue (PAD) toward the first party, in this case, is Probolinggo Regency Government.
2. Ensuring the first party to stay maintaining the river characteristics and will not change or build the other building facilities at the river and will maintain the aesthetics in the river environment.

3. Making reports periodically toward Probolinggo Regency Government through Culture and Tourism Department about the tourism activities and visit flow.
4. Empowering the potency of the society around the rafting location in every rafting activity in line with the capacity needed by the second party.
5. Guaranteeing the visitors safety and comfort at the rafting location.
6. Providing rafting facilities and infrastructure, safety tools, and insuring every rafting participant [18].
7. Obeying the rules related to the flow/route that has been set.

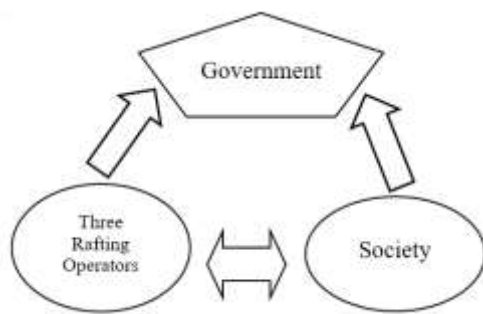
**Society**

The society role in managing and developing rafting tourism service is very important [19]. It is known that society consists of various components; they are Tourism Awareness Community, Tourism Care Citizens, and the local society. The roles of the society components to support rafting tourism service are:

1. Participating in maintaining the environment and the rafting site.
2. In the document agreement, it is stated to empower the potency of the society around the rafting site in every activity.
3. Maintaining security around the site and becoming the direction indicator for the tourists.
4. Taking a part in monitoring the implementation of the rafting tourism service.

From the discussion above, the three pillars have strategic roles in managing rafting destinations. Government, private sectors, and society have a sustainable relationship (Fig. 1). In this case, the government is as the authorized party in monitoring the rafting tourism activities. On the other hand, private sectors, in this case, are the three operators as the rafting service provider. It also involves society as a form of society empowerment [19].

The partnership between government, private sectors, and society should be continuous. It means that it does not stop and keeps trying to improve the tourism service especially the rafting, because with the continuous tourism service management, the related parties, in this case, are government, private sectors, and society can actualize Good Tourism Governance [19].



**Figure 1.** The Chart of Three Pillars Partnership

## CONCLUSIONS

The three pillars partnership in managing the rafting tourism service in Probolinggo Regency has worked well. It can be proven by the roles and the responsibilities of each three pillars; they are government, private sectors, and society. In this case, government is as the party that provides tourism access to support the rafting tourism, provides license facilities, and monitors tourism service activities that are conducted by the private parties. The private sectors play role as tourism service provider, including the facilities and the infrastructure to support the rafting tourism service. They also take a part in empowering the local society, and also the participation of the other society components. All roles and responsibilities which are conducted among the three pillars need to be continued in order to actualize Good Tourism Governance.

## REFERENCES

- [1] Ayu, K.2017. Kota-kota besar sebagai pemilik pariwisata Indonesia.Available at <https://www.kompasiana.com/kartikaayusr/5901d7116ea8345f078b4567/kotakota-besar-sebagai-pemilik-pariwisata-indonesia>.
- [2] Aulia, A. N. and L. Hakim. 2017. Pengembangan potensi ekowisata sungai Pekalen Atas, Desa Ranu Gedang, Kecamatan Tiris, Kabupaten Probolinggo. Jurnal Wilayah dan Lingkungan 5 (3), 156-167.
- [3] Chandler, R. C. and J. C. Plano. 1988. The public administration dictionary. John Wiley & Sons.
- [4] World Conference on Governance. 2012. UNDP in module 1. C, D, E on Education and Leadership Training level II of State Administrative Agency (LAN) Study Paradigm (SPIMNAS) in Education and Training Centre in Leadership Sector. Jakarta.
- [5] Sjamsuddin, S. 2006 Kepemerintahan dan kemitraan. CV. Sofa Mandiri Publisher. Malang.
- [6] Sunaryo, B. 2013. Kebijakan pembangunan destinasi pariwisata. Gava Media Publisher. Yogyakarta.
- [7] Moenir, A.S.1995. Manajemen pelayanan umum di Indonesia. Bumi Aksara Publisher. Jakarta.
- [8] Sinambela, L. P. 2008. Reformasi pelayanan publik. Bumi Aksara Publisher. Jakarta.
- [9] Mahmudi. 2007. Kemitraan pemerintah daerah dan efektivitas pelayanan publik. Sinergi 9(1), 55.
- [10] Irianti, A. F. 2011. Kemitraan pemerintah dan swasta dalam pengelolaan pariwisata. Bachelor Thesis. University of Brawijaya. Malang.
- [11] Republic of Indonesia Constitution. 2009. Number 10 about tourism. Republic of Indonesia , Jakarta.
- [12] Smith, S. L.S. 1998. Tourism analysis: a handbook. Longman Group. Harlow, England.
- [13] Cooper, C., J. Fletcher, D. Gilbert, A. Fyall, S. Wanhill. 1998. Tourism principles and practice. Longman. England.
- [14] Moleong, L. J. 1989. Metodologi penelitian kualitatif. Remadja Karya Publisher. Bandung.
- [15] Sugiyono. 2012. Metode penelitian kuantitatif kualitatif dan R&B. Alfabeta Publisher. Bandung.
- [16] Bahiyah, C. W.H.Riyanto, and S. Sudarti. 2018. Strategi pengembangan potensi pariwisata di Pantai Duta Kabupaten Probolinggo. Jurnal Ilmu Ekonomi 2(1), 95-103.
- [17] Wira, N.N.2018. Jakpost explores Mount Bromo. Available at: <https://www.thejakartapost.com/travel/2018/07/28/jakpost-explores-mount-bromo.html>.
- [18] Rachmawati, Y. 2014. Wisata arung jeram Pekalen, Probolinggo. Aavailable at: <https://www.merdeka.com/gaya/wisata-arung-jeram-pekalen-probolinggo.html>.
- [19] Sunarta, N. and N. S. Arida. 2017. Pariwisata berkelanjutan. Cakra Press. Bali.

## Halal Tourism: Its Attractiveness to Domestic Tourists Based on Their Religious Perspectives

Ambara Purusottama<sup>1\*</sup>, Gregorius Dimas Hapsoro Prastowo<sup>2</sup>

<sup>1</sup>School of Business and Economic, Universitas Prasetya Mulya, Tangerang, Indonesia

<sup>2</sup>Business Venture and Development Institute, School of Business and Economic, Universitas Prasetya Mulya, Tangerang, Indonesia

### Abstract

One of Indonesia's government programs to boost tourism as the basis of Indonesia's economy is Halal tourism. This study aimed at exploring the behavior of domestic Muslim tourists when considering halal tourist destinations. It also looked at Muslim tourists' behavior as they selected and recommended halal tourist destinations and compared the results according to the degree of taqwa in performing their religious rituals. This study used judgmental sampling in the selection of respondents and successfully collected 511 valid questionnaires. The theory of planned behavior (TPB) was used to analyze the study subjects, namely domestic Muslim tourists when they intended to select and recommend halal tourist destinations. It revealed that when domestic Muslim tourists intended to select and recommend halal tourist destinations, they influenced by Behavior Control. Attitude and Subjective norm did not influence the intention to select and recommend halal tourist destinations. Moreover, there was an adverse relationship between Attitude and Subjective Norm in the intention. The result of this study may contribute to the behavior theory and expand the use of TPB in the field of halal tourism study.

**Keywords:** Degree of taqwa, domestic tourists, halal tourist destinations, theory of planned behavior.

### INTRODUCTION

Tourism has become an important activity and has grown rapidly into a global phenomenon and a major industry. In 2007, UNWTO estimated that by 2020, there would be 1.6 billion worldwide tourists spending around US\$ 2 trillion. The reality, however, has exceeded the prediction. Data from UNWTO in 2016 recorded 1.235 billion tourists and the tourism industry contributed 10% to the GDP, 30% to the service industry, and 7% to the export value worldwide [1].

Its growth in the Asia Pacific has had a close link to that of regional tourism. Throughout 2016, the number of international tourists in the region reached 113.23 million with 5 (five) countries responsible for the largest number of tourism visits: Thailand 32.58 million; Malaysia 26.75 million; Singapore 16.40 million; Indonesia 12.02 million, and; Vietnam 1.01 million [2]. Indonesia's financial performance showed that the revenue from the tourism industry ranked the fourth largest under fossil fuel, crude palm oil, and coal. Ministry of Tourism in 2016 projected that the tourism sector would become the highest contributor to the revenue in 2019 with

approximately US\$ 24 billion, exceeding other sectors.

A study conducted by Talib and Johan [3] revealed that people's daily activities, especially the Muslims, were strongly influenced by the faith they held, and this included the choices they made for holidays. The halal label became a way of finding out whether or not a certain choice was in line with Islamic teaching and worth selecting [4].

In other words, the halal label became the determining factor between products that were deemed permissible according to the religious teaching and products that were still deemed questionable, although they met several other criteria of being halal. In buying a product or using a service, an individual also influenced by his/her degree of taqwa. A decision for purchase was strongly influenced by the faith that people held and devote Muslim would strictly adhere to the teaching of the faith when making decisions [5].

In some countries, tourism constitutes the backbone of its economy [6,7]. Halal tourism is a breakthrough concept for Indonesia in its effort to increase the number of international tourists visiting the country and to increase the chance of tourism becoming the main contributor to the country's economy. The main market targets for this industry are countries with Muslim populations, Middle Eastern and African countries, and local tourists from Indonesia – a

---

\* Correspondence Address:

**Ambara Purusottama**

Email : [ambara.purusottama@pmbs.ac.id](mailto:ambara.purusottama@pmbs.ac.id)

Address : Jl. R.A. Kartini, RT.14/RW.6, Cilandak Barat, South Jakarta, 12430.

country with the largest Muslim population in the world.

Halal tourism is an extension of the halal concept that has become a more and more important consideration for the Muslim community since halal products themselves are still not popular, especially among the community [8]. The term halal, which is synonymous with a certain religion, becomes a challenge to other religions since their religions do not prescribe the same belief [9,10].

The objective of this study is to explore people's perception of halal tourism concept and to evaluate the concept using Lombok Island, Indonesia as the sample since the island set as one of the world's halal tourist destinations. This study used the Theory of Planned Behavior (TPB) to explore the relationship between the behaviors of domestic Muslim tourists and the concept of halal tourism.

This study is a breakthrough study in the field of halal tourist behaviors that used the TPB as its basis to link the halal concept with tourism. To strengthen the result of the study, the researchers used the degree of taqwa as the variable moderator to find out the effect of such variable on the intention of the selection of halal tourist destinations. This study used the cross-sectional approach by targeting domestic tourists who possessed some knowledge of halal tourism.

#### **Planned Behavior (TPB)**

Although other theories can be used to study behaviors of individuals or organizations, the theory of planned behavior (TPB) as pioneered by Ajzen in 1980 especially discusses the involvement of participants in the selection of products and services [11]. TPB is used to understand the decision-making process done by individuals and organizations [12]. The main objective of the theory is to show a more comprehensive understanding of an individual's or an organization's behavior.

TPB explains that the desire and behavior of individuals influenced by three main factors: Attitude, Subjective Norm, and Behavior Control. The behavioral belief or attitude is a person's attitude when receiving a positive and negative response to something that he or she feels. This feeling derives from what the person believes to be the consequences of the action. The normative belief or Subjective Norm is a perception or an opinion built by other individuals, which is considered influential to a person's desire. Subjective norm can also mean a

social pressure which influences a person's desire. The control belief or Behavior Control is a perception made by an individual in their behavior. It may reflect the person's experience in the past and symbolize anticipation of future obstacles.

TPB has advantages compared to other behavior theories. First, TPB applies to various disciplines. TBP is also able to provide a closer illustration of an individual's or an organization's behavior than other theories. For many researchers, a few elements of TPB provide better values, and the theory itself has been used multiple times to support studies from other disciplines using various approaches. Some studies used TPB to analyze consumer's behavior in purchasing products and services [13-15]. TPB was also specially used to analyze the halal concept to explain the desire and behaviors of consumers of halal products [16,17].

#### **TPB on Tourism**

In the context of tourism, a few scholars have used TPB as the basis of their studies. A tourist destination requires 4 basic attributes, namely attraction, access, amenities/facilities and additional services [18]. TPB also used to evaluate the effectiveness of TPB in predicting the intentions of the visitors in selecting a tourist attraction/destination [19].

From the perspective of transport/access selection, TPB applied to predict the behavior of prospective passengers in selecting Low-Cost Carriers (LCCs) in South East Asia region [20] and accommodation selection [21]. TPB also used to study the desire of the consumers in purchasing food [22]. While others used TPB explained that there was a time-lapse between the intention of traveling and arriving in the destination, which caused a specific difference between planning and realization of choices made by the tourists [23].

The application of TPB seen in the study on the selection of worldwide tourist destinations [24]. The study revealed that the Social Environment and Behavior Control contributed to the selection of worldwide tourist destinations while Attitude only applied to certain destinations. The three factors of TPB contributed positively to the selection of tourist destinations by using Word of Mouth (WOM) as the marketing medium [25]. In this digital era, WOM has become important as it can reach wider consumers.

### TPB and the Selection of Halal Products

The behavior to purchase halal products has been the source of attraction for researchers, although the scope of such products is still limited to food and drinks. The prior study argued that in selecting halal products, individuals positively influenced by three factors: Attitude, Social Environment, and Behavior Control [22]. The study revealed that Attitude became the dominating factor for predicting Malaysian consumers' selection of halal products, followed by Social Environment, and Behavior Control.

However, social Environment no longer became a consideration in selecting food and drink products [26]. For the Muslims, religious synonymity attached to halal products such as food became the main consideration. A Muslim consumer would try to obtain halal products, and they were willing to make extra efforts to ensure their life was in line with Islamic teaching [27].

Another study on the selection of halal products revealed that Social Environment factor did not affect the selection of halal products [28]. The study also stated that the selection of halal products was mainly influenced by Attitude and Behavior control, consecutively. While other study revealed the opposite by revealing that Social Environment still played a role in the selection of halal products [17]. Other researchers argued that Attitude and Behavior Control more often became the determining factors compared to Social Environment.

### RESEARCH HYPOTHESIS AND FRAMEWORK

The study used TPB as the guideline as it was believed to be able to provide a more comprehensive perspective in the study of human and organizational behavior, see Figure 1 for the detail. Studying behavior is nothing simple since many factors influencing an individual. Therefore, this study was limited to the Intention indicator.

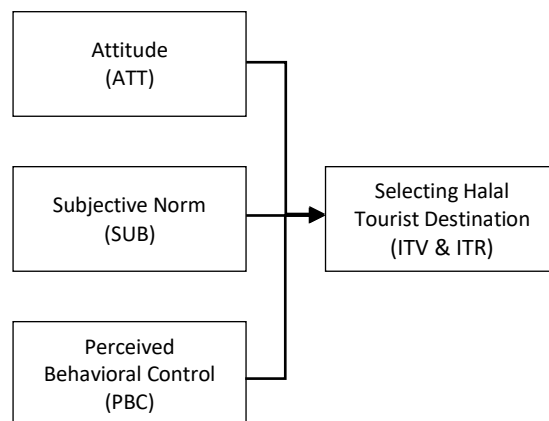
The intention considered representative and much simpler since it has a higher chance of accuracy compared to Behavior. There was not enough evidence to see the difference between Intention and Behavior [29]. Other researchers said that there was a moderate relationship between Intention and Behavior in the decision to purchase products [30].

An attitude is a form of individual response to positive or negative influences an individual is exposed to and will influence the subsequent actions of such individual [12]. In this context, the

hypotheses are to find out whether Attitude influences the Intention of people to select halal tourism. Therefore, the hypotheses are:

**Ha1:** Religiosity moderating the relationship between Attitude and Intention to visiting halal tourist destinations.

**Ha2:** Religiosity moderating the relationship between Attitude and Intention to recommending halal tourist destinations.



**Figure 1.** Framework of TPB-Based Study

Subjective Norm is a pressure from the environment on an individual against something that the individual believes in. In this context, the hypotheses are to find out whether social pressure encourages the Intention of an individual to select halal tourist destinations. The hypotheses are:

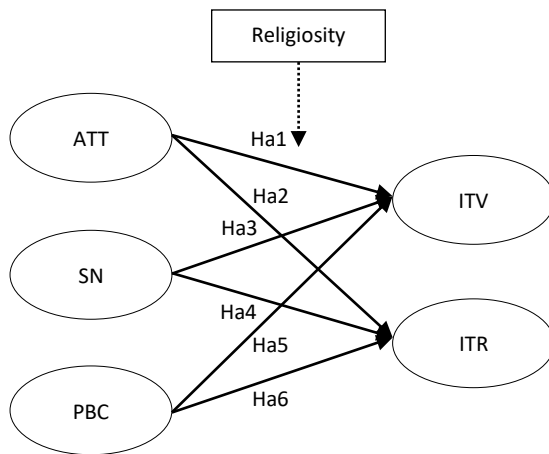
**Ha3:** Religiosity moderating the relationship between Subjective Norm and Intention to visiting halal tourist destinations.

**Ha4:** Religiosity moderating the relationship between Subjective Norm and Intention to recommending halal tourist destinations.

Behavior Control is feelings an individual has when he/she encounter difficulties or easiness in deciding how to behave. It influenced by a locus of control which is an individual's belief on the situation he/she faces and may change at any time depending on the situation. Behavior Control becomes the sole factor that influences an individual in their actions or in making decisions. In this context, the hypotheses are to find out whether Behavior Control influences the Intention of an individual to select halal tourist destinations. The hypotheses are:

**Ha5:** Religiosity moderating the relationship between Behavior Control and intention to visiting halal tourist destinations.

**Ha6:** Religiosity moderating the relationship between Behavior Control and intention to recommending halal tourist destinations.



**Figure 2.** Research Hypothesis  
**Description:** ATT = Attitude  
 SN = Subjective Norm  
 PBC = Perceived Behavioral Control  
 ITV = Intention to Visit  
 ITR = Intention to Recommend

## MATERIAL AND METHOD

Data were collected using a survey method with questionnaires. Individuals with Islamic faith and the ability to reach halal tourist destinations in Lombok Island were selected as respondents using the purposive sampling method. The use of purposive sampling method is to support this study where information obtained from a certain target group [31].

The sample collected was limited to individuals who were able to provide the information needed for the study according to the criterion set. The purposive sampling suiting this study was the judgment sampling whereby the sample collection involved subjects who were most beneficial for the study and in the best positions to provide the information.

The survey used the questionnaire instrument measured by the Likert scale. The Likert scale shows the strength of an agreement or disagreement on a statement. The range of the scale is 1 for Strongly Disagree, 2 for Disagree, 3 for Fairly Disagree, 4 for Neutral, 5 for Fairly Agree, 6 for Agree, and 7 for Strongly Agree. The range 1 – 7 was used to obtain optimum data reliability compared to other ranges in the Likert scale, and this scale was commonly used [32].

Moreover, the researchers also used the context of faith/belief and taqwa and used the degree of taqwa as a moderator variable. The researchers grouped the subjects based on two

statements, which were made based on the degree of taqwa or the discipline individuals had in performing their religious rituals, namely Devote Muslim and Cultural Muslim. The statement for Devote Muslim was “As much as I could, I perform all religious rituals prescribed by God on time” while the statement for the Cultural Muslim was “If I have the time, I perform all religious rituals prescribed by God.”

The framework of this research became the basis to build research instruments that employ 5 latent variables: Attitude, Social Environment, Behavior Control, Intention to visit, and Intention to recommend. Lombok Island used as the selected halal tourist destinations. To make it easy for the respondents to understand and fill out the questionnaires, the researchers only created three measurement variables from each latent variable.

The statement for Attitude variable was based on the knowledge and/or experience the respondents had. The Subjective Norm variable consisted of norms which should be done by the individual and was more descriptive. Behavior Control referred to the individual’s independence and capacity.

The Intention referred to the will that the decision-maker desired. The researchers adjusted the variables to fit the halal tourism context, which was the objective of the study. Details of the instruments seen in Table 1.

## RESULTS

### Profiles of Respondents

The data collected from 511 respondents, all are urban residents (Table 2). Based on age, respondents with the age of  $\leq 30$  are the most 155 respondents (30.3%),  $\geq 40$  and  $< 50$  with 135 (26.4%),  $> 30$  and  $< 40$  with 134 (26.2%), and  $\geq 50$  with 87 respondents (17.0%). Based on their educational background, diploma/ undergraduate was the largest with 381 respondents (74.6%), followed by graduate and high school with 105 (20.5%) and 25 (4.9%) consecutively. When grouped based on their monthly spending, respondents with 5-10 million and  $> 10$  million were the most with 178 (34.8%) and 177 (34.6%) consecutively.

Based on the variable moderator namely the degree of taqwa, 333 respondents (65.2%) felt that they performed all religious rituals on time (Devote Muslim) while the rest, which was 178 (34.8%), felt that they would only perform the religious rituals if they had the time (Cultural Muslim).

**Table 1.** Research Instrument [33-35]

No	Statements	Code
1	Based on the information I have had, <i>halal</i> tourist destinations are safe destinations.	att_1
2	Visiting <i>halal</i> tourist destinations is a pleasant experience.	att_2
3	<i>Halal</i> tourist destinations are the best place for self-actualization.	att_3
4	I have the fund, time and opportunity to go on a holiday.	pbk_1
5	I am the decision-maker for visiting <i>halal</i> tourist destinations	pbk_2
6	Tough difficult, I prioritize going to <i>halal</i> tourist destinations.	pbk_3
7	My close friends influence my decision in selecting <i>halal</i> tourist destinations.	sub_1
8	My close relatives influence my decision in selecting <i>halal</i> tourist destinations.	sub_2
9	My role model influences my decision in selecting <i>halal</i> tourist destinations.	sub_3
10	I intend to purchase a packaged tour to a <i>halal</i> destination.	itv_1
11	I intend to visit a <i>halal</i> tourist destination soon.	itv_2
12	I am more interested in purchasing a packaged tour to a <i>halal</i> destination than to other destinations.	itv_3
13	If asked, I encourage people to select <i>halal</i> tourist destinations.	itr_1
14	I will always recommend <i>halal</i> tourist destinations to people.	itr_2
15	When the opportunity arises, I will immediately recommend <i>halal</i> tourist destinations to people close to me.	itr_3

**Table 2.** Profile of Respondents

Profile	Range	Frequency	Percent
Age	<= 30	155	30.3%
	> 30 and < 40	134	26.2%
	>= 40 and < 50	135	26.4%
	>= 50	87	17.0%
Educational Background	High School	25	4.9%
	Diploma/Under Graduate	381	74.6%
	>= Graduate	105	20.5%
Monthly Spending	3-5 million	156	30.5%
	5-10 million	178	34.8%
	>10 million	177	34.6%
Religiosity Approach	Cultural Muslim	178	34.8%
	Devote Muslim	333	65.2%

### Validity and Reliability

The result of data testing showed that the data obtained were valid and reliable (Table 3 and Fig. 3). The values reflected in the CR and AVE were according to the requirement with CR > 0.6 and AVE > 0.5. The CR values on the latent variable showed that they fulfilled the requirement with ATT (0.883), SUB (0.949), PBC (0.815), ITV (0.904), and ITR (0.975). It shows that the data were reliable. The AVE values also fulfilled the requirement with ATT (0.720), SUB (0.845), PBC (0.737), ITV (0.739), and ITR (0.882) which shows that data collected were valid.

### Discriminant Validity

The exogeny variable data have fulfilled the requirement of discriminant validity (Table 4). The discriminant validity may occur when two different variables do not have a strong correlation or are smaller than the correlation in the same variables. The values of ATT (0.848), SUB (0.919), and PBC (0.859) are bigger than the correlation of different variables with ATT -> SUB (0.442), ATT -> PBC (0.817), and SUB -> PBC

(0.777). It concluded that the variables tested fulfilled the requirement of discriminant validity.

**Table 3.** Data Validity and Reliability

	ATT	SUB	PBC	ITV	ITR
Standard Loading	2.013	2.178	1.277	2.147	2.589
Measurement of Error	0.540	0.294	0.311	0.547	0.301
CR	0.883	0.949	0.815	0.904	0.975
AVE	0.720	0.845	0.737	0.739	0.882
Decision	S	S	S	S	S

**Notes:** ATT= Attitude, SUB= Subjective Norm, PBC= Perceived Behavioral Control, ITV=Intention to Visit, ITR= Intention to Recommend

(S) Supported, if CR > 0.6 and AVE > 0.5

(NS) Not Supported, if CR <=0.6 and AVE <=0.5

**Table 4.** Discriminant Validity

	ATT	SUB	PBC	Decision
ATT	0.848	0.442	0.817	S
SUB	0.442	0.919	0.777	S
PBC	0.817	0.777	0.859	S

**Notes:** ATT= Attitude, SUB= Subjective Norm, PBC= Perceived Behavioral Control. (S) Supported if SQRT AVE > correlation with other variables; (NS) Not Supported if SQRT AVE <= correlation with other variables

### Goodness-of-fit

Table 5 explains that the model created was suitable since it fulfilled the required values. The results were a few indicators of goodness-of-fit that were used according to the values required. The CMIN/df produced the value of 1.836 or lower than the value required which was <2 while the values of CFI, TLI, and RMSEA produced the required values with CFI with 0.933 > 0.90, TLI with 0.914 > 0.92, RMSEA with 0.075 < 0.08. On the other side, the GFI indicator was not able to fulfill the value required with 0.880 or smaller than the value required. However, the value of



0.880 belonged to the marginal fit category and

could be assumed to be a suitable model [35].

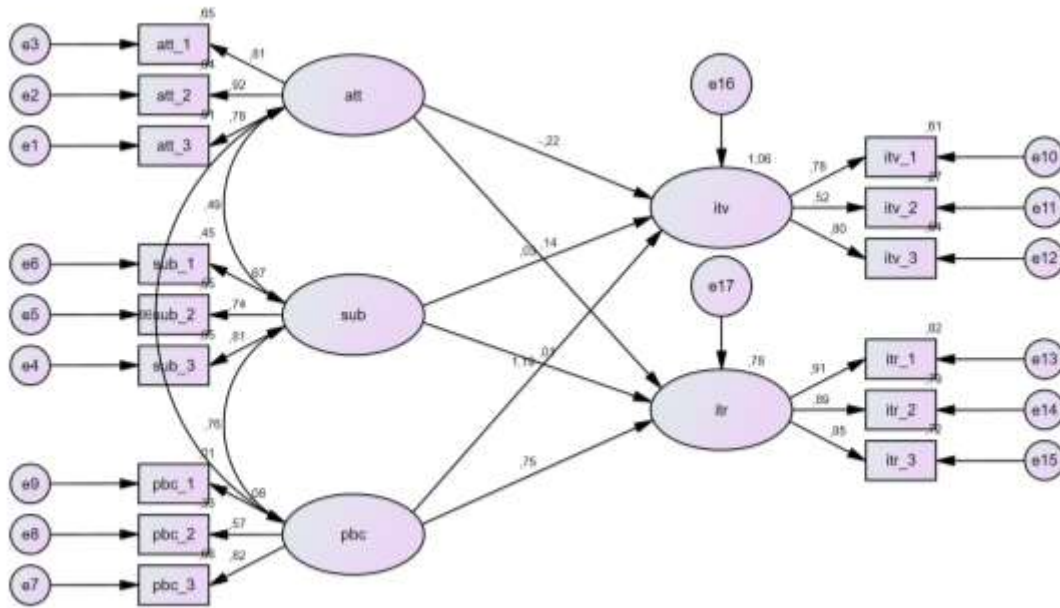


Figure 3. Data Testing Result

**Description:** ATT= Attitude, SUB= Subjective Norm, PBC= Perceived Behavioral Control, ITV=Intention to Visit, ITR= Intention to Recommend.

Table 5. The Result of Goodness of Fit Testing

Goodness of Fit Measurement	Match Level Target	Estimation Result	Fit Measurement
$\chi^2$	$\leq 2-5$	$\chi^2 = 48.752$ $\chi^2/df = 0.836$	Good Fit
CFI	$> .92$	0.933	Good Fit
TLI	$> .92$	0.914	Good Fit
RMSEA	Values $< .08$	0.075	Good Fit
GFI	$> .90$	0.880	Marginal Fit

### Hypothesis Testing

The relationships among the variables were only all consistent (Table 6). The relationship between ATT variable and its endogeneity variables - ITV and ITR - produced two different results. While the ATT and ITV produced a negative result (-0.246), ATT and ITR produced a positive result (-0.029). However, the relationships between SUB variable and ITV and ITR variable were consistent with both variables producing negative results.

The relationship between PBC variable and ITV and ITR variable was also consistent with both variables producing positive results. From all relationships among variables, only the relationship between PBC variable and ITV and ITR variable was able to fulfill the significance criterion. Therefore, it concluded that only the

relationship between PBC and its endogeneity variables was positive and significant.

### General Hypothesis

Not all the relationships among the variables developed were able to fulfill the requirement of being a significant relationship (Table 6). The result of the testing shows that only the relationship between the PBC variable and its endogeneity variables was able to fulfill the criterion set. The relationship between PBC variable and ITV and ITR variable was able to gain the P-value of 0.000, which suits the minimum criterion of significance level 99% with the P-value  $< 0.001$ .

Meanwhile, this result was in contrast to the relationship between other exogeneity variables: ATT and SUB. The relationship between ATT and SUB variable and their endogeneity variables - ITV and ITR - was not able to produce the value set. Each was only able to produce the P value between ATT and ITV and ITR variable of 0.226 and 0.839 consecutively. Also, the relationship between SUB variable and ITV and ITR variable was 0.873 and 0.454 consecutively. Therefore, it can be concluded that Ha1, Ha2, Ha3, and Ha4 hypotheses are rejected while Ha5 and Ha6 hypotheses are accepted.

**Table 6.** General Hypothesis Test Result

Hypothesis	Relationship		Estimate (U)	Estimate (S)	P-Value	Decision
Ha1	ATT	---> ITV	-0.266	-0.246	0.226	NS
Ha2	ATT	---> ITR	0.031	0.029	0.839	NS
Ha3	SUB	---> ITV	-0.022	-0.023	0.873	NS
Ha4	SUB	---> ITR	-0.079	-0.080	0.454	NS
Ha5	PBC	---> ITV	1.126	1.237	0.000	S***
Ha6	PBC	---> ITR	0.849	0.932	0.000	S***

**Notes:** (S) Supported; (NS) Not Supported

\*significant at 0.05; \*\*significant at 0.01; \*\*\*significant at 0.001

**Table 7.** Religiosity-Based Hypothesis Test

Hypothesis	Relationship		Estimate (S)		P-Value		Decision	
			Cultural Muslim	Devout Muslim	Cultural Muslim	Devout Muslim	Cultural Muslim	Devout Muslim
Ha1	ATT	---> ITV	-0.231	-0,220	0,451	0,433	NS	NS
Ha2	ATT	---> ITR	-0.267	0,144	0,439	0,373	NS	NS
Ha3	SUB	---> ITV	-0.189	0,030	0,466	0,885	NS	NS
Ha4	SUB	---> ITR	-0.423	0,010	0,167	0,939	NS	NS
Ha5	PBC	---> ITV	1,282	1,185	0,005	0,005	S**	S**
Ha6	PBC	---> ITR	1,383	0,752	0,008	0,002	S**	S**

**Notes:** (S) Supported; (NS) Not Supported

\*significant at 0,05; \*\*significant at 0,01; \*\*\*significant at 0,001

### Religiosity-Based Hypothesis

Table 7 shows that the hypotheses based on the degree of taqwa had the same results. In the two degrees of taqwa groups, only the relationship between PBC and its endogeny variables - ITV and ITR - was able to produce the required P values which were 0.005 and 0.008 for the Cultural Muslim group and 0.005 and 0.002 for the Devote Muslim group. Other relationships did not produce a significant relationship.

The ATT and SUB variables and their endogeny variables were not able to produce the required P values. For the Cultural Muslim group, the relationships between ATT and SUB and their endogeny variables were ATT -> ITV (0.451), ATT -> ITR (0.439), SUB -> ITV (0.466), and SUB -> ITR (0.167) while for the Devote Muslim group, the P values for ATT and SUB and their endogeny variables were ATT -> ITV (0.433), ATT -> ITR (0.373), SUB -> ITV (0.885), and SUB -> ITR (0.939). Therefore, it can be concluded that the hypotheses based on the degree of taqwa were the same as the general hypotheses: Ha1, Ha2, Ha3, and Ha4 are rejected while Ha5 and Ha6 are accepted.

The strength of the relationship among the variables during testing based on the degree of taqwa produced varied results. For the Opportunist group, the relationship between the ATT variable and ITV and ITR variable was

inconsistent. ATT and ITV variable produced a negative coefficient (-0.220) while ATT and ITR variable produced a positive coefficient (0.144). Also, SUB and ITV and ITR variable produced a positive coefficient with 0.030 and 0.010 consecutively. The same went for PBC and its endogeny variables with positive coefficients for PBC and ITV with the coefficient of 1.185 and ITR with the coefficient of 0.752.

In the Devout Muslim group, the relationship between ATT variable and ITV and ITR variable produced negative coefficients with -0.231 and -0.267, respectively. The relationship between SUB variable and ITV and ITR variable also produced negative coefficients with -0.189 and -0.423 consecutively. The relationship between PBC variable and ITV dan ITR variable, however, produced positive coefficients with 1.282 and 1.383.

Based on the result of the hypothesis testing, only the relationship between PBC variable and ITV and ITR variable is significant from the two groups divided based on their degree of taqwa. Therefore, although all relationships among the variables have coefficient values, only the relationship between PBC and its endogeny variables can be considered as an influential factor. The relationship between PBC and ITV and ITR in both degree of taqwa groups is positive and significant.

## **DISCUSSION**

Whilst the intentions of individuals selecting certain products or services are generally believed to be influenced by three elements, namely: attitudes, subjective norms, and behavioral control [21], this study reveals that the intentions to visit and recommend halal tourist destinations in Indonesia are influenced solely by behavioral control. The insight contrasts with the commonly held view that, as some previous studies confirmed [16,26], the intention to select halal products dominated by subjective attitudes and norms.

The gap exists due to the narrowly held perception of halal as something attached to consumables, such as food, that affect individuals directly. As such, the concept of halal in broader contexts, for instance, as a tourist destination, has yet to become a mainstream thing to consider by the society.

A similar situation holds for subjective norms [25]. These factors do not emphasize to the intentions of choosing and recommending halal tourist destinations. Moreover, most people in the immediate surrounding also view the halal concept in the context of consumables that affect them directly. It is this view that affects one's interest in halal tourist destinations. Furthermore, to most people in the community, halal tourism is not something to consider when choosing and recommending a halal tourist destination.

Behavioral control is the only variable that places emphasis on those decisions [21,26,27]. For individuals, the confidence in executing the selection of halal tourist destinations is actually not difficult. Even if it is, individuals tend to be able to convert the difficulty--in accessing halal tourist destinations--into an amenity. What comes out of this conversion is a good starting point for future development of halal tourist destinations.

The finding of this study is authentic in revealing that attitudes and subjective norms tend to have a reverse relationship, especially for the Cultural Muslim group. This finding differs from that of previous studies that have invariably reveal positive relationships [16,25,26]. Further investigation of information on the Cultural Muslim respondents discloses that there is quite a wide difference between the halal concept as understood by the community and the real halal concept [7]. Halal tourist destination, as a concept, is not considered as a need but rather as something unnecessary and, therefore, tends

to be avoided. The narrow understanding of halal to consumables with direct effects on individuals has become a challenge for the expansion of halal as a concept, especially for use as tourist destinations.

This research identifies some gaps existing between tourists and halal tourism organizers. On the demand side, there is a need for continuous education so that the concept of halal tourism can be received and captured positively by all levels of Indonesian society, who are very diverse in culture, ethnicity, race, religion, and group within the archipelago.

Next, there is a need for improved implementation of halal tourism that refers to the halal tourism foundation in terms of policy/legal standardization and availability. Finally, there is a need for collaboration among stakeholders that are better known as the *Pentahelix*, namely: institutions, the media, associations, and academics.

## **CONCLUSION AND IMPLICATION**

Behavior Control becomes a single factor in TPB that has a close relationship with the selection of halal tourist destinations. Domestic tourists did not consider the selection of halal tourist destination as something difficult to do. Attitude and Subjective Norm not only did not influence the selection of halal tourist destinations but also gave an adverse effect. When seen from the perspective of piousness, there was very little difference in the result between Devote Muslim and Cultural Muslim.

The only difference is that Attitudes and Subjective Norms of the Devout Follower aligned with the selection of halal tourist destinations. Meanwhile, Attitude and Subjective Norm of the Cultural Muslim tended to contrast with the selection of halal tourist destinations.

This study gives a new understanding of the behavior theory, especially in the context of halal tourism. This study also expands the use of TPB theory in other disciplines. The result of the study revealed an adverse relationship among the variables, Attitude, and Subjective Norms against the selection of halal tourist destinations and inconsistency between the individual perception and the halal concept of tourism.

Further studies are needed to find out more about the inconsistency, especially in the context of domestic Muslim tourists. The government as the maker of the halal tourism program needs to explore further the inconsistency revealed in this study so that the halal tourism concept does not

only concern trust in the provision of halal food and drinks for tourists, but also that of their comfort and safety, particularly in an equal level of trust.

#### ACKNOWLEDGEMENT

This research was fully supported by Universitas Prasetya Mulya. We thank our colleague, Dr. Eka Ardianto, who provide insight and expertise that greatly assisted the research.

#### REFERENCES

- [1] UNWTO. 2017. UNWTO tourism highlights. United Nation World Tourism Organization (UNWTO). Madrid.
- [2] Ministry of Tourism. 2016. Laporan akuntabilitas kinerja Kementerian Pariwisata. Ministry of Tourism, Republic of Indonesia. Jakarta.
- [3] Talib and Johan. 2012. Issues in halal packaging. *International Business and Management* 5(2), 94-98.
- [4] Sukesti, F. and M. Budiman. 2014. The influence halal label and personal religiosity on purchase decision on food products in indonesia. *International Journal of Business, Economics and Law* 4(1), 150-153.
- [5] Siala, H. 2013. Religious influences on consumers' high-involvement purchasing decisions. *Journal of Services Marketing* 27(7), 579-589.
- [6] Rahman, M. K. 2014. Motivating factors of islamic tourist's destination loyalty: an empirical investigation in malaysia. *Journal of Tourism and Hospitality Management* 2(1), 63-77.
- [7] Khan, A. H., A. Haque, and M. S. Rahman. 2013. What makes tourists satisfied? an empirical Study on malaysian islamic tourist destination. *Middle-East Journal of Scientific Research* 14(12), 1631-1637.
- [8] Battour, M. and M. N. Ismail. 2016. Halal tourism: concepts, practices, challenges, and future. *Tourism Management Perspectives* 19(Part B), 150-154.
- [9] Yousaf, S. and M. S. Malik. 2013. Evaluating the influences of religiosity and product involvement level on the consumers. *Journal of Islamic Marketing* 4(2), 163-186.
- [10] Essoo, N. and S. Dibb. 2004. Religious influences on shopping behaviour: an exploratory study. *Journal of Marketing Management* 20(7-8), 683-712.
- [11] Ajzen, I. 2015. Consumer attitudes and behavior: the theory of planned behavior applied to consumption decisions. *Rivista di Economia Agraria* LXX(2), 121-138.
- [12] Ajzen, I. 2012. The theory of planned behavior. In: *Handbook of Theories of Social Psychology* Vol. 1. UK: Sage. 438-459.
- [13] Vabo, M. and H. Hansen. 2016. Purchase intentions for domestic food: a moderated TPB-explanation. *British Food Journal* 118(10), 2372-2387.
- [14] Irianto, H. 2015. Consumers' attitude and intention towards organic food purchase: an extension of Theory of Planned Behavior in gender perspective. *International Journal of Management, Economics and Social Sciences* 4(1), 17-31.
- [15] Wang, Y. 2014. Consumers' purchase intentions of shoes: theory of planned behavior and desired attributes. *International Journal of Marketing Studies: Canadian Center of Science and Education* 6(4), 50-58.
- [16] Haro, A. 2015. Understanding TPB model, availability, and information on consumer purchase intention for halal food. *International Journal of Business and Commerce* 5(8), 47-56.
- [17] Khalek, A. A. and S. H. S. Ismail. 2015. Why are we eating halal - using the theory of planned behavior in predicting halal food consumption among generation y in malaysia. *International Journal of Social Science and Humanity* 5(7), 608-612.
- [18] Zabkar, V., M. M. Brencic, and T. Dmitrovic. 2010. Modelling perceived quality, visitor satisfaction and behavioural intentions at the destination level. *Tourism Management* 31(4), 537-546.
- [19] Wang, S. and Y. Y. Fu. 2015. Application of planned behavior and place Image to visit intentions: a casino gaming context. *Advances in Hospitality and Leisure* 11, 67-87.
- [20] Buaphiban, T. and D. Truong. 2017. Evaluation of passengers' buying behaviors toward low cost carriers in Southeast Asia. *Journal of Air Transport Management* 59, 124-133.
- [21] Verma, V. K. and B. Chandra. 2018. An application of theory of planned behavior to predict young Indian consumers' green hotel visit intention. *Journal of Cleaner Production* 172, 1152-1162.
- [22] Alam, S. S. and N. M. Sayuti. 2011. Applying the Theory of Planned Behavior (TPB) in

- halal food purchasing. *International Journal of Commerce and Management* 21(1), 8-20.
- [23] Yuzhanin, S. and D. Fisher. 2016. The efficacy of the theory of planned behavior for predicting intention to choose a travel destination: a review. *Tourism Review* 71(2), 135-147.
- [24] Quintal, V. A., J. A. Lee, and G. N. Soutar. 2010. Risk, uncertainty and the theory of planned behavior: A tourism example. *Tourism Management* 31(6), 797-805.
- [25] Jalilvand, M. R. and N. Samiei. 2012. The impact of electronic word a tourism destination choice: testing the theory of planned behavior. *Internet Research: Electronic Networking Applications and Policy* 22(5), 591-612.
- [26] Bonne, K., I. Vermeir, F. Bergeaud-Blackler, and W. Verbeke. 2007. Determinants of halal meat consumption in France. *British Food Journal* 109(5), 367-386.
- [27] Bonne, K. and W. Verbeke. 2006. Muslim consume's attitudes towards meat consumption in Belgium: Insights from a means-end chain approach. *Anthropology of Food* 5, 1-24.
- [28] Khalek, A. A. 2014. Young consumers' attitude towards halal food outlets and JAKIM's halal certification in malaysia. *Procedia - Social and Behavioral Sciences* 121, 26-34.
- [29] Hassan, L. M., E. Shiu, and D. Shaw. 2016. Who says there is an intention-behaviour gap? assessing the empirical evidence of an intention-behaviour gap in ethical consumption. *Journal of Business Ethics* 136(2), 219-236.
- [30] Grimmer, M. and M. P. Miles, 2016. With the best of intentions: a large sample test of the intention-behaviour gap in pro-environmental consumer behaviour. *International Journal of Consumer Studies* 41(1), 2-10.
- [31] Sekaran, U. 2013. *Research Methods for Business* 6<sup>th</sup> Ed. John Wiley & Sons. New York.
- [32] Joshi, A., S. Kale, S. Chandel, and D. K. Pal. 2015. Likert scale: explored and explained. *British Journal of Applied Science & Technology* 7(4), 396-403.
- [33] Autio, E., R. H. Keeley, M. Klofsten, G.G. C. Parker, and M. Hay. 2001. Entrepreneurial intent among students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies* 2(2), 145-160.
- [34] Ajzen, I. 2006. Constructing a theory of planned behavior questionnaire, s.l.: ResearchGate.
- [35] Oluka, O. C., S. Nie, and Y. Sun. 2014. Quality assessment of TPB-based questionnaires: a systematic review. *PLoS ONE*, 9(4).
- [36] Sharma, S., S. Mukherjee, A. Kumar, and W. Dillon. 2005. A simulation study to investigate the use of cutoff values. *Journal of Business Research* 58(1), 935-943.

## Development of Community-Based Tourism in Pinusan Kragilan, Pogalan Village, Magelang Regency, Central Java, Indonesia

Gatot Sasongko<sup>1</sup>, Bagus Trianggono<sup>\*2</sup>, Pamerdi Giri Wiloso<sup>2</sup>

<sup>1</sup>Faculty of Economic and Bussines, Satya Wacana Christian University, Salatiga, Indonesia

<sup>2</sup>Faculty of Interdiscipline, Satya Wacana Christian University, Salatiga, Indonesia

### Abstract

The purpose of this study is to describe community involvement in the development of Kragilan Top Selfie Pinusan tourist destinations (TSPK) and explain the role of Tourism Awareness Groups (Pokdarwis) in developing TSPK tourist destinations. This study uses the concept of Community-Based Tourism (CBT) as an analytical framework. The method used in this study is a qualitative research method. Data collection techniques were carried out by observation, documentation, and in-depth interviews with parties related to TSPK tourist destinations. The results of the study indicate that community participation in the process of developing the TSPK was encouraged by the local community namely *Pokdarwis* (tourism-aware group). *Pokdarwis*, in this case, plays a role in the division of labor; financial management; and managing cleanliness. *Pokdarwis* conducts division of labor to encourage community participation. The forms of community participation in TSPK include workforce and the contribution of ideas in developing TSPK. Next, the existence of TSPK also empowers the economy of the people in Kragilan Hamlet. *Pokdarwis* also empowers the community to manage the environment around the destination. Then TSPK shows that the CBT model that is different from CBT in general, in TSPK empowerment is carried out independently by *Pokdarwis*. Only after *Pokdarwis* initiated this empowerment and brought economic benefits, the government (Mount Merbabu National Park Office) took part in helping TSPK management.

**Keywords:** Community Based Tourism (CBT); Community Engagement; Participation; Top Selfie Pinusan Kragilan (TSPK)

### INTRODUCTION

Tourism is interpreted as the new industry that can produce rapid economic growth in the provision of employment, increasing income, improving living standards and stimulating other sectors [1]. Therefore, tourism can be said to be a strategic sector for the development of a country. Therefore, the Indonesian government sets the tourism sector as one of the national development priorities. This sector has enormous potential to continue to be developed. It supported by 14.04 million foreign tourists visiting in 2017 – an increase of 21.88 percent compared to 2016 [2]. It means that with this percentage, there is still an opportunity to grow the Indonesian economy through tourism. This growth can occur if tourism planning carried out consistently and continuously. One way to make the tourism sector sustainable is the existence of community involvement, starting from the planning process [3]. Such involvement will encourage the emergence of community-based tourism. This concept began to develop in Indonesia since 1980, and Yogyakarta was the first region to develop tourism in this model [4].

The concept of community-based tourism (CBT) is a new paradigm in tourism development. CBT is very different from mass tourism. CBT is not a tourism business that aims to maximize profits for investors. CBT is more related to the impact of

tourism on local communities and environmental resources [5]. Besides, according to Muallisin, CBT was born from a community development strategy by using tourism as a tool to strengthen the capabilities of rural/local organizations [6]. Some definitions of CBT have been put forward by several experts. Murphy considers that the community must be involved in tourism planning. Suansri emphasizes that CBT is a tool for community development and environmental conservation and that in community development, several things must be considered, including management and learning [7]. Pantin and Francis emphasize that tourism will positively correlate with improving the economy of a community [8]. Therefore, in general, CBT consists of 4 (four) main dimensions, namely community involvement, community development, community economic empowerment, and environmental conservation [7,8,9].

There have been many studies conducted related to aspects of CBT. Research on community participation and community involvement had been carried out by Su and Wall [10], Yulianie [11], Bambar and Anoma [12]. Su and Wall focused on the development of China Wall tourism where they found a positive correlation between community involvement and increased community income [9], while Yulianie focused on community participation and empowerment in managing Ceking's rice terrace attraction, Gianyar Bali while [10]. Bambar and Anoma focused on community participation in the development of Pandawa Beach tourism in Bali

---

Correspondence address:

**Bagus Trianggono**

Email : [bagust.0902@gmail.com](mailto:bagust.0902@gmail.com)

Address : Jl. Diponegoro 52 – 60, Salatiga 50711

[12]. The three studies above present community involvement in certain tourism objects, but they have not yet described the involvement of the community as a group in developing tourism objects.

Research on community involvement as a group in tourism had been carried out by several researchers. Purnamasari found that there was a need to increase the capacity of the community to create tourism products that had a competitive and comparative advantage in the international market in Toddabojo Village [13]. Putra focused on the role of Pokdarwis in the development of the attraction of Tembi tourism village, Sewon sub-district, Bantul Regency [14]. Noho focused on the management of the Gorontalo Bongo religious tourism village which in this study, he found that there was a need for increased capacity in religious tourism, attraction management and tourist services [15]. Community is described as an entity in togetherness in terms of formulating common interests, division of labor, and environmental conservation.

Research on economic empowerment in the field of tourism had been carried out previously. Arieta focused on the success of coastal tourism from the point of view of community empowerment as a concept of generating community strength in a bottom-up manner and improving the quality of life of the community [16]. Dewi focused on social and economic empowerment of rural communities in the management of Tanah Lot [17]. The results of the study show that the community can provide material benefits in the form of additional income that can help the economy of the family and the community. Rahayu et al focused on community economic empowerment strategies in Kulon Progo Regency, Yogyakarta [18]. However, the three studies only focus on economic empowerment and opening up the field for the community, but have not touched on environmental conservation.

Research on environmental conservation had been carried out by Dewi and Rosyidie, which focused on the development of the Capolaga Region as an Ecotourism Attraction [19]. Meanwhile, Saraswati et al focused on assessing sanitation facilities for tourists at Depok Beach [20].

Based on previous studies on aspects of CBT, there has been no research that focuses on the description of the concept of CBT in a tourism destination. Besides, no research focuses on tourist sites that are truly built, managed, and developed independently by the community. Therefore, there is still an opportunity to examine the involvement of the community as a group in

the development of tourism objects in the perspective of CBT.

One of the destinations which the model of community involvement which developed as a group is Top Selfie Pinusan Kragilan (TSPK). TSPK is one example of a destination that adheres to the CBT system. At TSPK, the community has a role to empower local people and involve local people in the process of developing TSPK. The destination development model is carried out by the community with a bottom-up model. Initially, this destination opened in 2015 under the name *Hutan Pinus Kragilan* (Pinus Forest of Kragilan), but in 2016 this destination changed its name to TSPK. Within three years, this destination was in great demand by tourists. Based on data from the Tourism Awareness Group (Pokdarwis) in TSPK, there were 31,008 tourists coming from May to July 2018. Therefore, this is the reason for choosing TSPK as the location of research in this study. Based on the explanation of the background, the researchers will focus on the description of community involvement as a group in the development of tourism objects. The researchers use the concept of CBT as an analysis tool. The four dimensions in CBT will be for exploration of community-based tourism at TSPK.

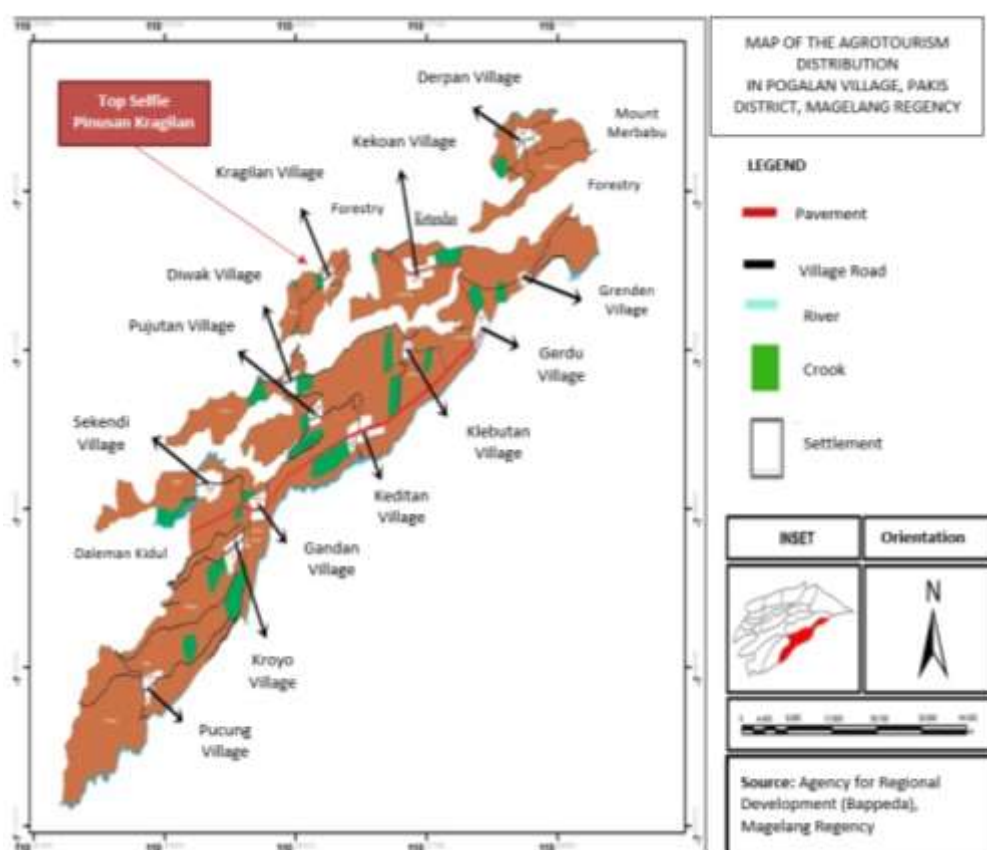
## **MATERIAL AND METHOD**

### **Study Area**

This research was conducted in the Top Selfie Pinusan Kragilan (TSPK) tourist destination. This destination located in Kragilan Hamlet, Pogalan Village, Pakis District, Magelang Regency. Kragilan Hamlet is part of Pogalan Village, Pakis District, Magelang Regency which located at an altitude of  $\pm 1330$  masl. Kragilan Hamlet borders several villages, including Jambewangi Village in the east, Kajangkoso Village in the west, Gumelem Village in the south, and Kaponan Village in the north. The population in Kragilan Hamlet is 267 consisting of 136 male residents and 131 female residents.

Then most of the people of Kragilan Hamlet work as vegetable farmers. The commodities planted by the people of Kragilan Hamlet are vegetables such as cabbage, chili, and other vegetables. Then since 2015 the Kragilan Hamlet, Pogalan Village, Pakis Subdistrict, Magelang Regency has become famous for the emergence of Kragilan Top Selfie Pinusan tourist destinations. This destination is one example of a tourist destination that developed and managed independently by the community. Visually the Kragilan Hamlet map is shown in Figure 1; then the TSPK destination and vehicle at TSPK are shown in Figure 2.





**Figure 1.** Map of Pakis District, Magelang Regency



**Figure 2.** TSPK Destination Location (Source: Personal Documentation, 2018)

### Data Collection and Analysis

This study uses an ethnographic approach. In the process of collecting data, researchers conducted observation, documentation, and in-depth interviews. This research was conducted from November 2017 and ended in June 2018. In November 2017, researchers conducted preliminary observations and adaptations to the research environment.

In the process, the researcher begins to map out the actors involved in the TSPK destination. Then the researchers also observed various

activities of workers, tourists, and traders around TSPK. The observations were carried out by researchers until the end of December 2017. January 2018 researchers began looking for informants who would be asked for information related to TSPK, starting from the history of the formation of the TSPK until its development to date.

Based on observations made since November 2017, the researchers finally found several key informants namely the Pokdarwis head of TSPK, the Pokdarwis field coordinator, parking attendants, photographer officers, shop owners, and tourists. The process of in-depth interviews with informants was carried out by researchers for one month, January 2018 to February 2018, there were various obstacles experienced by researchers such as obstacles when the informant suddenly canceled the interview at the appointed time.

However, finally the process can be overlooked and finally the researchers get all the information needed related to TSPK. The data analysis was carried out in several stages, including finding and compiling systematic data through interview transcripts, field notes, and accumulated documentation that add the researchers' understanding of what were found [21].

## RESULT AND DISCUSSION

### Process of TSPK Establishment

The village of Kragilan is a region that may not be widely known to people before the forming of TSPK. It is not an easy endeavor to create TSPK since various processes must be passed through until finally formed. Starting from 2015, residents of Kragilan village are working together to improve the infrastructure of the village entrance. In the development process, several young men took pictures in the construction area against a backdrop of pine forests. The result of the selfie then uploaded to social media (Facebook). After uploading, the netizens who saw the photo gave a response by asking where the photo was taken. Starting from this event, many people came to the Kragilan pine forest. The arrival of tourists then led to the initiative of the youth of the village to develop the Kragilan pine forest into a new tourist destination.

The first step they did was to ask permission from the Head of village, to manage and build a tourist destination for Kragilan pine forest, and he finally allowed this idea. The young people ask the Karang Taruna (village's youth organization) to form security and parking teams with the permission of the head of the village to maintain security around the destination. Throughout May-December 2015, about 30-50 tourists came every day (personal communication, 2018). On this basis, the Karang Taruna took the initiative to form a special community to manage the Kragilan pine forest destination. Through various processes at the beginning of 2016, the Top Selfie Pinusan Kragilan Tourism Awareness Group (Pokdarwis TSPK) was finally formed which consists of young people and the Kragilan village community, and they inaugurated the name of this tourist destination as Top Selfi Pinusan Kragilan (TSPK). The name of *Top selfie* was given because it has become a trend in the current era. The leader of Pokdarwis in 2016 was SB, and he is still in office up to now. After Pokdarwis was formed, problems arose related to land ownership.

Juridically, the land is owned and managed by the Mount Merbabu National Park Office.

Therefore Pokdarwis is normatively violating the rules regarding land use because it did not ask permission from the National Park Office. Then in 2017, Pokdarwis submitted a proposal to manage a portion of the Kragilan pine forest. In February 2018, the Mount Merbabu National Park Office gave management recommendations to Pokdarwis covering 4 hectares. The consequence of this is that Pokdarwis cannot manage the TSPK by themselves because they must involve the Mount Merbabu National Park Office and this agreement was finally agreed by both parties. With this joint management, on February 14, 2014, the Top Selfie Pinusan Kragilan tourism destination (TSPK) was officially opened, but the name of Pokdarwis changed into KSWT (Top Selfi Tourism Awareness Group).

It shows that there is a unique feature in the emergence of Pokdarwis at TSPK. Where pokdarwis emerged at the initiative of the local community, then, in the end, the community formation committee could collaborate with government (Mount Merbabu National Park Hall) to collaborate in managing the TSPK. Therefore, the findings at TSPK are an interesting finding where this is an antithesis of the CBT concept that only puts forward the bottom-up model, but the findings at TSPK show the collaboration of bottom-up and top-down models.

The bottom-up model is the formation of Pokdarwis by the local community, and the top-down model is the state (Mount Merbabu National Park) intervention on the land at TSPK. Thus, the findings at TSPK became interesting (Figure 4). It was different from the findings of Wirajuna and Supriyadi who found that the Pokdarwis formed in Jerowaru West Nusa Tenggara was initiated by the village government [22]. The difference shows that Pokdarwis TSPK was formed at the initiative of a new community that later penetrated the government. A different finding was in line that Pokdarwis in Bendosari village formed by the village government to improve the community's economy [23], while in TSPK Pokdarwis was formed to accommodate community interest in developing TSPK.

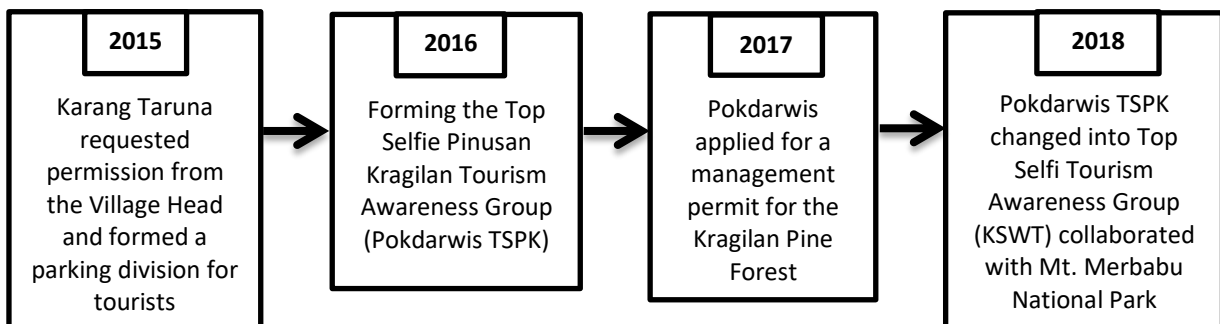


Figure 4. Process of TPSK establishment

### Community Participation in Building of TSPK

The community of Kragilan village is the main actor in the TSPK development process. The community plays an active role in the process of developing TSPK. This active role was supported by the existence of the Tourism Awareness Group (Pokdarwis). Pokdarwis has a role in building the tourism system in TSPK by involving the community, including the involvement of the community as laborers at TSPK, providing ideas for TSPK development. The process was carried out during meetings between divisions every month. During the meeting, Pokdarwis members and community members who were present free to express their opinions.

*"Sir, for the progress of top selfie, all may give their ideas. Anyway, all ideas can be submitted every 12<sup>th</sup> date as long as they are important for the sake of top selfie, they are will be accepted. Sir, the inspiration to make a tourist park as a comparative study such as the fruit garden in Jogja can be an example of it. Other examples are Kalibiru and Pecici. From the Internet, there are also many examples like Maribaya, which is nearly the same as here" -S*

The statement shows that Pokdarwis has fulfilled the criteria of Dahl about democracy, which is about freedom of organization and expression [24]. Freedom of organization and expression reflected in active participation in contributing ideas for the development of the tourist area and the community was also involved by Pokdarwis to determine the price of photographer services. The ideas of the community were discussed at regular Pokdarwis meetings every month. The tariff for each tourist area varies from IDR 5,000 to IDR 20,000.

These findings indicate that there is the existence of one CBT concepts, namely the involvement of local communities in tourism development planning. Such involvement was supported by Pokdarwis. The community involvement was also influenced by social capital. Putnam stated that social capital is in the form of social organizations, beliefs, norms, and networks (from community ties) [25].

In the context of TSPK, the involvement of the local community in TSPK development planning seen in social bonds in the form of trust and networks. Trust was built because of the common vision between members and administrators of Pokdarwis. The network will form a common bond for the progress of the TSPK. In the tourism planning process, the parties involved were the management and members of the Pokdarwis TSPK.

Based on the exposure of the research findings above, it shows that TSPK destination was formed and developed because of the community involvement. Community involvement in TSPK was provided by Pokdarwis. Pokdarwis itself was formed due to community initiatives to develop TSPK. It is similar to the findings by Bambar and Anoma, who found that community participation shown by the active participation of the community in making decisions to improve the quality of Pandawa beach tourism [12].

However, it was not specifically mentioned that the form of community activity was accommodated by the government. It is different from the findings at TSPK, which shows that community activity was encouraged by the local community – Pokdarwis. Related to this issue, Yulianie found that the people of Tegallalang and Kedisian villages could not be maximally empowered because of the lack of tourism support facilities in which people could not feel the impact of the tourist attraction offered [11]. Therefore, table 1 will briefly explain the role of Pokdarwis development process TSPK.

**Table 1.** The Actors and Its Participation in TSPK

Phase	Actor	Role
<b>TSPK pioneering</b>	Karang Taruna and Pokdarwis TSPK	Hold meetings with the community
	Kragilan Village Community	Provide input to the TSPK development process and assist in the development of the TSPK by working together
<b>TSPK Developing</b>	Kragilan Village Community	Building new land on TSPK
	Leader Pokdarwis TSPK	Provide various inputs for the development of vehicles at TSPK
	Photographer	Agree on photo service rates at TSPK
	Pokdarwis Parking Division and Kragilan Village Community	Agree on parking rates at TSPK
	Pokdarwis and Kragilan Village Community	Agree on vehicle rates
	Pokdarwis TSPK	Share the workload of the workforce at TSPK

The findings at TSPK show almost the same thing related to facilities, but the lack of Pokdarwis facilities continues to encourage the development of better TSPK. It also supported by active community participation in advancing TSPK. It is because the existence of TSPK improves the economic life of the community of Kragilan village. Regarding the economy of the community, TSPK

shows the same phenomenon as the findings of Su and Wall in China, which showed that community involvement positively correlated with increasing community income [10]. The fact in Kragilan shows that although there had been no involvement of the government or the private sector (investors), TSPK was still able to develop and improve the economy of the community through the existence of community collectivity.

#### Pokdarwis Role in TSPK Development

Community development is one of the elements in CBT. In the context of the community of TSPK, it refers to the Group of Top Selfie Tourism Awareness (Pokdarwis TSPK). Pokdarwis is the main agency that drove the TSPK and formed in 2016. The establishment of Pokdarwis aimed as a place for the community of Kragilan village to develop the TSPK. The Pokdarwis plays a role in the job division for workers in TSPK; it played the role of the financial manager at TSPK and it was responsible for the cleaning of TSPK. Pokdarwis hierarchy consists of a chairman, secretary, treasurer, and there are 3 divisions who play their role in the field, namely parking and security division, photographer division, and the cleaning division. The job division of workers at TSPK was carried out by each relevant division, for example, in creating job shifts for photographers and parking. The creating of such job shift was fully carried out by the division of the photographer, and the parking and security division.

*"Sir, the division of labor has been arranged in the organization, so as I said before, in each division, there is someone in charge. In the past, the job shift was set daily, so if someone got Monday shift, then he would get Monday again. But now, Sir, we use the Javanese calendar, so the shift of work day can change according to the calendar. Sir, the parking is arranged by the parking division, and because I'm the chairman, I know that each division also has its chairman. Sir, the chairman is the one who manages the shift."* -S

The carried out shift model was twice shift period i.e. morning shift starting at 7 am to 12 pm and the afternoon shift starting at 1 pm to 6 pm. In one shift, there were 7 (seven) photographers. Why was the shift model chosen, and why does it consist of 7 people? It is because there had been an agreement in Pokdarwis. With such divisions, it is expected that the entire community of Kragilan village may earn the economic benefits from the existence of TSPK. In addition, the shift division for parking was the same model with the model for parking and security officers.

Regarding financial management, includes the sources of income came from parking fees, retribution for photos, and retribution for rides in the tourist areas. With the average number of visitors reaching 500-1,000 people, it raises questions about the usage of the money. Retributions were used to develop TSPK such as for the construction of new areas and buying cameras for photographer services. In addition to developing TSPK, the results of retribution used for the organization, namely for social funds. Those who managed the money were the treasurer of Pokdarwis TSPK. Meanwhile, the cleaning division was responsible for the cleanliness of the area. Regarding the above findings, in the context of community development, Pokdarwis TSPK managed to regulate a good tourism system. Pokdarwis organized TSPK from the planning to development stages (Table 2).

**Table 2.** The Role of Pokdarwis TSPK

Division	Role
Parking Division	Divide the tasks of the parking members and divide the parking member shift
Photographers Division	Divide the photographer's shift at TSPK
Hygiene Division	Ensure TSPK cleanliness and cleanliness of supporting suggestions at TSPK such as toilets
Treasurer of Pokdarwis	Manage finances from parking fees, photographer services and rides and pay workers (photographers, parking members, and janitors) at TSPK)

The findings in the TSPK are different from the findings of Putra who found that Pokdarwis only played a role in the development of tourism attractions in the Tembi Tourism Village of Sewon District, Bantul Regency [14]. The findings at TSPK indicate that Pokdarwis organized the overall elements of tourism at TSPK. TSPK can exist from the community initiatives so that the entire planning process until the development process was carried out entirely by the community.

It is also different from the findings of Purnamasari which shows that the community is involved in tourism development because they get support from the government [13]. It means that the people of Kragilan village were independent and unwittingly they were empowered.

This independence was encouraged by the local community, namely Pokdarwis. The TSPK tourism development model through Pokdarwis was carried out with a bottom-up model, and the government with private sector had no role in developing TSPK. CBT that existed in TSPK was different from the CBT concept in general, which states that community involvement occurs if there

is already a destination made by the private sector or government in the form of partnerships.

#### **Capacity Improvement for Workers at TSPK**

Pokdarwis TSPK besides performed its management function in organizing a community also performed a learning function. The purpose of the learning is to improve the quality of Human Resources (HR) for workers at TSPK. The forms of learning carried out by Pokdarwis were still limited. The learning was carried out every 9<sup>th</sup> date at a meeting among photographers. The purpose of the meeting was to discuss any issues related to photography. The fact is that SB as the chairperson of Pokdarwis TSPK was the actor who played a role in improving the quality of human resources at TSPK. SB shared his knowledge with photographers about how to take pictures according to the applicable standards. The carried out learning process was photography class sessions. A photography class was held to discuss with each other about photography. The learning model in this class was done by brainstorming and photo practices. The person who gave lesson materials in the photography class session was the Chairperson of Pokdarwis TSPK.

This class session was very useful for photographers of TSPK destination. The perceived benefit is that photographers would understand more about how to take good pictures. It means that Pokdarwis had succeeded in the building of capacity for photographers in TSPK tourist destination. The main purpose of capacity building in learning comes from the needs of something and facing changes [26]. The context of learning that comes from the needs of something is the need to improve the skills and results of photographs while dealing with changes that happen when there are protests from visitors about the photo quality of photographers. Both of them had become the capacity building carried out by Pokdarwis TSPK.

Based on these explanations, by improving the quality of human resources through monthly meetings of photographers, Pokdarwis had performed the learning function. In addition, Pokdarwis had the ability to develop TSPK.

To increase the capacity of Pokdarwis, it needs to increase the capacity of individuals involved in Pokdarwis. However, different things found by Damayanti et al which shows that there was a complexity in increasing the capacity of the community of Bendosari Village of Pujon Sub-district, Malang Regency [27]. That is improving the quality of human resources, strengthening the organization, and institutional reform. The effect of this complexity was the ineffectiveness of the

strategy taken [28]. It showed the weaknesses of the strategy carried out by the government of Bendosari Village, and there was no involvement from the Malang Regency government [27].

Different findings took place at TSPK. Although the carried out capacity building was still limited, but it was more effective in improving the quality of human resources, especially photographers at TSPK. Even so, the capacity of the community increased, especially in the field of photography, because the photographers held meetings every month to overcome the community who did not know how to use a camera properly. After discussion at the meetings, the knowledge of the community increased, and the creativity of photographers at TSPK also increased as well.

#### **New Economic Potential for the Community of Kragilan Village**

The existence of TSPK had a positive correlation with the development of tourism supporting businesses, including parking, photography services, and food stalls. The existence of these businesses opened up new jobs for the Kragilan people who previously worked as vegetable farmers.

Based on the observations of researchers, income for Pokdarwis from the parking sector was very large. Retribution for car parking at TSPK was IDR 10,000 and IDR 3,000 during the initial opening of TSPK. Determining parking fees was very dynamic at TSPK. However, at the beginning of 2017, the retribution had been changed where there was an additional cleaning fee for IDR 2,000.

The change occurred again when the Mount Merbabu National Park Agency became part of the TSPK manager. Retribution for one person was IDR 10,000 consisting of IDR 5,000 for TSPK and IDR 5,000 for the national park agency. However, noted that through various dynamics of changes in retribution costs, the positive thing from it was the opening of jobs for the people of Kragilan village. People who were in charge of parking management at TSPK got paid IDR 25,000 per assignment. The assignment was valid once a week.

Besides the involvement of the community in managing TSPK parking, they also involved in the services of photographers at TSPK. The rate for photographers for one photo was IDR 2,500. In addition to photo division, there was also photo services for visitors who wanted to use the tourist area as the background of their photo. However, the prices for background photos were set separately, i.e. IDR 2,500 only for photo services, while for the background (in this case the tourist

area) was case dependent (the benchmark price was between IDR 5,000 to IDR 20,000).

For the community involved as parking staff members and photographers, they earned IDR 25,000 every day. On average, each month the participated people might get IDR 400,000 per month. It would not be the case if they were dependent on the agricultural sector, in which prices based on market prices. It shows that tourism that was built by the community at TSPK can improve their economy. However, these staff was obliged to deposit money into the community cash with an amount of IDR 50,000 every time they were on duty. The deposit was imposed on seven people on duty, meaning that each staff got deduction from their salary of IDR 7,000 per one assignment. This deduction used for the cash of Pokdarwis. The involvement of the community in the development of the TSPK had resulted in TSPK to develop rapidly, and the community can be more prosperous with the presence of TSPK. It is in line with Damanik's statement that community involvement is the key to improve welfare through tourism development [29].

The next business that also developed at TSPK was food stalls. The existence of these stalls was a direct effect of festive TSPK. Based on the observation of researchers, there are four food stalls actively trading. The owners of the stalls were local residents. The things that sold at the stalls include:

*"Sir, here we offer coffee, tea, and pop noodles. There are also snacks. See that those are the newest things we can offer. Besides, coffees and teas are suitable for the atmosphere here. Sir, this site is quite cold, so drinking a hot drink would make the atmosphere warm. Those who run the stall businesses here are the local people, who used to have no work at all and now they have activities to manage food stalls here," -F*

The existence of these food stalls had improved the economy of the local community and reduced the unemployment rate at the village of Kragilan. The food stall business in TSPK will continue to grow in line with the growing of TSPK. TSPK is currently one of the favorite tourist destinations in the Magelang Regency. The food stalls were managed independently by stall owners. However, the arrangement of trade location was regulated by Pokdarwis, i.e. by parking and security divisions. The divisions regulate the trading location to prevent crowded stalls at TSPK.

Based on these findings, it seems that the existence of TSPK had a positive effect on the community, namely the growth of employment for the people of Kragilan village. The findings by

Arieta proved that the community collectivity increased their quality of life [16]. The findings in Kragilan also show that the community's quality of life, especially in the economic sector improved because of the existence of TSPK. It was through the development of businesses and involvement of the community as workers in TSPK.

Dewi found that people earned additional income from the tourism of Tanah Lot in Bali. The findings in Kragilan show differently, where some people especially youth, relied on jobs at TSPK as their main source of income [17]. Some say that TSPK as the side income in addition to income as vegetable farmers. It means that TSPK had reduced unemployment in the Kragilan village, in which there were 53 out of 267 community members who involved as workers in TSPK.

The findings of Rahayu et al show that the obstacles leading to economic empowerment that runs non-optimally, i.e. unsupported infrastructure, community participation is still low in developing of tourism, and partnership that has not maximally built [18]. These three factors also experienced by actors in the TSPK, but the difference was related to participation. The community in Kragilan was very enthusiastic to develop TSPK. With this high community enthusiasm, the economy of the community will increase. The economy improved because of the absorption of the community as workers in TSPK.

#### **Community Awareness in Managing the Environment**

CBT cannot be separated from environmental conservation. Environmental conservation in the context of TSPK is a type of conservation viewed by TSPK. Pokdarwis, through the hygiene division, was responsible for managing waste around the destination and cleaning up the supporting facilities, such as toilets. To carry out this task, the hygiene division cannot work alone, and it needed participation from tourists. It means that the cleanliness of the TSPK environment was a shared responsibility between Pokdarwis and tourists.

In general, supporting facilities at TSPK that produced waste include toilet and food stalls, so the two supporting facilities must always be monitored. If facilities at TSPK are dirty, tourists will think twice to come to TSPK. The toilet at TSPK is a very important supporting facility. For tourists who came from outside the city, they usually look for toilets first to urinate or just to wash their faces. Therefore, with this crucial function, toilets must be kept clean. With a clean and comfortable toilet, it will give a positive impression to tourists. Related to this issue, the division that had a role in toilet hygiene at TSPK was the Pokdarwis hygiene

division. The cleaning division had the task of checking up tap water and ensuring that all toilets are always clean and comfortable for tourists.

This process indicates that people in Kragilan village who are members of Pokdarwis realized that aspect of comfort is important in the tourism business. It means that with the awareness of maintaining cleanliness, the community was at the stage of apathy. The apathy stage is the stage where people accept tourists as a normal thing and the relationship between people and tourists dominated by commercial relations. The planning that was carried out in a tourist destination in this phase generally only emphasizes the marketing aspect [29].

Related to environmental conservation, Dewi and Rosyidie found that there needs to be awareness from the community about the environmental quality and education in developing ecotourism [19]. Therefore, to improve the quality of sanitation and hygiene at TSPK, the role of the government is needed to encourage people to continue maintaining cleanliness at TSPK so that tourists will feel comfortable visiting TSPK.

Next, the findings of Saraswati et al that the condition of sanitation facilities in Depok Beach Bantul was stated to be healthy [19]. Sanitation hygiene is important in a tourism system, which findings at TSPK indicate that toilet hygiene in TSPK needs to be improved. Therefore, in the future it is expected that there will be improvements in the toilet as a supporting tool at TSPK. With these improvements, it is expected that the satisfaction of tourists visiting TSPK will be increased.

## CONCLUSION

Pokdarwis becomes an institution that plays an important role in the planning process of TSPK development. Pokdarwis organizes various aspects to make TSPK continue to develop, such as establishing a system of division of labor, managing finances resulting from retribution, and improving the quality of human resources in Kragilan village. In the planning and development process, TSPK Pokdarwis always involves the community, and this involvement is shown by accommodating the opinions of Pokdarwis members and community members in monthly meetings. The existence of TSPK empowers the economy of local communities in the form of employment through parking and photographer services, and the emergence of food stall businesses around the destination. The cleaning division of Pokdarwis TSPK plays a role in environmental conservation at TSPK. The CBT model in Kragilan differs from CBT, theoretically, CBT in TSPK done with a pure bottom-up model.

## Acknowledgement

The author thanks to those who have helped the writing of this article. Those parties include informants who were willing to provide information and Dr.Ir. Suwartiningsih, M.Sc for input on the concept of community empowerment.

## REFERENCES

- [1] Pendit, N. S. 1980. Ilmu pariwisata sebuah pengantar perdana. Pradya Paramita Publisher. Jakarta.
- [2] Ministry of Tourism. 2016. Data jumlah wisatawan asing ke Indonesia. Ministry of Tourism, Republic of Indonesia. Jakarta.
- [3] Ross, G. F. 1998. Psikologi pariwisata. Yayasan Obor Indonesia Publisher. Jakarta.
- [4] Baiquni, M. 2017. Pariwisata berbasis masyarakat yang berkelanjutan: pariwisata oleh, dari dan untuk masyarakat. Available at: <http://www.kombinasi.net/pariwisata-berbasis-masyarakat-yang-berkelanjutan-pariwisata-oleh-dari-dan-untuk-masyarakat/>.
- [5] Hadiwijoyo, S. S. 2012. Perencanaan pariwisata perdesaan berbasis masyarakat (sebuah pendekatan konsep). Graha Ilmu Publisher. Yogyakarta.
- [6] Mualissin, I. 2007. Model pengembangan pariwisata berbasis masyarakat di Kota Yogyakarta. Jurnal Penelitian BAPPEDA Kota Yogyakarta 2, 5-15.
- [7] Murphy, P. E. 1985. Tourism: a community approach. Routledge Library Editions. New York.
- [8] Suansri, P. Handbook of community based tourism. Rest Project. Thailand.
- [9] Pantin, D. and J. Francis. 2005. Community based sustainable tourism. UWISEDU. UK.
- [10] Su, M. and G. Wall. 2014. Community participation in tourism at a world heritage site: Mutianyu Great Wall, Beijing, China. Journal Tourism Research 16, 146-156.
- [11] Yulianie, F. 2015. Partisipasi dan pemberdayaan masyarakat dalam pengelolaan daya tarik wisata "Rice Terrace" Ceking, Gianyar. JUMPA 2(1), 165-184.
- [12] Bambar, A. F. and I P. Anoma. 2016. Partisipasi masyarakat dalam pengembangan pariwisata di Pantai Pandawa, Desa Kutuh, Kuta Selatan, Badung. Jurnal Destinasi Pariwisata 4(2), 36-43.
- [13] Purnamasari, A. M. 2011. Pengembangan masyarakat untuk pariwisata di Kampung Wisata Toddabojo Provinsi Sulawesi Selatan. Ministry of Marine and Fisheries, Republic of Indonesia. Jurnal Perencanaan Wilayah dan Kota 22(1), 49-64.



- [14] Putra, T. R. 2013. Peran pokdarwis dalam pengembangan atraksi wisata. *Jurnal Pembangunan Wilayah dan Kota* 9(3), 225-235.
- [15] Noho, Y. 2014. Kapasitas pengelolaan desa wisata Religius Bongo Kabupaten Gorontalo. *Jurnal Nasional Pariwisata* 6(1), 8-21.
- [16] Arieta, S. 2010. Community Based Tourism pada masyarakat pesisir; dampaknya terhadap lingkungan dan pemberdayaan ekonomi. *Jurnal Dinamika Maritim* 2(1), 71-79.
- [17] Dewi, L. G. L. K. 2013. Usaha pemberdayaan sosial ekonomi masyarakat Desa Beraban dalam pengelolaan Tanah Lot secara berkelanjutan. *Jurnal Analisis Pariwisata* 13(1), 32-44.
- [18] Rahayu, S., U. Dewi, and K. N. Fitriana. 2016. Pengembangan Community Based Tourism sebagai strategi pemberdayaan ekonomi masyarakat di Kabupaten Kulon Progo, Daerah Istimewa Yogyakarta. *Jurnal Penelitian Humaniora* 21(3), 1-13.
- [19] Dewi, Y. K. and A. Rosyidie. 2008. Kajian pengembangan kawasan Capolaga sebagai daya tarik ekowisata. *Jurnal Perencanaan Wilayah dan Kota* 19(2), 23-36.
- [20] Saraswati, L. Aslinda, I. Werdiningsih, and Purwanto. 2016. Evaluasi kondisi sarana sanitasi yang disediakan Dinas Kebudayaan dan Pariwisata dan tingkat kepuasan wisatawan Pantai Depok, Bantul, Yogyakarta, Tahun 2016. *Sanitasi, Jurnal Kesehatan Lingkungan* 8(2), 64-72.
- [21] Usman, H. and P. S. Akbar. 2009. *Metodologi penelitian sosial*. Bumi Aksara Publisher. Jakarta.
- [22] Wirajuna, B. and B. Supriyadi. 2017. Peranan kelompok sadar wisata untuk meningkatkan keamanan wisatawan (Studi Kasus di Jerowaru Nusa Tenggara Barat). *Jurnal Pariwisata Pesona* 2(2), 1-15.
- [23] Wijaya, S. A., Zulkarnain, Sopingi. 2016. Proses belajar kelompok sadar wisata (pokdarwis) dalam pengembangan Kampoeng Ekowisata. *Jurnal Pendidikan Nonformal* 11(2), 88-96.
- [24] Dahl, R. 1998. *On democracy*. Yale University Press. New Haven and London.
- [25] Putnam, R. 1993. *Making democracy work: civic. Tradition in modern Italy*. Princeton University Press. Princeton.
- [26] Khawaja, S. and K. T. Morison. 2001. Measuring statistical capacity building: a logic framework approach. International Monetary Fund Available at: <https://www.imf.org/external/pubs/ft/wp/2001/wp01188.pdf>.
- [27] Damayanti, E., M. S. Soeaidy, H. Ribawanto. 2015. Strategi capacity building pemerintah desa dalam pengembangan potensi Kampoeng Ekowisata Berbasis Masyarakat Lokal (studi di Kampoeng Ekowisata, Desa Bendosari, Kecamatan Pujon, Kabupaten Malang). *Jurnal Administrasi Publik* 2(3), 464-470.
- [28] Suharto, E. 2007. Modal sosial dan kebijakan publik. Available at: [http://www.policy.hu/suharto/Naskah%20PDF/MODAL\\_SOSIAL\\_DAN\\_KEBIJAKAN\\_SOSIA.pdf](http://www.policy.hu/suharto/Naskah%20PDF/MODAL_SOSIAL_DAN_KEBIJAKAN_SOSIA.pdf)
- [29] Damanik, J. 2013. *Pariwisata Indonesia*. Pustaka Pelajar Publisher. Yogyakarta.

## Village Development Index and ICT Infrastructure in Tourism Region

AR. Rohman Taufiq Hidayat\*, Yanuar Eka Prasetya, Dian Dinanti

Department of Urban and Regional Planning, Faculty of Engineering, University of Brawijaya, Malang, Indonesia

### Abstract

The tourism sector is one of the sectors that can be integrated with the village community empowerment, namely by utilizing the unique natural potential of the village. Tourism is one of the ways to improve the status of village development. Tourism needs technological support to develop. Sukapura District is a strategic area for the development of tourism activities and has a low level of teledensity in Probolinggo Regency. This research aimed to examine the relationship of tourism region development related to ICT and village development in Sukapura District, Probolinggo Regency. This study used village development index analysis and literature review. The results of the analysis indicated that ICT infrastructure affected village development index which was related to the geographical conditions of the Sukapura area which was far from urban centers. Telephone service has been proposed as the main strategy to overcome geographical weaknesses which were related to its use in dealing with rural problems.

**Keywords:** ICT Infrastructure, Tourism, Village Development Index.

### INTRODUCTION

The development of rural areas by utilizing the local potential and empowering rural communities is one of the effective ways to improve the village economy. One of the sectors that can be integrated with village community empowerment is tourism, namely by utilizing the unique natural potential of the village. Tourism has proven to be a catalyst for economic growth, capital, income and worker transfer from industry, urban areas and developed areas to non-industrial areas [1].

Current tourism developments must be accompanied by the support of adequate Information and Communication Technology. ICT provides support to improve the competitiveness, efficiency, and performance of the tourism business [2]. Therefore, it is necessary to use ICT in developing tourism.

The development of information and communication technology not only concerns cities but also in rural areas, which are still rarely touched by telecommunications networks. In addition, ICT is widely applied efficiently in the form of a village telecommunications center. ICT has an important impact on community relations, local capacity building, as well as on education, agricultural systems, and also on women and youth empowerment in rural areas [3].

The existence of tourism activities and information and communication technology support has an impact on the development of

rural areas. At present, village development can be measured using the Village Development Index, which is developed to strengthen efforts to achieve the development goals of the Village and Rural Areas. The Village Development Index is not only useful for knowing the development status of each village that is closely related to its characteristics, but it can also be developed as an instrument to assess the 2015-2019 RPJMN's (Regional Medium Term Development Plan) target and coordination in village development [4].

One of the Regencies that has a Village Development Index lower than the average Village Development Index of Province is Probolinggo Regency, with a value of 0.6303 [4]. This shows that there is still a need to improve and develop villages to create an independent village in Probolinggo Regency.

In Probolinggo, there are still areas that have not equipped with phone signal service, especially in the southern region of Probolinggo Regency [5]. The gap occurs between the northern and southern regions of the Probolinggo Regency. The northern region has a high level of teledensity, which has a high level of ICT service. Whereas in the southern region, the level of teledensity is still relatively low. One of the areas with the lowest teledensity level is Sukapura District.

Besides being a region with a low level of teledensity, Sukapura District is one of the strategic areas contained in the Spatial Plans of Probolinggo Regency [6]. Sukapura District is a strategic area for tourism because there is one of the seven main destinations for Indonesian

---

\* Correspondence Address:

AR. Rohman Taufiq Hidayat

E-mail : a.r.taufiq.h@ub.ac.id

Address : Dept. Urban and Regional Planning, University of Brawijaya, MT Haryono 167, 65145, Malang.

tourism located in this area, namely Mount Bromo.

Sukapura District located in the entrance area to Mount Bromo. Based on data from Probolinggo Regency in 2018 (in figures) [7], 40% of tourists visited Mount Bromo. In addition, there are also several other tourist attractions such as Mentigen Hill which has beautiful natural scenery, Umbulan Waterfall, Lowo Cave or unique bat cave, Seruni Tourism Village which showcases activities of Tengger tribal communities [6]. The existence of these tourism activities certainly can support the development of villages [8], especially in Sukapura District.

Based on these issues, this study examined the relevance of the issue with the Village Development Index in Sukapura District. The study examined the characteristics of the use of ICT infrastructure in Sukapura District, which was categorized as having a low level of teledensity for phone signal, even though this area located in tourism region that required ICT Infrastructure support. The two will be reviewed by linking the Village Development Index in each village.

#### MATERIAL AND METHOD

This study used the Village Development Index calculation as well as literature studies, which included collecting data from related agencies, as well as reviewing theories from existing journals so that a descriptive analysis obtained. The Village Development Index (VDI) used data sourced from Village Potential, which was compiled by the Central Bureau of Statistics. VDI is a composite index consisting of social, economic, and cultural Security indices that represent the sustainability dimension [4],[8]. The three indices had a variable, and each variable was derived into 52 indicators. Here is how to calculate the Village Development Index [4]:

- a. Every variable followed by an indicator. Number indicator in every variable is vary. Each indicator has five options with an ordinal scale.
- b. A value is given to each indicator between 1 to 5. The higher the score, the better the condition.
- c. Village achievement's value was calculated by summing up all indicators value in every variables. Then, calculating the value of all variables in every dimension (social, economic, and ecology, Table 1). Calculating each index using the following formula:

$$Index = \frac{\sum Indicator X}{Maximum Value (X)}$$

Indicator value represents the current village condition. The maximum value represents the highest value of the indicator that the village aims to. This equation can solve an unequal number of variables in every dimension.

- d. Calculating the Village Development Index using the following formula:

$$VDI = 1/3 (SSI + ESI + EVSI)$$

#### Description:

VDI : Village Development Index

SSI : Social Security Index

ESI : Economic Security Index

EVSI :Environmental Security Index (Ecology)

**Table 1.** Research variables

Dimension indices	Variables	
Social security index	Health	Health facility Community health empowerment Health insurance
		Access to elementary education Access to informal education Access to community library
	Education	Social solidarity Tolerance Security Social welfare
		Access to clean water Sanitation Electricity ICT
Economic security index	Settlement	Community products Commercial center Access to distribution and logistic services Access to credit and financial institutions Availability of community financial institution Regional openness
		Ecology
Ecology security index	Ecology	Environmental quality Natural disaster prone

- e. Classifying composite index values into one of the Village status using the following guidelines:
  - Very Disdvantaged Village (< 0.491);
  - Disadvantaged Village (>0.491 - <0.599);
  - Developing Village ( >0.599 - <0.707);
  - Developed Village ( >0.707 - <0.815);
  - and Independent Village ( > 0.81)

This study examined the Village Development Index in villages in Sukapura District. This study then descriptively discussed ICT with VDI towards tourism development with a literature review approach. In this study, ICT variables included the number of telephone connections, number of households with internet access, number of BTS, number of households with radio, and number of households with television.

#### **Data Collection**

This study used data derived from primary and secondary surveys. A primary survey was conducted using unstructured observation and interview techniques related to tourism development variables and infrastructure conditions. Respondents of this research were 12 village chiefs. They have the capability and knowledge regarding tourism and infrastructure development issues. Data collection for VDI and ICT variables used secondary data sourced from government documents. While the relationship of VDI, ICT infrastructure, and tourism using secondary data sourced from the literature.

#### **Village Development Index**

Village Development Index [4],[8] (Ministry of Village, Development of Disadvantaged Regions and Transmigration, 2015 and 2016) classified villages in five (5) status, namely: (i) Very Disadvantaged Village; (ii) Disadvantaged Village; (iii) Developing Village; (iv) Developed Village; and (v) Independent Village. The classification is aimed to show the level of the development status of each village in the range of scores of 0.27 - 0.92.

The classification in the five village statuses is also aimed to sharpen the determination of the status of village development, and at the same time, recommend the necessary policy interventions. Dealing with Very Disadvantaged Villages will differ in the level of affirmation of their policies compared to Disadvantaged Villages. Developing Village related to the situation and conditions in the status of Disadvantaged Villages and Very Disadvantaged Villages can be explained by vulnerability factors.

If there is pressure on vulnerability factors, such as the occurrence of economic shocks, natural disasters, or social conflicts, it will make the status of developing villages fall to disadvantaged villages. And usually, if a natural disaster factor dealt without rapid and appropriate handling, or a prolonged social

conflict occurs, it has the potential to make the Disadvantaged Villages to fall to Very Disadvantaged Villages.

Meanwhile, the ability of the Developing Villages to manage power, especially related to potential, information/value, innovation/initiative, and entrepreneurship, will support the progress of the Developing Villages into Developed Villages. The classification of village status based on the Village Development Index also directed at strengthening efforts to facilitate the promotion of the Villages towards Independent Villages.

VDI employed a sustainable development concept that consists of social, economy, and ecology. Those explained into variables and indicators. Equity in this context only considers social and economic dimensions. According to the three E's sustainability theory, equity affects ecology and economy. This concept ensures that development is beneficial in economic, social, and ecological aspects at the same time [8].

VDI compilation has 2 main objectives [4],[8]. First is the determination of the status of progress and autonomy. Second, VDI aims to provide basic village data and information. Based on these two objectives, village development oriented towards increasing VDI. VDI is composed of 3 indices, namely social, economic, and ecological Security. The three indices have 22 variables, where the variables explained in 52 indicators.



**Figure 1.** Dimension of Village Development Index (VDI)  
[4][8]

#### **ICT infrastructure**

People often misunderstand ICT. Often, ICT always connected with things related to computers and the internet. ICT is covering all technologies related to tools for communication, both electronic and non-electronic. ICT is

generally grouped based on the duration of the ICT used. Greenberg [10] divided ICT into 3 categories, namely new ICT (e.g. computers, satellites, wireless communication, internet, e-mail, and multimedia); old ICT (e.g radio, television, telegraph and telephone); very old ICT (newspapers, books and letters).

Currently, new ICT dominates the use of ICT. ICT users take advantage of the progress of the internet and technology to communicate. For example, there is social media use on mobile phones. The development of ICT requires a qualified infrastructure. New ICT is no longer dependent on cables, but on wireless networks, namely BTS and satellite connections. Wireless networks are very suitable for Indonesia, which has geographical challenges. Therefore, the development of the cable telephone network has not experienced a high increase.

The internet as one of the ICTs uses both wired and wireless networks. Due to the increasing quality and quantity of wireless networks, internet users prefer to use mobile phones rather than computers. The use of mobile phones has an impact on the way people communicate.

#### **Relationship between ICT Infrastructure and Tourism**

The synergistic relationship between information and communication technology (ICT) and tourism in recent times has brought necessary changes in the tourism industry in a growing and increasingly developing context [11]. ICT has reformed the entire process of developing tourism services, management and marketing, and the entire tourism industry [12]. With the impact of increasing the efficiency and effectiveness of tourism companies, ICT can be

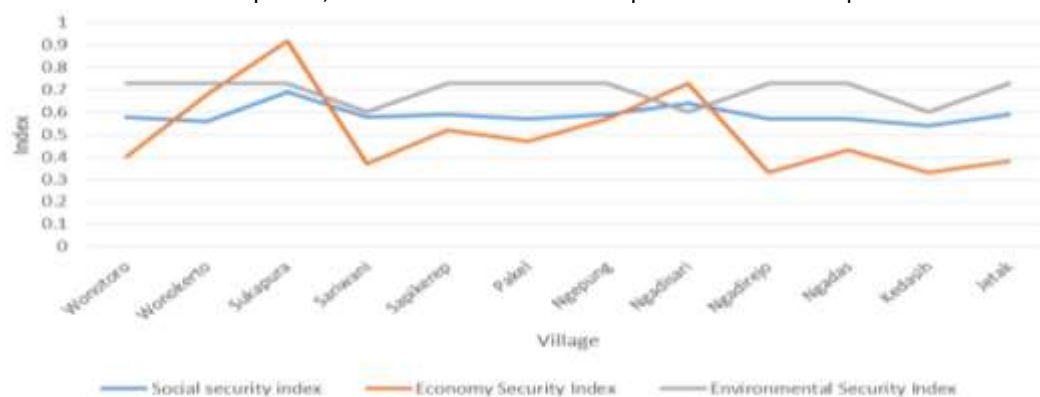
seen as a fundamental part of the tourism business's modernity [13]. The tourism industry has undergone several important changes to innovative developments brought about by ICT [14].

ICT has gradually produced a paradigm shift, changed the structure of the tourism industry, and developed various opportunities and threats in the tourism industry [13]. ICT provides a powerful tool to bring benefits to the promotion and strengthening of the tourism industry in the form of strategy and operations in general [15]. As a result, the use of ICT in the tourism industry cannot be underestimated because ICT becomes an important driving force in society today [16].

#### **Relationship between ICT Infrastructure, Tourism and Village Development**

ICT provides social-economic, social-psychology, and socio-cultural benefits to its users [17]. From the socio-economic aspect, ICT provides opportunities and benefits in the welfare of rural communities. On the social-psychological aspect, ICT can increase prestige (pride) for the region. Increasing the closeness of the relationship between families and neighbors is a benefit of ICT. The situation and atmosphere of the village are synonymous with silence. ICT supports the mobility of the population to access the region more easily so that there is crowded traffic in the rural areas.

The influence of ICT in these 3 aspects [17] have a relationship with the Village Development Index. In VDI, there are indicators related to ICT, namely the villagers have cellular phones and strong signals; there are local, national and foreign television broadcasts; and there is internet access. Thus, ICT and village development cannot be separated.



**Figure 2.** Economic, Social, and Environmental Security Index of Sukapura District

## **RESULT AND DISCUSSION**

### **Overview of Sukapura District**

Sukapura District in Probolinggo Regency has an area of 102.08 km<sup>2</sup>. This district is located in the southern part of the region at the foot of the Tengger mountain range and is 33 kilometers away from the capital city of Probolinggo Regency. Sukapura District located on the slopes of the Tengger Mountain, which is famous for Mount Bromo with an altitude between 650-1800 meters above sea level. The land of Sukapura District contains minerals that originate from volcanic eruptions in the form of sand and stone, mud mixed with gray clay, the nature of this kind of soil has a high fertility rate, so it is suitable if planted with vegetables and horticulture.

The composition of the population in Sukapura District as in other regions in Indonesia has a greater female population than the male population. The population of women is 10,347 and the population of men is 10,055, with a sex ratio of 103.

For transportation facilities, most of the existing roads can be passed by four-wheeled vehicles even though there are still many roads from the Sukapura District area that built without road pavement. At present, all villages can receive mobile phone signals even though there are also villages where the signal reception is very low/bad.

### **Village Development Index of Sukapura District**

The average value of the Social Security Index in Sukapura District is 0.59. It means that the Average Value of the Social Security Index in Sukapura District is at the disadvantaged level. Six villages have a Social Security Index below the average, with the lowest score of 0.54, namely Kedadiah Village. The highest Social Security Index in Sukapura District is in Sukapura Village because there are junior and senior high school education facilities, and health facilities in the form of Puskesmas (Community Health Center) and post office facilities in this village.

The average value of the Economic Security Index in Sukapura District is 0.51. It means that the Average Value of the Economic Security Index in Sukapura District is at the disadvantaged level. The highest Economic Security Index in Sukapura District is in Sukapura Village because there is a District capital with economic facilities in the form of markets, shops, and banking in this village. The lowest Economic Security Index is in Ngadirejo and Kedadiah Villages with a value of

0.33, because there are no economic facilities and the location is very far from the cities.

The average value of the Environmental Security Index in Sukapura District is 0.70. Even though it located in an area that prone to volcanic disasters, adaptation and mitigation efforts in Sukapura District already exist so that the value of the Environmental Security Index in the Sukapura District classified at the developed level.

### **Characteristics of ICT Infrastructure Services in Sukapura District**

#### *Telephone Service*

Based on ICT Indicator Infographics [17], current telephone use in Indonesia has a service level of 4.5% with the characteristics of use in urban areas at 8.5%, while in rural areas only at 1.4%. Sukapura District has the characteristics of a rural area. In Sukapura District, Telephone Service Characteristics tend to spread with almost every village having a telephone network. The level of telephone service in Sukapura District is 3.3%, with the highest level of service being in Ngadisari village. Based on the average telephone service in rural areas in Indonesia, Sukapura District is in line with a higher level of service compared to the level of service in Indonesia. Sukapura Village is the center of activity in the Sukapura District so that the existing infrastructure facilities centered on Sukapura Village. It needs to be supported by the existence of telephone networks as a form of service to the community. Nevertheless, the highest level of service is in the village of Ngadisari, which is a tourism region of Mount Bromo.

It is related to land use in the form of Guest Houses and inns, which then equipped with facilities such as telephone networks. Telephone network services in Sukapura are not only supporting activities at the activity center but also in the tourism region as a form of supporting tourism activities.

Wireless telephones, also known as cellphones, are experiencing the fastest development compared to fixed-line telephones. The use of mobile phones in the Sukapura District is higher than cable telephones. BTS in Sukapura District supports the use of mobile phones even though the range of services is still limited and experiences geographical challenges. Each household has at least a cellphone. Even junior high school students have cellphones. So the number of uses and ownership of cable phones is

very small. Village communities use more wired networks to connect to the internet.

Mobile phones provide better flexibility and economic value than wired telephones. Tourism visitors use mobile phones to record tourism attractions. Moreover, the use of mobile phones with internet facilities is increasingly widespread.

#### *Internet Service*

The level of internet service in Sukapura District is 1.1%. In Sukapura District, there are only 2 villages, namely Ngadisari Village, with 12 networks and Sukapura Village, with 56 networks. The characteristics of the two villages are Sukapura Village as a District center and trade and public services, whereas Ngadisari Village is a Mount Bromo tourism village so that both villages have an internet network that is used to support its service functions.

Based on ICT Indicator Infographics [17], internet usage in Indonesia currently has a service level of 7.8% with the characteristics of use in urban areas at 14.3%, while in rural areas it only reaches 7.4%. In Sukapura District, the level of service available still does not meet the average internet service due to the limited number of networks and geographical difficulties. There is a need for other ICT infrastructure in line with the absence of the internet which is constrained by geographical and installation problems.

In addition, geographical location and transmission distance affect the stability of the internet connection [19]. Sukapura District located in a mountainous location that is far from the urban center so that the internet is very limited and can only be used to support tourism activities.

Internet service in Sukapura District relies on wired and wireless networks. Cable networks only enjoyed by residents. Tourists can enjoy wired internet at public or private accommodation. Although wired internet is available, almost all tourists use wireless internet. In fact, most residents of the Sukapura District use wireless internet service. Therefore, the existence of BTS and signal quality is very necessary. Moreover, the use of social media by tourists and the community is very high.

The use of the internet for social media can encourage the development of tourism [19][20]. Tourism managers and the public can use social media as a means of promotion. Tourists use social media as a means of self-actualization. Indirectly, the use of social media by tourists can be a means of tourism promotion.

#### *BTS Service*

Towers in Sukapura District installed along Local Roads. The results of plotting existing towers in Sukapura District, ten towers are in a medium-density residential area. The tower distribution only found in two villages, Sukapura Village, with six towers and Ngadisari Village, with four towers. In addition to the two villages, there are no BTS towers, which makes Sukapura District has a low level of teledensity.

The condition of BTS service in Sukapura District is currently not evenly distributed. BTS services are only located in Sukapura and Ngadisari Villages, this causes the level of teledensity in Sukapura District to be relatively low because there are still many locations that have no signal service. It also relates to the geographical condition of the steep area so that it does not meet the requirements in the BTS installation process.

**Table 2.** Comparison of ICT Infrastructure Services and Village Development Index of Sukapura District

Village	Telephone	Internet	BTS	TV	Radio	VDI	Status
Wonotoro	0.16%	0.00%	0.00%	2.65%	0.35%	0.57	Disadvantaged
Wonokerto	0.14%	0.00%	0.00%	5.80%	1.14%	0.66	Developing
Sukapura	1.49%	0.89%	60.00%	16.56%	2.03%	0.78	Developed
Sariwani	0.00%	0.00%	0.00%	4.80%	1.53%	0.51	Disadvantaged
Sapikerep	0.14%	0.00%	0.00%	11.48%	1.32%	0.61	Developing
Pakel	0.00%	0.00%	0.00%	4.67%	0.81%	0.59	Developing
Ngepung	0.22%	0.00%	0.00%	7.22%	4.71%	0.63	Developing
Ngadisari	0.89%	0.19%	40.00%	6.31%	2.24%	0.66	Developing
Ngadirejo	0.00%	0.00%	0.00%	5.96%	2.38%	0.55	Disadvantaged
Ngadas	0.17%	0.00%	0.00%	2.97%	0.68%	0.58	Disadvantaged
Kedasih	0.00%	0.00%	0.00%	3.59%	0.68%	0.49	Very Disadvantaged
Jetak	0.00%	0.00%	0.00%	2.58%	0.35%	0.57	Disadvantaged



One of the things that need to be considered in the process of building BTS is the topography of a region, this is related to towers that are able to work optimally [21]. Sukapura District has a mountainous topography with many hills and valleys, this has an impact on the technical planning of BTS development. In Sukapura District, the requirements for establishment are certainly more difficult because of the uneven topography, which influences the number of BTSs built based on flat topography, namely Sukapura and Ngadisari villages, because in other villages the location tends to be hilly and there are also many valleys that do not allow BTS towers.

#### *Television and Radio Service*

There is a TV connection in all villages in Sukapura District, even though it located in a mountainous area. The most uses are in Sukapura village, which has 1042 TV connections while the least number is in Jetak Village, which has 162 units.

In terms of achievement of ICT indicators for Television Services, Indonesia has a service level reaching 87.7% with characteristics of use in urban areas amounting to 94.2% while in rural areas only reaches 82.6% [17]. In Sukapura District, the level of service available still does not meet the average television service available.

The level of television service in Sukapura District is 74.6%, with each village serving more than half of the total number of households. Television in Sukapura District serves every village, which then acts as a substitute for ICT Infrastructures such as the Internet, BTS, and Telephone, which has geographical aspects. Television can be accessed by every household in Sukapura District, even though there are geographical constraints, due to the existence of technology, which is in the form of a satellite dish, which then helps in terms of access to television. It can be used as an input in the development of other ICT infrastructure, namely in the form of technology and innovation, so that access to each ICT infrastructure can be achieved, even though there are obstacles in the form of geographical location constraints.

#### **Effect of ICT Infrastructure on Tourism Development**

The telephone service system stated as the main strategy to overcome geographical weaknesses, which is related to its use in addressing rural problems [22]. It is related to the distance of the District to the regency/city center. Sukapura District has a great distance to

the regency/city center but has a large number of telephone lines. It proves that telephone service can be a strategy in overcoming problems of distance and accessibility in Sukapura District. It is also according to Johnson's opinion [23], which stated that instead of direct or face to face communication, telecommunications encourages decentralization from cities to suburbs and rural areas.

Telecommunications development has a special impact on location selection for businesses [23]. Customers from regional operating companies may buy shares of telephone companies that provide their services than other telephone companies [24]. With regard to business, there is Mount Bromo Tourism in the Sukapura District area, which has an impact on the surrounding economy, including the provision of accommodation services. Accounting services such as travel and lodging certainly require telephone connections to facilitate service.

For tourism business actors, the internet provides big benefits. Innkeepers use the internet as a promotional medium. Even tourists who have stayed contributed to their posts on the social media pages they have or spread information through their communication tools. Jeep rental car owners use ICT in the same way. They use SMS and chat to communicate with potential customers. They even met for the first time when consumers came to the jeep owner's place for a tour.

Sukapura District is a strategic tourism region. Therefore, many tourists visit the location, especially to Mount Bromo. However, most tourists only visit Mount Bromo. Tourists only visit a small part of the tourist attraction that is on the area.

For creative people, farming activities can become a tourist attraction. Village communities in Sukapura District can make agricultural-based tours to attract tourists visiting Mount Bromo, for example, agricultural education tours such as in Lembang Village of Bandung Regency, and picking fruit like in Gubukklakah Village of Malang Regency. The attraction is an option for tourists visiting Sukapura District.

ICT, through online promotion, provides opportunities for new tourist attractions to develop. Because of the importance and benefits of ICT, ICT infrastructure support needs to be added. With the existence of a better ICT infrastructure, all parts of Mount Bromo tourism

region can be served so that visitors interested and visit the location.

The ICT infrastructure is not only for tourists. For the community, ICT can encourage to increase knowledge and economic welfare. ICT provides an opportunity for users to get information, especially information about prices and development of agriculture in accordance with the livelihoods of the residents of Sukapura District.

ICT provides an opportunity for farmers to get economic benefits from farming activities. Because at this time, they are very dependent on the existence of wholesalers. The existence of wholesalers is not completely wrong because they provide an opportunity for farmers to sell their crops. However, wholesalers intentionally determine price according to their perspective rather than a market mechanism. Farmers do not have other options in selling crops. With the existence of ICT, farmers can access markets and buyers directly, so that they can strengthen their bargaining position when dealing with wholesalers.

Improving the economic condition of the community affects village development. The community has the financial power to access several public services outside the village, for example, Puskesmas (Community Health Center), High Schools, and Hospitals. Therefore, the effect of the absence of these facilities in the village can be reduced because the construction of these facilities is uncertain due to the limited financing of village development. It allows the VDI status to be low, but the welfare status experiences an increase. It becomes capital for rural communities to improve the conditions of the village and VDI independently.

Almost along the main road, there are stalls that sell people's needs. With the ease of transportation routes to the village, it is used by several residents who offer services in the form of motorbike taxi drivers so that the community can empower motorized vehicles owned to get income in meeting their needs.

## CONCLUSION

The ICT infrastructure influences the value of the village development index, such as telephone network services (fixed-line and cellphone, that use BTS infrastructure). It is related to the geographical conditions of the Sukapura area. which is far from urban centers, telephone service has been proposed as the main strategy

to overcome geographical weaknesses, which is related to its use in dealing with rural problems.

ICT has a significant influence on the development of villages in the Sukapura District related to the provision of tourist services and accommodation. Accommodation services such as travel and lodging certainly require telephone and internet connection to facilitate service. In addition, limitations in terms of geographical problems also cause other ICT infrastructure installations such as BTS cannot be carried out even though its' coverage area is wide enough to reach remote areas.

Villagers can utilize ICT availability to gain better social and economic conditions. Such as using the internet to promote their products. It leads to a better livelihood. As an effect, they can access facilities outside the villages, such as health facilities (e.g. Hospital).

## REFERENCES

- [1] Lane, B. 1994. Sustainable rural tourism strategies: a tool for development and conservation. *Journal of Sustainable Tourism* 2(1), 102-111.
- [2] Berné, C., M. García-González, M. E. García-Uceda and J. M. Múgica. 2015. The effect of ICT on relationship enhancement and performance in tourism channels. *Tourism Management* 48, 188-198.
- [3] World Bank. 2005. Information and communication technologies for rural development Volume II: an evaluation of telecenters in Indonesia. Available at: <http://documents.worldbank.org/curated/en/428521468044102261/pdf/335030v20IN D0w1ver0P09151401PUBLIC1.pdf>
- [4] Indonesian Ministry of Village, Development of Disadvantaged Regions and Transmigration. 2015. Village Development Index. Ministry of Village, Development of Disadvantaged Regions and Transmigration. Jakarta.
- [5] Office of Regional Development, Probolinggo Regency. 2015. Cell Plan Kabupaten Probolinggo. Probolinggo.
- [6] Government of Probolinggo Regency. 2011. Regional Regulation No. 3 in 2011 about Spatial Plan for Probolinggo Regency. Probolinggo.
- [7] Central Bureau of Statistics, Probolinggo Regency. 2018. Probolinggo Regency in figures. Probolinggo.

- [8] Parmawati, R. 2018. Ecology, Economy, Equity: sebuah upaya pengembangan ekologi dan ekonomi. UB Press. Malang.
- [9] Indonesian Ministry of Village, Development of Disadvantaged Regions and Transmigration. 2016. Regulation of Indonesian Ministry of Village, Development of Disadvantaged Regions and Transmigration No. 2 in 2016 about Village Development Index. Jakarta.
- [10] Greenberg, A. 2005. ICTs for poverty alleviation: basic tool and enabling sector. P.-E. Tröften. Sida.
- [11] Leung, D., R. Law, H. van Hoof and D. Buhalis. 2013. Social media in tourism and hospitality: a literature review. *Journal of Travel and Tourism Marketing* 30, 3-22.
- [12] Opara, J. A. and L. E. Onyije. 2016. Information and Communication Technologies (ICT): a panacea to achieving effective goals in institutional administration. *International Journal of Management Sciences* 1(1), 11-15.
- [13] Stiakakis, E. and C. K. Georgiadis. 2011. Drivers of a tourism E-business strategy: the impact of information and communication technologies. *Operational Research - An International Journal* 11(2), 149-169.
- [14] Mihalic, T. and D. Buhalis. 2013. ICT as a new competitive advantage factor-case of small transitional hotel sector. *Economic and Business Review* 15(1), 33-56.
- [15] Aghaei, S., M. A. Nematbakhsh and H. K. Farsani. 2012. Evolution of the World Wide Web: from Web 1.0 to Web 4.0. *International Journal of Web and Semantic Technology* 3(1), 1-10.
- [16] Paraskevas, A. 2005. The impact of technological innovation in managing global value chains in the tourism industry. In: *OECD Conference on Global Tourism Growth: A Challenge for SMEs*. Gwangju. 1-17
- [17] Supriadi, D. 1992. Studi tentang profil pelanggan dan manfaat sosial-ekonomi telekomunikasi pedesaan. PT. Telekomunikasi Indonesia. Jakarta.
- [18] Indonesian Ministry of Communication and Informatics. 2016. Buku Infografis Indikator TIK. Ministry of Communication and Informatics. Jakarta.
- [19] Hao-Jing, S., D. Ding, H. Ling-Jin and M. Ya-Kun. 2013. The Effect of AS's geographic locations on internet's stability. *Proceedings of the 2<sup>nd</sup> International Conference On Systems Engineering and Modeling (ICSEM-13)*. Atlantis Press. Paris.
- [20] Zeng, B. and R. Gerritsen. 2014. What do we know about social media in tourism? a review. *Tourism Management Perspectives* 10, 27-36.
- [21] Ismail, N., M. Maharoni and I. Lindra. 2015. Analisis perencanaan pembangunan BTS (Base Transceiver Station) berdasarkan faktor kelengkungan bumi dan daerah fresnel di regional project Sumatera bagian selatan. *Jurnal Kajian Islam, Sains, dan Teknologi* 9(1), 104-121.
- [22] Cook, E., G. Randhawa, A. Guppy, A. Chater, D. Pang and S. Large. 2016. The impact of location of the uptake of telephone based healthcare: a UK case study. *International Journal of Emerging Technology and Advanced Engineering* 6(6), 39-47.
- [23] Johnson, L. L. 1991. Advances in telecommunications technologies that may affect the location of business activity. RAND. Santa Monica.
- [24] Huberman, G. 2001. Familiarity breeds investment. *The Review of Financial Studies* 14(3), 659-680.

## Policy Implementation of Tour Guides License in Maintaining the Quality of Tourism in Bali Province

Kadek Rianita Indah Pratiwi<sup>\*1</sup>, Choirul Saleh<sup>2</sup>, I Gede Eko Putra Sri Sentanu<sup>2</sup>

<sup>1</sup>Master of Public Administration, Faculty of Administrative Sciences, University of Brawijaya Malang, Indonesia

<sup>2</sup>Faculty of Administrative Sciences, University of Brawijaya Malang, Indonesia

### Abstract

Bali Regional Government intervenes tour guides profession by implementing the licensing policy. This phenomenon is associated with the increasing number of tourist visits to Bali and the important role of tour guides in maintaining tourism quality. This research aimed to analyze the implementation of the licensing policy for tour guides in Bali. Practically, this research can provide an understanding of policy implementers to pay attention to aspects of implementation in tour guide licensing policies in Bali. Then academically, this research can be a reference for tourism policy research related to implementation theory. A qualitative approach with the case-study analysis applied to this study. The research conducted semi-structured interviews, observations, and documentation studies in gaining insights from research data. In this research, we found that licensing policy for tour guides in the process of implementation found deficiencies in aspects of policy objectives and standards, policy resources, communication, socio-economic and political environments, and characteristics and disposition implementers.

**Keywords:** License, Policy Implementation, Tour Guides.

### INTRODUCTION

Bali Tourism is still a prime area for both domestic and foreign tourists. It is evident from the data of Province Bali Central Bureau of Statistics (BPS Provinsi Bali) that the number of tourist visits to Bali has increased every year (Fig. 1). Bali tourism development certainly involves various parties, both the macro party, i.e. the government, and the micro party, i.e. tour guides.

The main responsibility of tour guides is to accompany tourists. More importantly, they have a role to create tourism quality [1,2,3]. It is due to the tour guides' function as the bridge of communication between local host communities and visitors [2]. Much of the quality of the tourist experience depends on how tour guides do their job [3]. In Indonesia, tour guides are often referred to as the nation's ambassadors or frontline because they connect tourist attractions and visitors. Tour guide's quality and professionalism are the prerequisites for this commitment because tour guides need to maintain a good and positive image about the area they present to tourists. Research shows tour guides service quality that guides provide influences the positive image of tourist attraction

(DTW) and tourist satisfaction [4,5]. The research projects, if the tour guide carries out his role with good quality and ethics, then the quality of tourism activities in Bali is also maintained. Also, the increase in the number of visits to Bali must be supported with qualified tour guides [6].

The Regional Government of Bali strives to improve the quality of the tour guide profession as an indicator of maintaining the quality of tourism in Bali. This is done by implementing a policy instrument that can be used to control in the form of Bali Regional Regulation Number 5 of 2016 concerning Tour Guides. Regional regulations require that everyone carrying out tour guide activities must have a license. Tour guide licenses are government regulations so that tour guides have legitimate administrative recognition. In addition, the licensing policy for tour guides is an acknowledgment of their professionalism because basically, the license is the fulfillment of standardization and professional certification.

The license policy for tour guides in Bali is implemented as an effort by the regional government to achieve the goal of controlling and improving tour-guide quality. Implementation is always in connection, specifically with policies or as a specific response to problems that exist in society [7].

Nowadays, several studies have put their attention on implementation studies because implementation focuses more on problems commonly faced when the government tries to

\*Correspondence address:

Kadek Rianita Indah Pratiwi

Email : rianitaindah232@gmail.com

Address : Faculty of Administrative Sciences, University of Brawijaya, Mayjen Haryono No. 163, Malang, 65145.

achieve its policy intentions through implementation [8,9]. The problems in the tourism policy implementation are due to the lack of the institutional management, relationship, and coordination structure between organizations, and socio-economic environments [8].

In addition, implementation problems are associated with the relationship and bargaining power between interest groups [9], and the tendency of implementing attitudes that influence the implementation process [10,11]. These aspects form the relationship between policy and the performance of policy implementation [11]. With that, the fate of the policy implementation will lead to success or failure in the implementing depends on the complexity of the organization and the parties involved.

Based on the above consideration, this research aimed to analyse the implementation of the license policy for tour guides in Bali Province in the form of Regional Regulation No. 5 of 2016, which focuses on the aspects of the policy implementer and tour guides' attitudes on the government policy that regulates their work. This research contributes to the understanding of license policy implementation for tour guides by considering aspects that link the complexity of implementing organizations and the implementor's attitude.

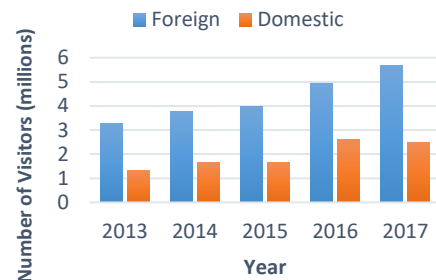
#### **MATERIAL AND METHOD**

This research is qualitative research with a case-study approach. In specific, the research location restricted to the research area, Bali Province. Bali is one of the provinces in Indonesia that has regional regulations for tour guides and is currently still potentially high in bringing tourists (Fig. 1).

The research sites include Bali Government Tourism Office, the Office of the Regional Leadership Council of Tour Indonesian Tour Guides Association of Bali (DPD HPI Bali) and several tourist attractions on Bali Island including Tirta Empul Gianyar Temple, Kerta Gosa Klungkung Park, Penglipuran Village Bangli, Bajra Sandhi Museum in Denpasar, Pura Tanah Lot Tabanan, and Pura Besakih Karangasem.

The research began with determining data collection techniques. The primary data were obtained through interviews, while the secondary data obtained through non-participant observation and documentation studies. Semi-

structured interviews conducted with informants, namely interview, which in line with the research focus, but not to limit the informants' opinions to provide more clear and free information. Informants were selected using a purposive sampling technique based on the consideration that they were directly related to the implementation of a tour-guide license in Bali.

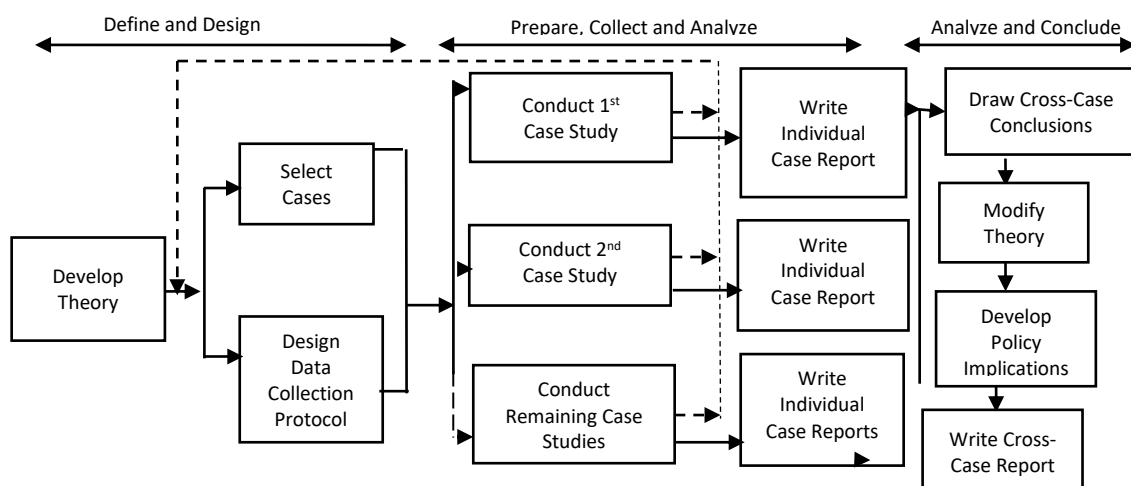


**Figure 1.** Number of Foreign and Domestic Guests in Bali, 2013-2017

Source: Bali Province in Figures [1]

The informants are the ranks of tour-guide and executor policymakers in tourism activities in Bali. The informants selected fourteen people, including the Head of Institutional Section of the Bali Government Tourism Office (Disparda Bali), Chair of the Association of Bali Regional Indonesian Guides Association (DPD HPI Bali), Head of Research and Development section tour associations and Bali travel agencies (ASITA Bali), Investigators Civil Servants of Bali Public Order Enforcers (PPNS Satpol PP Bali), and ten tour-guides to explore more in detail the implementation of licensing policies towards the target group. Ten guides selected purposefully are limited to, tour guides who have managed licenses and are still actively working. The selection of tour guides with the stated criteria was done by ensuring that the targeted tour guide is a member of the DPD HPI Bali and uses the Tour Guides' Identity Card (KTPP).

The secondary data were from observation in the field and documents related to the tour-guide licensing policy. The interview data were juxtaposed with the events during the observation and the analysis results of several documents that the researcher found in the field. These two techniques are useful in providing deep understanding and feedback to develop interview guidelines for informants.



**Figure 2.** Case Study Data Analysis [12]

### Data Analysis

The data analysis follows the case-study analysis technique by Robert K. Yin, which consists of three steps, namely (1) define and design; (2) prepare, collage and analyse; and (3) analyse and conclude [12]. The analysis used because it allows the researcher to explore social cases and analyse conditions in the field as a whole and specifically. The stages of the case-study analysis process can be seen in Figure 2.

## RESULT AND DISCUSSION

### Characteristics of Informants

The characteristics of the informants in this study were selected by informants involved in implementation of tour-guide license policy, both policy makers and policy objectives. A brief explanation of the characteristics of informants can be seen in (Table 1). Characteristics consist of gender, age, and education.

**Table 1.** Characteristics of Informants

No.	Category	Total
1.	<b>Gender</b>	
	Male	11
	Female	3
2.	<b>Age</b>	
	21-30 years	4
	31-40 years	1
	41-50 years	6
	>50 years	3
3.	<b>Education</b>	
	Senior High School	6
	Bachelor (S1)	7
	Masters (S2)	1
	Doctorate (S3)	0

### License Policy for Tour Guides in Bali

The researcher adopted the implementation theory as recommended by Van Meter and Van Horn to provide a comprehensive understanding of policy implementation in the context of the implementer and his attitude. Thus, this section divided into three parts. The first part discusses the License Policy for tour guides consisting of policy objectives and standards, and the resources needed in implementing. The second part discusses the implementors of the license policy. This section consists of sub-sections of inter-organizational communication, organizational characteristics, and economic, social, and political environments. The third part discusses the tendency of tour guides' attitudes towards the licensing policy for their work.

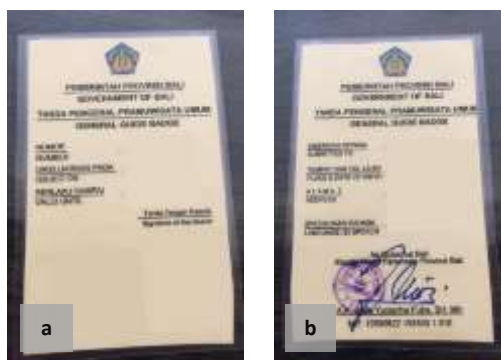
### License Policy Objectives and Standards

Bali Tourism is currently developing. Local governments are always trying to make improvements to all components to maintain its quality. One of them is by ratifying Bali Regional Regulation Number 5 of 2016 concerning Tour Guides. This regulation requires tour guides to be licensed. The implementation of accreditation, professional certification, and licensing is a number of quality assurance measures [13]. It is in accordance with the Law of the Republic of Indonesia Number 10 of 2009 concerning Tourism, which mandates every local government to have standardization and certification for tourism workers and from the Government Regulation of the Republic of Indonesia Number 52 of 2012 concerning Competency Certification and Business Certification in Tourism. Based on these laws, the

provision of license ownership for tour guides in Bali Province was carried out by standardization and certification.

Tour guides who fulfill the license requirements will get a Tour-Guide Identification Card (KTPP) (Fig. 3). These requirements include Indonesian citizen, having a valid National Identity Card (KTP), residing/domicile in a Regency/City in the Province of Bali for a minimum of 2 (two) years, age of 19 years or married, having Knowledge Test Certificate on Balinese Culture held by the Bali Government Tourism Office, having a Tour-Guide Competency Certificate held by Professional Certification Institutions, lowest educational level of Senior High School (SMA or SMK) and/or having a minimum 2-year internship experience as a tour guide at the Travel Agent in Bali, being drug free, physically and mentally healthy, and free from police records.

Regional Regulation Number 5 Year 2016 generally aims to control and improve the quality of tour guides in Bali. Bali Tourism Development, which based on Bali Culture, is the main attraction for tourist visits to Bali Province. The government encourages the license policy to regulate a number of tour guides who are not responsible for maintaining Balinese culture. It caused by the fact that unlicensed tour guides tend to walk tourists to shop and cannot explain Balinese Culture. Given that the tourism situation in Bali is still considered a concern, as one of the nation's ambassadors, the tour guide must be extra careful and critical in explaining information to each tourist guided [6].



**Figure 3.** Tour Guides Identification Card (KTPP), a) Front, b) Back. (Source: Personal Documentation)

Based on interviews about the objectives, the tour guides agree with the government because what they understood and preserved in Bali is the expectation that tour guides could also maintain a positive image of Bali tourism while

guiding tourists. However, tour guides have a different view from the government on the standards. In general, tour guides argue that 1) the requirements required by the regional regulation cannot measure their ability compared to their experience, and 2) the standards provided are not in accordance with the challenges for work complexity as said by the Chair of DPP HPI Bali:

*"The association has different perspective from the government. It is okay if the prospective tour guide joins competency certification. However, for the tour guide who has an experience of 15 to 20 years, a professional in the field of guidance, the certification test does not provide additional knowledge. It is actually a contradiction with the basic meaning of competency certification."*

The different views of tour guides and the government are essentially objection to the competency certification requirements that must be extended every three years, which causes tour guides to be reluctant to comply with the applicable rules. It is important to understand the intent of a standard and policy objectives. The implementation may fail because they reject or do not understand the objective of policy [11]. The government requires competency certification to maintain and improve the performance of tour guides who are always dynamic in global developments. However, they think that their work is not solely enforced by tour-guide certification by Professional Certification Institutions (LSP), but appears in their work routines. This view arose because the certification material and system tested did not provide additional knowledge compared to their experience in the field. Concerns in this certification program development still occur in developing countries [14]. Objections to guides for license policy standards lead to impeding implementation.

#### **Resource Required**

The resources needed for a policy certainly vary from access to information, finance, to human resources, and others. Resources needed in the implementation of tour-guide policies are in the form of human resources and financial resources.

The number of human resources needed in the service and issuance of KTPP and the control of legal tour guides shown in Table 2. The KTPP service is one-door service in DPP HPI Bali, but

the number of available HR is only four persons. The quantity in the organization is not sufficient because the employees at DPD HPI Bali are also busy to work as a tour guide. It inhibits KTPP issuance service, causing complaints from KTPP applicants. For example, the applicant had submitted the files in September 2018, but until January 2019, the process had not finished. It caused the applicant to complain because the KTPP issuance service was too long.

**Table 2.** Agencies, Activities and Number of Human Resources (SDM)

Agencies	Activities	Number of human resources
DPD HPI Bali	KTPP Services	4
Bali Government Tourism Office	Issuance of KTPP	5
Bali Public Order Enforcers	Enforcement of Violations in KTPP	11

This condition also occurs in the implementation of illegal tour-guide control activities. The institution in charge of carrying out tour-guide control is Bali Public Order Enforcers (Satpol PP Bali). In terms of quantity, there was a shortage of members of Satpol PP (Civil service Police Unit), which were only 11 compared to the complexity of their work because Satpol PP is responsible for enforcing not only the Regional Regulation for Tour Guides but also other 21 regional regulations.

On the other hand, financial resources also needed in implementing the tour-guide policy. In Bali Tourism Service, the budget allocation for tour-guide training activities is small (only 19%) compared to other activities. The fund is only

sufficient to conduct Balinese cultural knowledge testing for 120 people and 1 document (Table 3). The budget provided is still not effective, as seen from the large amount of the budget used for Jegeg Bagus Bali election activities by 62%. Therefore, the budget cannot be maximized for training activities for tour guides. This financial resource limitation makes the tourism service unable to carry out its activities other than Balinese cultural knowledge testing and to provide strong KTPP card printing facilities. The KTPP card only printed to plain paper along with the signature of the Head of the Bali Government Tourism Office (Fig.3.b). This weakness made it possible to duplicate illegal KTPP. This budget limitation has hampered the implementation of activities.

Meanwhile, the costs for fulfilling other requirements in accordance with the prevailing law directly charged to each tour guide. Some tour guides responded that the costs incurred should be balanced with welfare for their work:

*"As tour guides have been willing to do licensing, spend expenses and carry out certification, I hope that tour guides in Bali are well organized. Therefore, policies can also help tour guides increase their income, have a positive effect on the sustainability of tour guides."*

Based on the explanation above, the budget limitation for tour guides has an impact on the less optimal performance of Bali Government Tourism Office. Besides, it influences the tendency of tour guides' attitudes. When the government lacks the budget and charges each tour guide, it needs to be balanced with incentives or benefits for the people served [10].

**Table 3.** Tourism Institutional and Human Resource Development Program Budget for 2019

Program	Performance Indicator	Target	Budget (IDR)	Percentage
Increasing the role of the community in the development of tourism	The number of tourism coaching participants to tourism awareness groups and high school.	630 persons	229,314,416	19%
Increasing the role of tourism institutions	The number of tour guides given training and service standards academic study	120 persons and 1 document	229.314.416	19%
Increased tourism human resources	The number of participants in the election of <i>Jegeg Bagus Bali</i> .	18 tourist ambassador	729,314,416	62%

Source: Bali Government Tourism Office, 2019

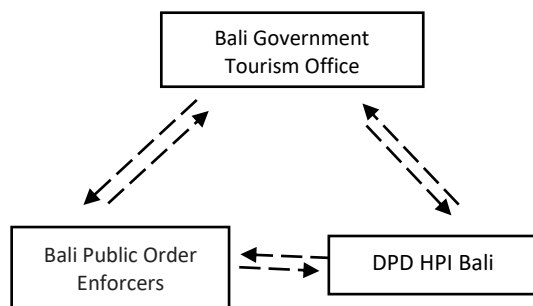


### Policy Implementors

This section divided into three sub-sections, namely inter-organizational communication, organizational characteristics, and social, politic, and economic environments.

#### *Inter-Organizational Communication*

Communication between organizations must meet the dimensions of consistency and clarity [10]. Stakeholders involved in tour-guide policy implementation in Bali are Bali Government Tourism Office, DPD HPI Bali, and Bali Public Order Enforcers. Hence, good communication among the three must be established. The established communication is coordinative (Fig. 4).



**Figure 4.** Implementor Relationship Pattern in Tour Guide Lisencc (Source: Results of Analysis, 2018) **Note.** ← — = coordinative relationship

In the consistency dimension, Bali Government Tourism Office always intensively coordinates with DPD HPI Bali and Bali Public Order Enforcers. Communication is intertwined at the events of the Bali Cultural Knowledge Testing carried out every year as well as event invitations or hearings in incidental meeting forums (Fig. 5). The hearing is used to discuss and coordinate important matters related to the implementation of tour-guide policies. In addition, coordination is done by utilizing social media such as WhatsApp or instant messaging.

*"During the policy-making till the implementation of policies, there is always coordination among Bali Provincial Government, DPD HPI Bali, ASITA, Bali Public Order Enforcers, and Bali Government Tourism Office. The communication has been well established. If there are problems related to tour guides, these parties will conduct a problem-solving hearing."*

The implementation order must not only be acceptable but must how the activities are carried out must also be clearly stated [10,14].

Although the organizations involved have carried out communication, the clarity dimension is also an important factor to consider. It means that the contents of a policy that are more clear and detailed will reduce miscommunication between organizations. The research results support the viewpoint of the two opinions above. The communication factor in the implementation of the tour-guide policy in Bali still faces many obstacles, especially in the clarity factor. The informant Chair of DPD HPI Bali interviewed identified miscommunication between the organizations due to the lack of clarity in the information provided, such as the costs needed.



**Figure 5.** Audience between Implementors. (Source: DPD HPI Bali Documentation)

*"We experienced some obstacles because we had misunderstood, like the obstacle of competency certification. At first, we thought that the government would subsidize the license extension. In fact, there were no subsidies for us."*

### Organizational Characteristics

Organizational characteristics can be seen from its bureaucratic structure. The bureaucratic structure is defined as characteristics, norms, and patterns of relationships that occur repeatedly in executive bodies that have both potential and real relationships [11].

The research results show that the bureaucratic structure is one of the obstacles to the implementation of the tour-guide policy in Bali. This obstacle is due to the fact that Bali Government Tourism Office as the leading sector of tour-guide policies in its bureaucratic structure does not have the authority to carry out the tour-guide recruitment process. It only has the authority in issuing KTPP.

Furthermore, the Bali Government Tourism Office cooperates with DPD HPI Bali in the recruitment and service procurement for KTPP applicants. In this condition, problems arise because the involvement of DPD HPI Bali has not

supported by bureaucratic structures, adequate human resources, or financial resources. It resulted in the KTPP service to seem too slow and bureaucratic. Although there has been coordination, the absence of procedures on clear authority and responsibility can inhibit the coordination structure between organizations [8]. Limited resources do not become a problem if the implementation of this licensing policy has a precise and clear production process.

The bureaucracy structure conception is the extent to which the program mechanism or flow is capable of supporting the policy implementation, so that the programs can be determined from above through existing procedures. One of the aspects is the availability of SOP (Standard Operating Procedures)[10]. SOPs help agencies to use the available time and standardize the employees' actions in their daily activities to be in accordance with agreed procedures. This view illustrates that the unavailability of SOPs in the one-stop service of KTPP in DPD HPI Bali can inhibit the policy implementation. This confused for tour guides regarding KTPP recruitment and control mechanism and procedures.

#### **Political, Economic, and Social Environments**

Policy implementors' attitudes is an external environment unreachable by the implementors, such as the political, social, economic environment. In terms of the economy, Bali tourism is still relied upon to provide opportunities for the Balinese economy, viewed from the increase in the number of tourist visits to Bali every year (Fig. 1). In context, it is undeniable that tour guides play an important role in supporting tourism development in Bali, so their existence will still be recognized and enforced by tourists and existing travel agents [6]. It means that tourism development in Bali still opens up job opportunities for tour guides.

However, viewed from the political and social perspective, the increasing number of visits can inhibit the successful implementation of the tour-guide policy. The inhibition on the political side is that the number of tourist visits is a political decision in the central government. Consequently, tourism is oriented to what is called 'mass tourism'. It means that the decisions determined do not consider the quality, but the quantity of visits, the impact of which is that it is difficult to provide licensed tour guides to certain segments of the tourist market.

In addition, social conditions also do not

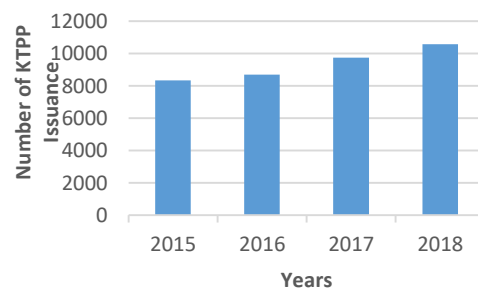
support the implementation of this tour guide policy. The obstacle is that the local Balinese enthusiasm to pursue jobs as tour guides has decreased, as stated by the Chair of DPD HPI Bali:

*"The community's enthusiasm for working as a tour guide decreased because the orientation of some communities is only to get paid with a guide fee, not a basic salary. We were asked to provide tour guides for tourists from certain countries, but there were no applicants in that segment."*

Based on the condition, some parties take advantage of opportunities as tour guides without following the prevailing regulations or become illegal tour guides. The thing that needs to be considered to assess the performance of policy implementation is the extent to which the external environment contributes to the success of the public policy. The social, political, and economic environments that are not conducive can fail in the policy implementation [11].

#### **Disposition of Tour Guides**

Implementer's attitude is one of the important factors that influence the success of the policy in achieving its objectives [11]. The tendency of the tour guide's attitude towards license policies is indeed diverse. There are tour guides who comply with the policy rules seen from the issuance of KTPP every year (Fig. 6). The tour guides who tend to be positive have a good understanding of policy objectives, obtain information on the implementation of activities, and financial reasons and comply with coercion.



**Figure 6.** Number of KTPP Issuance for 2015-2018.  
(Source: Bali Government Tourism Office)

On the other hand, some guides are actually indifferent. They are objected to the conditions taken, the difficulty in getting the KTPP, or the view that the policy objectives were not in accordance with their work conditions. This condition makes tour guides demanding more on policies that are truly able to add to their experience, not burdening some aspects through licensing.

Regional Regulation No. 5 of 2016 in Bali requires tour guides to have official permits in the form of KTPP (Tour Guide Identity Card) within one year from the date this regulation applies. However, the presence of illegal tour guides and guides who do not wear traditional Balinese clothing and those who do not extend their KTPP is a tendency for negative attitudes towards the policy (Table 4).

This disposition inhibits the successful implementation of the tour-guide policy in Bali. It seems that the implementation of the tour-guide policy in Bali may be somewhat different from the objectives stated in the regional regulation.

**Table 4.** Result of Sweeping Violations Tour Guides, 2014-2018

No.	Year	Yustisi*	Non Yustisi*
1.	2014	38	43
2.	2015	0	118
3.	2016	70	134
4.	2017	136	64
5.	2018	91	28
<b>Total</b>		<b>335</b>	<b>387</b>

**Source:** Bali Public Order Enforcers, 2018.

**Note.** Yustisi for tour guides violations without KTPP ownership, non-yustisi for violations on dress ethics and KTPP has a grace period.

Problems in the process of implementing the licensing policy for tour guides were either directly or indirectly related to the problems of inadequate tour-guide quality. Even though it was very clear, it helped to determine tourism quality in Bali. Tourism quality is low. One of the reasons is the low quality of tour guides. This research raises that the problem of tour guides must be resolved comprehensively, not only related to the administration, but also related to all aspects, namely welfare, education, and professional protection.

Tour guide professionalism is built through the license policy needed to do the work. The license policy fulfills the requirements of the competency certificate for tour guides and certificates of Balinese cultural knowledge. Tour guides as professionals are required to constantly improve their abilities, insights, and creativity in guiding tourists. In tourism, tour-guide services are one of the keys that determine the improvement of tourism quality because it is directly related to the tourists guided. Qualified tour guides are always coveted and expected by travel agents and the government because tour guides who have knowledge of Balinese Culture and adequate skills and attitudes according to

the code of conduct are believed to be able to provide good service to tourists.

License policy is used by the government to determine whether someone has the right to guide or not. If the government found tour guides who tend to be negative about the policy, it will lead to non-compliance with tour guides, such as not having a license or not extending it. It is feared that the existence of unlicensed tour guides can harm licensed tour guides and can not be accounted for compared to licensed tour guides.

Bali Provincial Government, with the associations (Tour Guides Association (DPD HPI Bali), and Travel Agents Association (ASITA)) and the Bali Public Order Enforcers (Satpol PP Provinsi Bali) always carry out meetings or hearings related to the activities of tour guides. After regular joint meetings about licensed tour guides, the shortcoming referred to, is the lack of supervision of tour-guide activities, therefore many people do tour-guide jobs illegally. The lack of supervision may have negative consequences because the implementation is more dependent on administrative authorities than judicial authorities [8]. Skillful and sustainable supervision is needed. The license policy predicts that only tour guides who have a KTPP can conduct guidance in Bali region, but if there is no supervision and continuous control, it will be difficult to achieve.

## CONCLUSION

The license policy for tour guides in Bali according to Bali Regional Regulation Number 5 of 2016 concerning Tour Guides implemented by Bali Regional Government states that the implementation process has not run according to expectations yet. It is due to the lack of understanding of tour guides for policy objectives and standards, limited financial resources because the source of costs is charged to each tour guides, errors in receiving information due to lack of communication clarity between organizations, lack of clear authority and responsibility procedures in the organization's bureaucracy structure resulting in the delay of KTPP issuance service, and the challenges faced by tour-guides in current social and political conditions that do not support the policy implementation.

These obstacles can substantially lead to the ignorance attitude of tour guides towards the tour-guide policy in Bali. The license policy implementation process that has not been

optimal resulted in poor compliance and supervision. Preferably, government intervention in the form of a policy is very important, considering the aspects that influence the implementation process.

The research results suggest for further research is related to the research on policy implementation, particularly government regulations on human resource licenses in the tourism sector. This research can be further developed with more cases in other provinces in Indonesia with different economic, social, and political conditions. This condition can be seen from the challenges and gaps in tourism activities. In addition, there is an opportunity to do the research on the tour guide's view of certification, both the content and the impact or the results of its implementation for tour guides.

#### **Acknowledgments**

The author thanks the Bali Government Tourism Office (Dispar Bali), Bali Public Order Enforcers (Satpol PP Bali), Association of Bali Regional Indonesian Guides (DPD HPI Bali), and the tour guides who are members of the DPD HPI Bali who have been involved and provided information in this research.

#### **REFERENCES**

- [1] Ap, J. and K. K. F. Wong. 2001. Case study on tour guiding: professionalism, issues and problems. *Journal of Tourism Management* 22(5), 551-563.
- [2] Sharma, S. and N. Chowdhary. 2014. stakeholders' expectations from tour guides. *Asia-Pacific Journal of Innovation in Hospital and Tourism* 3(1), 41-60.
- [3] Lovrentjeva, S. 2015. Education of tourist guides: case of Croatia. *Journal Elsevier Procedia Economics and Finance* 23, 555-562.
- [4] Darmawan, I P. E., M. K. Negara, and I P. Sudana. 2017. Pengaruh pelayanan pramuwisata lokal terhadap citra daya tarik wisata Besakih. *Jurnal Analisis Pariwisata* 17(2), 93-97.
- [5] Putra, I GA. G. L. W., I P. Sudana, and N. P. E. Mahadewi. 2016. Analisis kualitas pelayanan pramuwisata terhadap kepuasan wisatawan di PT. Bali Sun Tours. *Jurnal Industri Perjalanan Wisata* 4(2), 58-63.
- [6] Putri, I D. A. H. and N. K. S. Ratmini. 2018. Strategi komunikasi pramuwisata dalam menjaga eksistensi pariwisata Bali. *Jurnal Pariwisata Budaya: Jurnal Ilmiah Pariwisata Agama dan Budaya* 3(1), 1-19.
- [7] Hill, M. and P. Hupe. 2002. Implementing public policy governance in theory and in practice. Sage Publications. London.
- [8] Ap, J. and D. Wang. 2013. factors affecting tourism policy implementation: a conceptual framework and a case study in China. *Journal of Tourism Management* 36, 221-233.
- [9] Krutwaysho, O. and B. Bramwell. 2009. Tourism policy implementation and society. *Annals of Tourism Research* 37(3), 670-691.
- [10] Edward III, G. C. 1980. Implementing public policy. Congressional Quarterly Press. Washington.
- [11] van Meter, D. and C. van Horn. 1975. The policy implementation process: a conceptual framework. *Administrasion and Society* 6(4), 445-88.
- [12] Yin, R. K. 2009. Case study research, design and methods 4<sup>th</sup> Ed. Sage Publications. California.
- [13] Black, R. and S. Ham. 2005. Improving the quality of tour guiding: toward a model for tour guide certification. *Journal of Ecotourism* 4(3), 178-195.
- [14] Mazmanian, D. H. and P. A. Sabatier. 1983. Implementation and public policy. Harper Collins. New York.

## Risk Management of OHS for Landfilling Construction in Talangagung Edu-Tourism Landfill

Dhyamas Sulistyono Putro<sup>1\*</sup>, Arief Rachmansyah<sup>2</sup>, Bagyo Yanuwadi<sup>3</sup>

<sup>1</sup>Master Program of Environmental Management and Development, Graduate Program, University of Brawijaya, Malang, Indonesia

<sup>2</sup>Department of Civil Engineering, Faculty of Engineering, University of Brawijaya, Malang, Indonesia

<sup>3</sup>Department of Biology, Faculty of Mathematics and Natural Sciences, University of Brawijaya, Malang, Indonesia

### Abstract

Talangagung Edu-Tourism Landfill is one of the landfills in Indonesia that leads to the Edu-Tourism Landfill. Thus, there is a need for Occupational Health and Safety (OHS) risk management for workers to improve service to tourists. Aim of the study is to determine, identify, analyze, and compile hazard sources or injury potential and risk assessment in activities from technical workers in the work area of Talangagung Edu-Tourism, as well as risk control that can be applied to reduce the consequences of each hazard sources or injury potential. The data collected through observations, interviews, and brainstorming to all technical workers and a chief. The processing of occupational health and safety risk management data was based on the Job Safety Analysis (JSA) concept. The hazard source or injury potential identification finds 7 activities. Each of which several steps along with their hazard source or injury potential and consequences identified. There are 43 hazard sources or injury potentials, from which, based on the risk assessment, 14 are extreme (E), 12 are high (H), 2 are medium (M), and 15 are low (L). The control divided into two. Eight of the controls conducted by the management of Talangagung Edu-Tourism and seventeen of the rest controls suggested by the researcher. By applying OHS Risk Management, they will increase the number of tourists because it improves the quality of the workers in service.

**Keywords:** Job Safety analysis, OHS, risk management.

### INTRODUCTION\*

Waste is a serious problem for humans, including Indonesians. Therefore, further processing is required [1]. Wastes in Indonesia is processed by establishing a landfill, one which operates in Malang Regency, namely Talangagung Edu-Tourism Landfill. Talangagung Edu-Tourism Landfill is one of the landfills in Indonesia that leads to the Edu-Tourism Landfill. One of the supporting components is the workers. Workers who are in the work area of Talangagung Edu-Tourism will have the potential to be affected by sources of danger or potential injuries originating from the work environment [2,3,4].

The Occupational Health and Safety (OHS) Risk Management for workers will increase workers' productivity, which will have an impact on maximum service to tourists of Talangagung Edu-Tourism Landfill [5,6]. The maximum service application of OHS risk management in the operation of landfills includes hazard source or injury potential identification, risk assessment,

and risk control [7]. Talangagung Edu-Tourism has visitors, which written in the guest book and the schedule of visits that have been made. It is necessary to conduct OHS risk management, to protect tourists along with the activities in the landfill. Thus OHS risk management needs to be applied in advance to the technical workers then the management can provide OHS risk management education to the tourists. This study aimed to determine the hazard sources or injury potential and risk assessment in activities from technical workers in the work area of Talangagung Edu-Tourism, as well as risk control that can be applied to reduce the consequences of each hazard sources or injury potential.

### METHOD

#### Research Location

This research was conducted at the landfill of Talangagung Village in Kepanjen District, Malang Regency, located at 8°07'14.81" S and 112°33'43.00" E. This research was conducted in November - December 2018. The land area Talangagung Edu-Tourism is ± 2.66 Ha. The landfill is fully managed by the Environmental Office of Malang Regency and managed by 13 technical workers and a chief. Its location showed in the following Figure 1.

\* Correspondence address:

Dhyamas Sulistyono Putro

Email : [dhyamassulistyono95@gmail.com](mailto:dhyamassulistyono95@gmail.com)

Address : Postgraduate School, University of Brawijaya,  
Mayjen Haryono No. 169, Malang, 65145.



**Figure 1.** Talangagung landfill area, Kepanjen, Malang, East Java. (a) Office, (b) Hall

### Data Collection

The data of this study collected through observations, interviews, and brainstorming. The observation carried out to observe and record directly the object of the study, namely hazard sources or injury potential. Observation of hazard sources or injury potential was based on activities from all technical workers of the Talangagung Edu-Tourism Landfill.

The interviews conducted to all technical workers of the Talangagung Edu-Tourism Landfill about their activities. The interviews will help in determining the hazard sources or injury potential, risk assessment of hazard sources or injury potential, and appropriate risk control based on each hazard sources or injury potential.

The brainstorming or group discussion was conducted in all OHS Risk Management stages using competencies from the researcher and all technical workers involved in the work area; they are 13 technical workers and a chief. It discussed hazard source or injury potentials identification, risk assessment, and risk control in their work area so far.

### Data Analysis

The objective of the hazard source or injury potential identification is to determine hazard potential for the employees based on their tasks. The identification uses Job Safety Analysis (JSA) because this concept emphasizes the relationship between humans and their job [8]. In addition, the concept was selected based on the types and steps of the tasks. Once hazard potentials identified, risk assessment took place, using a risk matrix based on [8] standard, divided into the qualitative measure of Likelihood (L) and Severity (S). The following Table 1, Table 2, and Table 3 were used in the risk assessment.

OHSAS 18001 provides risk control guidelines with several approaches; they are elimination,

substitution, technical engineering, administration control, and Personal Protective Equipment (PPE) usage. Based on the guidelines, a risk management strategy to suppress likelihood, severity, and consequences, as well as risk transfers, are developed [9].

**Table 1.** Qualitative Measure of Likelihood

Level	Description	Detail
A	Almost Certain	Can happen at any time
B	Likely	Possibly frequent
C	Possible	Might happen occasionally
D	Unlikely	Rarely happen
E	Rare	Only in certain condition

Source: AS/NZS 4360:2004 [9]

**Table 2.** Qualitative Measure of Severity

Level	Description	Detail
1	Insignificant	No injury, small financial loss
2	Minor	Mild injury, medium financial loss
3	Moderate	Medium injury, require medical treatment, big financial loss
4	Major	Severe injury of more than one person, big financial loss, production disruption
5	Catastrophic	Fatal to more than one person, massive losses and long-term extensive effect, activity shut down

Source: AS/NZS 4360:2004 [9]

**Table 3.** Risk Matrix

Likelihood	Severity				
	1	2	3	4	5
A	H	H	E	E	E
B	M	H	H	E	E
C	L	M	H	E	E
D	L	L	M	H	E
E	L	L	M	H	H

Notes: E= Extreme Risk, H= High Risk, M= Medium Risk, L= Low Risk

Source: AS/NZS 4360:2004 [9].

## RESULT AND DISCUSSION

### Hazard Source or Injury Potential Identification and Risk Assessment

Landfilling Construction consists of seven activities (Table 4). They are digging, coral stone arrangement, leachate drainage installation, methane harness installation, temporary landfill covering, and final landfill covering. In all seven activities, there are several steps along with their hazard source or injury potential and consequences. The digging consists of three steps, excavator mobilization, excavator footing determination, and excavation until the predetermined depth. During excavator mobilization and excavator footing determination, landfill covering takes place.

**Table 4.** Result of Hazard Source or Injury Potential Identification and Risk Assessment

Activity	Steps	Hazard Source or Injury Potential	Consequences	Risk Matrix		
				S	LL	RR
Soil Digging	Excavator Mobilization	Operators do not have OHS license	Heavy equipment does not operate optimally	1	C	L
		Distance with other workers	Heavy equipment endangers other workers	4	D	H
	Excavator footing determination	Operators do not have OHS license	Heavy equipment does not operate optimally	1	C	L
		Distance with other workers	Heavy equipment endangers other workers	4	D	H
		Waste slide	Buried	2	D	L
		Slippery Surface	Slipped	2	D	L
	Excavation until the predetermined depth	Operators do not have OHS license	Heavy equipment does not operate optimally	1	C	L
		Landslide	Buried	5	A	H
		Slippery Surface	Slipped	2	D	L
		Distance with other workers	Heavy equipment endangers other workers	4	D	H
Coral stone arrangement	Inserting the mold drum into the soil	Landslide	Buried	3	A	E
		Slippery Surface	Slipped	3	C	H
		Ambient air quality	Respiratory problems	3	A	E
	arranging the coral stone in the drum	Landslide	Buried	3	A	E
		Slippery surface	Slipped	3	C	H
		Ambient air quality	Respiratory problems	3	A	E
Leachate drainage installation	Cutting holes of installation pipes	Sharp drill tip	Injured worker's hands	2	D	L
		Pipe splinters	Entering the body	2	C	M
	Putting pipes vertically on the landfill base	Landslide	Buried	4	A	E
		Slippery surface	Slipped	3	C	H
		Ambient air quality	Respiratory problems	4	A	E
Methane harness installation	Cutting holes of installation pipes	Sharp drill tip	Injured worker's hands	2	D	L
		Pipe splinters	Entering the body	2	C	M
	Putting pipes vertically on the landfill base	Landslide	Buried	4	A	E
		Slippery surface	Slipped	3	C	H
		Ambient air quality	Respiratory problems	4	A	E
	Connecting pipe lines on landfill to blowers	Blower electric current	Electric shock	3	C	H
		Ambient air quality	Respiratory problems	2	B	E
Temporary landfill covering	Tarpaulin mobilization	Slippery surface	Slipped	1	E	L
	Tarpaulin spreading	Landslide	Buried	4	A	E
		Slippery surface	Slipped	3	C	H
Final landfill covering	Excavator mobilization	Operators do not have OHS license	Heavy equipment does not operate optimally	1	C	L
		Distance with other workers	Heavy equipment endangers other workers	4	C	E
	Excavator footing determination	Operators do not have OHS license	Heavy equipment does not operate optimally	1	C	L
		Waste slide	Buried	1	A	H
		Slippery surface	Slipped	2	D	L
		Distance with other workers	Heavy equipment endangers other workers	4	C	E
		Landslide	Buried	4	C	E
	Soil digging around the landfill	Operators do not have OHS license	Heavy equipment does not operate optimally	1	C	L
		Waste slide	Buried	1	A	H
		Slippery surface	Slipped	2	D	L
		Distance with other workers	Heavy equipment endangers other workers	4	C	E
		Landslide	Buried	4	C	E

**Notes:** S= Severity (1-5), LL=Level of Likelihood (A-E), RR=Risk Rate; E= Extreme Risk, H= High Risk, M= Medium Risk, L= Low Risk.

There are several hazard sources or injury potentials of the landfill covering. First, operators of excavators do not have an OHS license, which cause suboptimal equipment operation, hence increasing the operational hour. Since the hazard source or injury potential does not cause either financial or physical loss, the risk categorized as low (L).

Second, the distance between the excavator and other personnel is close. Therefore, the risk is categorized as high (H) and extreme (E). The difference in risk level caused by the fact that some workers are still in the landfill location during the final landfill covering to check the final condition of methane harness and leachate installation. It was different from the condition during the digging.

The hazard sources or injury potentials during the excavator footing determination are the operators of excavators do not have OHS license, waste slide, and slippery surface. Waste pile exceeding the excavator's height has the potential of a waste slide that may bury the operating excavator. This hazard source or injury potential is categorized into low (L) and high (H). The difference caused by the fact that the soil surface around the pile during the digging is more stable than during the final landfill covering, so the later activity has a higher risk.

The location of the Talangagung Edu-Tourism landfill tends to be slippery due to rainwater and scattering waste, becoming a hazard source for excavators during the digging and landfill covering, making it loses his footing. The risk assessment of both activities is low (L) risk. A similar risk assessment result is based on a similar hazard source or OHS risk and a similar unsafe condition [10].

The next hazard source or injury potential is a landslide that might happen to excavators. The risk level is high (H) and extreme (E). The high (H) risk happens during the digging, where the soil is relatively stable, and the extreme (E) risk happens during the temporary landfill covering and final landfill covering, where the dug soil is relatively unstable and potential for collapsing.

The coral-stone arrangement consists of two steps; they are inserting the mold drum into the soil and arranging the coral stone in the drum. The extreme (E) risk occurs in land sliding, which is different from the previous identification, i.e. on workers. The severity (S) of coral stone arrangement is 3, while the severity of leachate drainage installation and methane harness installation is 4. The different severity occurs

because workers do not have to go into the landfill during the former activity, while workers have to go into the landfill during the later activities, exposing them with the risk of a landslide from the surface.

Hazard source or injury potential from a slippery surface is different from the previously mentioned, which endangers workers. The risk is high (H), similar to those from leachate drainage installation and methane harness installation and final landfill covering when workers are spreading the tarpaulin. However, the risk of tarpaulin mobilization during the temporary landfill covering is low (L). The difference is caused by the fact, that the soil inclination and structure during the tarpaulin mobilization is relatively stable, and the mobilization takes place in different spots. The landfilling produces foully smelled Hydrogen Sulfide ( $H_2S$ ), causing a decrease in ambient air quality and disturb human respiration [11,12]. The risk is extreme (E), but the severity is different.

The severity of the coral stone arrangement is 3 because workers are surrounded by other landfills that are decomposing and producing methane byproducts that disturb respiration. During the methane harness installation, when workers set pipes vertically on the landfill base, the condition of the workers is similar to the condition during the coral stone arrangement, which requires workers to go into the landfill for methane harness installation. So the potential of having respiratory problems is higher with a score of 4. In the same activity, during the step of connecting pipelines in the landfill to the blower, the severity is 2, because the step is far from the landfilling location.

The hazard sources or injury potentials of leachate drainage installation are sharp drill tip, pipe splinters, landslide, slippery surface, and ambient air quality. The sharp drill tip can harm the worker's hand. The risk of this hazard source or injury potential is low (L) because the prevention is easy and the consequence is easy, to handle. The drilling causes pipe splinters that can enter the worker's respiration. The risk is medium (M) because the splinter is invisible, and the consequence is indirect. Both hazard sources and injury potentials found during methane harness installation. The environmental condition of the hazard sources or injury potentials is the same, so the risk levels are the same.

The hazard sources or injury potentials of methane harness installation are sharp drill tip, pipe splinter, landslide, slippery surface, ambient



air quality, and electric current of the blower. All the hazard sources and injury potentials have been identified previously except the electric current. The distribution of methane to the community uses blowers that use electricity, exposing workers to the danger of electric shock. Since the consequence directly felt, the risk is high (H).

The hazard sources or injury potentials of temporary landfill covering are slippery surface and landslide, while those of final land covering are operators of excavator do not have OHS license, the distance between workers, waste slide, slippery surface, and landslide, described in the previous activities. Table 4 is the result of hazard source or injury potential identification and risk assessment.

#### **Risk Control**

The result of risk assessment derived by applying risk control over each hazard source or injury potential. Thus the consequences can be minimized or even eliminated. Risk control divided into existing control, which has been conducted by Talangagung Edu-Tourism Landfill, and suggestion, which is the risk control recommended by the researcher (Table 5).

Lifting and transporting instruments must be operated by lifting and transporting instrument operators with OHS license and workbooks according to their types and qualifications [13]. Therefore, excavator operators must join training to obtain OHS license and must increase their knowledge in operating the equipment. Distance between workers and heavy equipment should

be well determined in excavator operation by making prohibiting signs toward the operation of heavy equipment. Prohibition signs have the potential of reducing or eliminating consequences [14]. Waste slide makes excavators buried during the operation. It is advisable that the footing of the excavators set away from waste pile potential for sliding. Keeping the body away from hazard source or injury potential is a risk control [15].

The hazard source or injury potential of slippery surface is excavator and worker. In terms of the excavator, it is advisable to do maintenance, especially on the wheel system. In terms of the worker, the suggestion is on elimination control and PPE usage. For the former, it is advisable to pay attention to the slippery surface before entering the dugouts, while for the latter, it is advisable to provide appropriate protective shoes, such as those that do not absorb water and those with soles that help firm footing. Failure to use PPE and inappropriate use of PPE increases hazard or injury potential and its consequences [16].

As in the above, hazard source or injury potential of landslide is excavator and worker. In terms of the excavator, risk control accomplished by prioritizing non-landslide-potential soil. In terms of the worker, landslide potential should be checked the before entering the dugouts and intensify the communication with other workers on duty to inform the incoming hazard or injury potential. One of the obstacles to risk control is poor communication among workers [17].

**Table 5.** Result of Risk Control

<b>Existing Control</b>	<b>Suggestion</b>
Excavator operators have received training from heavy equipment producers	Sending excavator operators to trainings to obtain OHS license
Determining heavy equipment footing that is safe from slippery surface and collapsing potential	Determining a minimum distance during heavy equipment operation
Using protective shoes	Keeping the footing of heavy equipment away from waste pile with collapsing potential
Cutting off the working time by involving all workers available	Maintaining the heavy equipment
Medical checkup for all workers of the site	Prioritizing non-landslide-potential soil
Keeping a safe distance between hand and sharp drill tip	Check the landslide potential before entering the dugouts
Keeping a safe distance between nose and pipe	Intensifying the communication with other workers on duty
Choosing a more relatively stable footing	Check the landslide potential before entering the dugouts
	Providing appropriate protective shoes
	Using appropriate breathing masks
	Wearing appropriate protective gloves
	Improving communication among involved workers
	Wearing well insulated protective equipment
	Using tools that help improve footing
	Sending excavator operators to trainings to obtain OHS license
	Determining minimum safe distance during heavy equipment operation

One of the hazard sources or injury potentials that is difficult to control is ambient air quality since it is difficult to identify. The controls that have been done are cutting off the working time by involving all workers available, and medical checkup by doctors from Kepanjen Health Center once in three months. Workers should use appropriate breathing masks, which can reduce the effect of low ambient air quality. There is a relationship between PPE usage and respiration health [18].

Sharp drill tip poses direct and immediate consequences, harming worker's hands. In addition to keeping a safe distance between the hand and sharp drill tip, workers should wear appropriate gloves when operating drills to reduce the hazard or injury potential. The particle of pipe splinter is very small, so it is difficult to see using bare eyes, and keeping a safe distance between nose and pipe during the drilling is not enough to reduce hazard or injury potential. Therefore, for risk, it is advisable to use appropriate breathing masks.

The blower was used during methane harness installation. The blower uses electricity, thus it has potential for electric shock. The advisable risk control is intensifying communication with other workers on duty and using well-insulated PPE such as those made of rubber, plastic, and cloth. Table 5 is the result of risk control in the landfilling construction.

#### **OHS Risk Management in Development of Edu-Tourism**

OHS risk management in Talangagung Edu-Tourism Landfill will also have an impact on tourism development [19,20]. The application of OHS Risk Management to the workers is one of the supporting factors for increasing service to tourists, accompanied by an increase in workers' productivity while in the work area [21]. The enhancement in service will be increasing the number of tourists in Talangagung Edu-Tourism Landfill [22-25].

In addition, tourists will get information regarding the hazard sources or injury potential and consequences of the Talangagung Edu-Tourism Landfill. The results of OHS risk management resulted in 2 hazard sources or injury potential, namely the ambient air quality and slippery surface. These are found in the work area of the Talangagung Edu-Tourism Landfill so that it will have an impact on the condition of tourists. Both hazard sources or injury potential and their consequences can be minimized or

eliminated so risk control can provide appropriate protective shoes and breathing masks given to tourists or appealed before visiting.

#### **CONCLUSION**

The landfilling construction at Talangagung Edu-Tourism Landfill divided into several activities; they are digging, coral stone arrangement, leachate drainage installation, methane harness installation, temporary landfill covering, and final landfill covering. Each of which several steps has it's with their hazard source or injury potential and consequences.

We identified that there are 43 hazards sources or injury potentials, from which, based on the risk assessment, fourteen are extreme (E), twelve are high (H), two are medium (M), and fifteen are low (L). Risk control is required to reduce the existing risk. The controls are as follows. Eight of the control has been done by the management of Talangagung Edu-Tourism, and seventeen of them suggested by the researcher. By applying OHS Risk Management, it will increase the number of visitors because it improves the quality of the workers in service.

#### **Acknowledgement**

The researcher would like to express his gratitude to the Environmental Office of Malang Regency as the manager of Talangagung Edu-Tourism and all employees of the site for their hard work in helping the accomplishment of this research.

#### **REFERENCES**

- [1] Mulasari, S. A., A. H. Husodo, and N. Muhadjir. 2014. Kebijakan pemerintah dalam pengelolaan sampah domestik. *KESMAS National Public Health Journal* 8(8), 404-410.
- [2] Kasam. 2011. Analisis resiko lingkungan pada Tempat Pembuangan Akhir (TPA) sampah (Studi Kasus: TPA Piyungan Bantul). *Jurnal Sains dan Teknologi Lingkungan* 3(1), 19-30.
- [3] President of Republic of Indonesia. 1970. Law of Republic of Indonesia No.1 about work safety. Republic of Indonesia. Jakarta.
- [4] Harjanti, W. S, Y. H. Darundiati, and N. A. Y. Dewanti. 2016. Analisis risiko kesehatan lingkungan pajanan gas amonia (NH<sub>3</sub>) pada pemulung di TPA Jatibarang, Semarang. *Jurnal Kesehatan Masyarakat* 4(3), 921-930.
- [5] Denik, K., M. Al. Musadieq, and M. Djudi. 2017. Pengaruh Keselamatan Kerja dan Kesehatan Kerja (K3) terhadap motivasi

- kerja (studi pada karyawan Taman Rekreasi Sengkaling (TRS)). *Jurnal Administrasi Bisnis* 50(5), 102-107.
- [6] Lestari, T. and E. Trisyulianti. 2009. Hubungan Keselamatan dan Kesehatan (K3) dengan produktivitas kerja karyawan (studi kasus: Bagian Pengolahan PTPN VIII Gunung Mas, Bogor). *Jurnal Manajemen* 1(1), 73-79.
- [7] Handayani, D. I. 2018. Integrated risk management model related to Occupational Healthy and Safety in multi-storey buildings. *Journal of Engineering and Management in Industrial System* 6(1), 27-35.
- [8] Ramli, S. 2010. Pedoman praktis dalam perspektif K3. PT. Dian Rakyat. Jakarta.
- [9] Australian/New Zealand Standard 4360. 2004. AS/NZS 4360:2004: Risk Management. Sydney.
- [10] Akbar, T. Y., S. Indarjo, A. S. Wahyuningsih, 2015. Penggunaan metode Hazard Identification Risk Assessment Control (HIRAC) dalam penyusunan program K3 untuk menurunkan angka kecelakaan kerja pada pekerja bagian pengamplasan PT Kota Jati Furnindo Desa Suwawal Kabupaten Jepara. *Unnes Journal of Public Health* 4(3), 24-31.
- [11] Muspa, A., K. Kadir, Darmilan, N, Mappanganro, Hasyimuddin, and F. Nur. 2017. Penanggulangan bau sampah menggunakan ampas kopi (sebuah review). *Proceeding of National Seminar Biology for Life*. Gowa, 10 November 2017. 60-62.
- [12] Andhika, R. and T. Agung. 2016. Pengaruh paparan CH<sub>4</sub> dan H<sub>2</sub>S terhadap keluhan gangguan pernapasan pemulung di TPA Mrican Kabupaten Ponorogo. *Journal of Industrial Hygiene and Occupational Health* 1(1), 1-14.
- [13] Ministry of Labor and Transmigration, Republic of Indonesia. 2010. Regulation of Ministry of Labor and Transmigration No. 9 about operators and officers of aircraft and transport. Ministry of Labor and Transmigration. Jakarta.
- [14] Ihsan, T., T. Edwin, and R. O. Irawan. 2016. Analisis risiko K3 dengan metode HIRARC pada area produksi PT Cahaya Murni Andalas Permai. *Andalas Journal of Public Health* 10(2), 179-185.
- [15] Bramasto, T., and I. Zainafree. 2016. Penggunaan Job Safety Analysis dalam identifikasi risiko kecelakaan kerja di bagian workshop PT. Total Dwi Daya Kota Semarang. *Unnes Journal of Public Health* 4(4), 94-106.
- [16] Aryantiningasih, D. S., and D. Husmaryuli. 2016. Kejadian kecelakaan kerja pekerja Aspal Mixing Plant (AMP) & Batching Plant di PT LWP Pekanbaru Tahun 2015. *Andalas Journal of Public Health* 10(2), 145-150.
- [17] Alvan, A., and E. Widowati. 2016. Evaluasi penerapan ABg (Aktif Berbagi) sistem sebagai upaya mengurangi angka kecelakaan kerja di PT Coca-Cola Amatil Indonesia Central Java. *Unnes Journal of Public Health* 5(1), 19-28.
- [18] Utama, A. P. 2013. Hubungan antara masa kerja dan penggunaan alat pelindung diri dengan kapasitas vital pada pekerja Unit Spinning I Bagian Ring Frame PT. Pisma Putra Tekstil Pekalongan. *Unnes Journal of Public Health* 2(3), 1-9.
- [19] Sudana, I M. A. and M. Sukana. 2018. Penerapan Keselamatan dan Kesehatan Kerja (K3) di daya tarik wisata Bali Treetop Adventure Park, Bedugul. *Jurnal Destinasi Pariwisata* 6(2), 224-228.
- [20] Muka, I W. 2016. Property development risk analysis Mandalika Resort Lombok Tourism Area. *The 2<sup>nd</sup> International Conference on Civil Engineering Research (ICCER) 2016. IPTEK Journal of Proceedings Series 1*, 42-47.
- [21] Firtriani, N., P. Deoranto, Dania, W. A. P. Dania. 2013. Analisis pengaruh Keselamatan dan Kesehatan Kerja (K3) terhadap produktivitas tenaga kerja dengan metode Partial Least Square. *Industria: Jurnal Teknologi dan Manajemen Agroindustri* (2)2, 93-104.
- [22] Suharto. 2016. Studi tentang keamanan dan keselamatan pengunjung hubungannya dengan citra destinasi (studi kasus Gembira Loka Zoo). *Jurnal Media Wisata* 14(1), 287-304.
- [23] Williams, A. M., and V. Balaz, 2013. Tourism risk tolerance and competences: travel organization and tourism hazard. *Tourism Management* 35, 209-221.
- [24] Seabra, C., S. Dolnicar, J. L. Abrantes, and E. Kastenholz. 2013. Heterogeneity in risk and safety perceptions of international tourists. *Tourism Management* 36, 502-510.
- [25] Holm, M. R., P. Lugosi, R. R. Croes, and E. N. Torres. 2017. Risk-tourism, risk-taking and subjective well-being: a review and synthesis. *Tourism Management* 63, 115-122.

## Water Quality Evaluation of Kromoleo Swamp Tourist Area using Phytoplankton and Periphyton as Bioindicators in the Sumberpucung Sub-District, Malang, Indonesia

Nudia Mella Pratikasari\*, Endang Arisoesilaningsih, Catur Retnaningdyah

Department of Biology, Faculty of Mathematics and Natural Science, University of Brawijaya, Malang, Indonesia

### Abstract

Kromoleo swamp located in Sumberpucung Malang is used as tourism, fishing, agricultural and fisheries area. The aim of this study was to evaluate the water quality in Kromoleo Swamp based on physical, chemical and biological parameters (phytoplankton and periphyton). Water biotic and abiotic factors were taken at upstream, middle 1 (left and right sides), middle 2 (left and right sides), and downstream (left and right sides). Measurements of water chemical and physics quality included temperature, brightness, solar intensity, turbidity, conductivity, pH, DO, nitrate, orthophosphate, and BOD content, as well as determined by phytoplankton and periphyton as bioindicators. TDI index (Trophic Diatom Index) was used to determine trophic status. Meanwhile, %PTV (Pollution Tolerant Value) was used to determine the level of organic pollution. The results of this study indicated the parameters of water temperature, pH, DO, nitrate and conductivity were still in normal levels, while BOD, turbidity, orthophosphate and water brightness reflected high organic matter pollution. Water quality based on the Shannon-Wiener diversity index of phytoplankton and periphyton was classified as clean water ( $H' = 3.3 - 4.3$ ). However, aquatic trophic status based on TDI index value on phytoplankton and periphyton (69.10 – 86.71) were categorized as eutrophic to hyper eutrophic water. While the pollution level based on % PTV in phytoplankton and periphyton (27.62 - 66.88%) grouped into lightly - heavy organic polluted.

**Keywords:** Periphyton, Phytoplankton, Swamp, Tourism, Water Quality.

### INTRODUCTION

Malang is a regency in East Java that has diverse tourism potential with its natural beauty. Kromoleo swamp and its spring have a tourist attraction that is managed by Senggreng village located in the Sumberpucung sub-district, Malang Regency. Kromoleo swamp has high potential natural resources to develop floating restaurants, water sports, and fishing ponds. This potential may improve local community economics.

The development of tourism activities in the Kromoleo swamp increased. Unfortunately, the positive benefits followed by negative impacts. If the water quality is poor and or polluted, it may produce an unpleasant smell and unsafety for visiting tourists. The water conditions used for tourism was concerned by society, because good quality and clean water conditions are important for sustainable tourism destinations.

The survey results showed that the activities of the surrounding community who often use swamps with various activities such as intensive

farming, fishing, bathing, washing, and tourist attractions change the aquatic ecosystem. Therefore protection of swamps is urgently needed by monitoring water quality. Its monitoring can be done by measurements of physical, chemical and as well as aquatic biota parameters as bioindicators.

Aquatic bioindicators are used to assess the health and integrity of ecosystem. The study of organisms in disturbed ecosystems will provide important information on changes in water quality, which are usually recorded based on existing species and abundance, as well as their presence or absence of patterns of distribution [1].

Phytoplankton is highly recommended as a bioindicator of water because it has a variety of spatial and temporal distributions [2]. Water quality can be determined by using periphyton as a bioindicator. It is due to its high reproduction rate and a very short life cycle. Thus, it is expected to reflect the impact of water quality changes [3].

Based on the background above, this study aimed to evaluate the water quality of Kromoleo swamp used as a tourist attraction. To improve tourism competitiveness of existing ecosystems, the development of nature-based tourism requires the sustainability concept, integrated by the conservation concern. Measurement of

---

\* Correspondence address:

Nudia Mella Pratikasari

Email : nudiamellap@gmail.com

Address : Dept. Biology, Universitas Brawijaya, Veteran  
Malang, Malang 65145.

water quality includes the water physical and chemical and biotic indices analyzed using the TDI index (Trophic Diatom Index) and %PTV (Pollutant Tolerant Value) as bioindicators.

## RESEARCH METHODS

### Study area

The study was conducted on January 2018 - April 2019 in the Sumberpucung Sub-District, Malang Regency at ordinate 08°09'35.8" S and 112°30'44.6" E to 08°09'51.2" S and 112°30'34.6" E. It is located in the upstream, middle 1 (left and right sides), middle 2 (left and right sides), and downstream (left and right sides) stations (Fig. 1). The water, periphyton, and phytoplankton were sampled. Physical and chemical water parameters, periphyton, and phytoplankton density were measured and analyzed in the Ecology Laboratory, Department of Biology, Faculty of Mathematics and Natural Sciences, University of Brawijaya Malang.

### Determination of Physical and Chemical Water Quality

Physical and chemical water parameters were measured. Water temperature measured with a thermometer, brightness with Secchi disk, the solar intensity with a lux meter. We also use pH meter, DO meter, conductivity meter, and turbidity meter. Orthophosphate was measured by using the molybdate method and BOD using potentiometry [4].

### Phytoplankton and Periphyton Sampling

Phytoplankton samples were taken in the same sites with water physical and chemical

measurements. We took 1 liter of water samples using a water sampler in depth of 3-5 meters and then filtered using a plankton net, then put into a flacon bottle with 10 drops of 4% formalin and 5 drops of  $\text{CuSO}_4$ . Whereas for periphyton observation held by using artificial substrate (5 x 5 cm).

The substrate with buoys applied in the water during 2-3 weeks at each station, so the substrate submerged in the water as periphyton growing media. Three substrates were applied as a replication at each station. Then periphyton samples were taken by sweeping on the surface of the substrate and put in a shallow pan and filtered using on the plankton net and sprayed with water. Periphyton samples were filled in a flacon bottle and dripped with formalin and  $\text{CuSO}_4$ . Periphyton and phytoplankton sampling at seven stations with three replication, so the total was 42 samples.

### Data analysis

The physical and chemical water quality data were analyzed using a multiple comparison test among research stations using ANOVA by Turkey HSD (if data distribution was normal) and the Brown-Forsythe test. It then continued by the Games-Howell test (in case of the data was not homogeneous). Profile of phytoplankton and periphyton were determined based on the INP Value, Shannon-Wiener Diversity Index ( $H'$ ), Taxa Richness, Trophic Diatom Index (TDI) and percentage Pollution Tolerant Value (% PTV) [5,6].



**Figure1.** Research location map in Kromoleo Swamp

**Note:**\* station 1 to 4 were sampling sites

## RESULT AND DISCUSSION

### Physical-Chemical Parameters

The physical and chemical water parameters in Kromoleo swamp showed in Table 1. The water temperature ranged from 26.9°C to 28.4°C. The highest water temperature located upstream (location 1) with 28.4°C. It was because of the different time while measurements affect the temperature. Measurements at station 1 carried out during the day. The water surface temperature in Indonesia generally ranged from 23°C to 31°C. Naturally, the surface water temperature is warmer because it gets solar radiation during the day [7]. Temperature is a limiting factor for aquatic organisms because aquatic biota is susceptible to the increase in water temperature [8].

The highest water brightness found in the middle 1 (left side) station with 67.3 cm and the lowest value is in an upstream station with 23 cm. The high brightness in the middle 1 (left side) station because this site was a central area of the swamp that is open and relatively calm so that the light can be deeper entering the waters. Brightness values expressed in meters and strongly influenced by weather conditions, measurement time, turbidity, suspended solids, as well as the accuracy of the researcher. The measurements of brightness parameters should be conducted during sunny weather [9].

The highest solar intensity in Rawa Kromoleo was in the middle 1 (right side) station, its belong 131.5klux, while for the lowest value in middle 2 (left side) 22.3 Klux. Location middle 2 (right side) had the highest solar intensity value because there were no trees around the swamp while sampling, it make the sunlight easier to fill the waters. Factors that caused the difference in solar intensity are the presence of sunlight and the position (latitude-longitude) of the waters to the sun. The coming angle of sunlight depends on different times (morning or evening), even differences can occur at any time [10].

Turbidity value ranged from 6.39 to 101.63 NTU. The highest turbidity value was in the upstream and lowest in the downstream (left side) station. Turbidity indicate the brightness of the water, which is determined based on the amount of sunlight that entering the waters. High turbidity can be caused by high levels of organic and inorganic materials that dissolved and suspended into water [11].

Conductivity value in the Kromoleo Swamp ranged from 303.66 - 370.33  $\mu\text{S}\cdot\text{cm}^{-1}$ . The highest

conductivity value was in the upstream station and the lowest in downstream (left side) station. Conductivity comes from nitrate, phosphate, chloride, sulfate, iron, calcium, and aluminum. These ions were contained in domestic waste. Conductivity values that are too high can damage aquatic organisms [12]. A decrease in water quality disrupted aquatic organism within.

The pH value of Kromoleo Swamp ranged from 6.06 to 7.4. The lowest pH value was in downstream (left side), while the highest was in location 1 (upstream). Water pH stability is strongly influenced by the growth of phytoplankton, in this case, related to  $\text{CO}_2$  as an ingredient for photosynthesis. pH influenced by biological activities such as photosynthesis and respiration of organisms. pH values changes in waters can affect the growth of the biological activity of aquatic organisms [13]. Drastically increasing the acidity of the water can be due to acid rain [14].

Dissolved oxygen (DO) value ranged from 4.48  $\text{mg}\cdot\text{L}^{-1}$  to 6.23  $\text{mg}\cdot\text{L}^{-1}$ . The highest DO in the upstream station, while the lowest was in downstream (left side) station. The low level of dissolved oxygen can be influenced by several factors, which can be due to organic pollution and the lack of oxygen producers [15]. Low dissolved oxygen value in an ecosystem can disrupt aquatic life [16]. It will also affect the community respiration in a water ecosystem [17].

Nitrate value in Kromoleo Swamp ranged from 0.62  $\text{mg}\cdot\text{L}^{-1}$  to 0.77  $\text{mg}\cdot\text{L}^{-1}$ . The highest nitrate value is in the middle 1 (right side) station and lowest at downstream (left side) station. The increasing of nitrate can be due to decomposer activity and the presence of several aquatic organism wastes [18].

Orthophosphate value ranged from 1.13  $\text{mg}\cdot\text{L}^{-1}$  to 1.48  $\text{mg}\cdot\text{L}^{-1}$ . The highest orthophosphate was in the upstream station and the lowest was in downstream (left side) station. The orthophosphate value in the upstream station was higher than other stations caused by the agricultural waste flowing into the swamp; this station intersects directly with rice fields. In general, orthophosphate used for plant metabolism in the process of its growth. Therefore, human activities such as agriculture, orthophosphate parameters can be used in the growth of crops. The rest of the orthophosphate will flow to the river [19]. Orthophosphate is the limiting factor used for the growth of algae in lakes and rivers [20].

**Table 1.** Water Physical and Chemical Parameters in Kromoleo Swamp Sumberpucung Malang

Parameters	Upstream	Middle 1 (L)	Middle 1 (R)	Middle 2 (L)	Middle 2 (R)	Downstream (L)	Downstream (R)	*Government regulation
Water temperature (°C)	28.4	27.36	28	27.7	28.2	26.9	27.6	Deviation 3
Brightness (cm)	23	67.33	40.66	68	48	66.33	56.33	>400****
Sunlight intensity (klux)	63.70	54.80	131.47	22.33	82.70	24.63	767.67	-
Turbidity (NTU)	101.63	7.69	9.54	7.72	7.3	6.39	7.93	5 – 30
Conductivity ( $\mu\text{S.cm}^{-1}$ )	370.33	338.33	351	331.33	310.67	303.66	311.66	0-3000***
pH	7.4	6.29	7.03	6.13	6.52	6.06	6.09	6-9
DO ( $\text{mg.L}^{-1}$ )	6.23	5.1	4.7	4.96	4.95	4.48	4.74	>4
Nitrate ( $\text{mg.L}^{-1}$ )	0.66	0.72	0.77	0.67	0.66	0.62	0.7	10
Orthophosphate ( $\text{mg.L}^{-1}$ )	1.47	1.13	1.16	1.12	1.16	1.13	1.17	0,04 – 0,16**
BOD ( $\text{mg.L}^{-1}$ )	14.13	12.13	12.27	9.97	10.59	12.32	12.02	3

**Description:** \*Indonesia Government Regulation No.82, 2001, \*\* Retnaningdyah et al. [26]. \*\*\* FAO [27], \*\*\*\* Carlson and simpson [28]

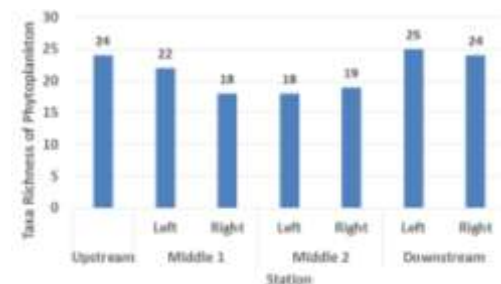
The activity of decomposers in decomposing organics matter is determined by BOD value. High BOD value reflects the high organic content that can be degraded biologically. BOD value ranged from 9.97  $\text{mg.L}^{-1}$  to 14.13  $\text{mg.L}^{-1}$ . In natural waters, dead plants and animals are sources of organic matter. In addition, domestic and industrial waste also affect BOD value [9].

Based on the result above, it was known physical and chemical water parameters that not qualified in standards were BOD, turbidity, orthophosphate, and water brightness. Those parameters had high value, caused by domestic waste, organic waste, and mud sedimentation through into the waters.

#### Water Quality in Kromoleo Swamp Based on Phytoplankton

The highest taxa richness of phytoplankton (Fig. 3) in Kromoleo Swamp was in downstream (left side) station (25), and the lowest middle 1(right side) station (18). IVI (Important Value Index) showed that each station dominated by different species. In the upstream station was dominated by *Pediastrum simplex* (19.60%), *Navicula gregaria* (17.64%), and *Nitzschia palea* (15.06%). In middle 1 (left side) was dominated by *Pediastrum simplex*(17.30%), *Nitzschia palea* (15.72%), and *Skeletonema* (14.57%). In middle 1 (right side) was dominated by *Mastogloia* (27.19%), *Navicula gregaria* (23.13%), and *D. Vulgaris* (19.27%). In middle 2 (left side) was dominated by *Synedra ulna* (17.95%), *D. Vulgaris* (17.83%), and *Achnantes* (16.68%). In middle 2 (right side) was dominated by *Nitzschia filiform* (17.04%), *Synedra ulna* (16.15%), and *Nitzschia amphibia* (15.38%). Downstream (left side) was

dominated by *Nitzschia palea* (13.65%), *Nitzschia filiform* (13.20%), and *Nitzschia minerals*(12.75%). Downstream (right side) station was dominated by *Navicula gregaria* (13.69%), *Pediastrum simplex* (12.89%), and *Nitzschia palea* (12.09%).



**Figure 3.** The Taxa Richness of Phytoplankton in Kromoleo Swamp

Based on the results of IVI analysis (Fig. 4), there were two groups of plankton which always appear in large quantities than others, Bacillariophyta and Chlorophyta. Bacillariophyta group showed the highest appearance in the waters. It caused by a high ratio of N and P values in the Kromoleo Swamp. With a high N/P ratio in water, the composition of the Bacillariophyta group plankton will increase [21]. N is an important nutrient to support the growth of diatom phytoplankton (Bacillariophyta) [22].

Phytoplankton Diversity Index based on Shannon-Wiener ( $H'$ ) (Fig. 5) ranged from 3.62 to 4.36. The highest was in downstream (right side) station, which means that the condition of the aquatic ecosystem at the station was good and classified in clean waters. The low diversity index value in other stations can be due to the presence of water temperature conditions and pollutants (nitrates and phosphates) [23].



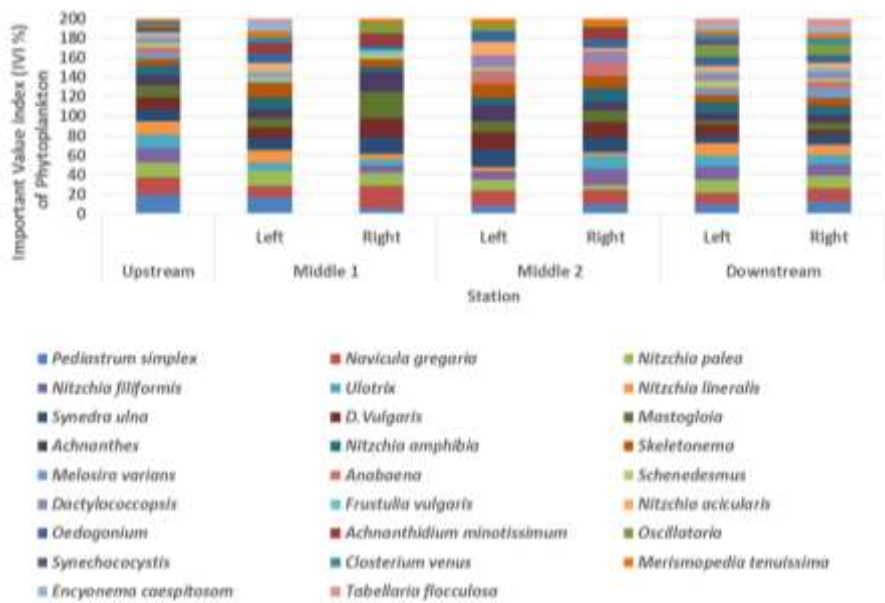


Figure 4. Important Value Index (IVI) of Phytoplankton in Kromoleo Swamp

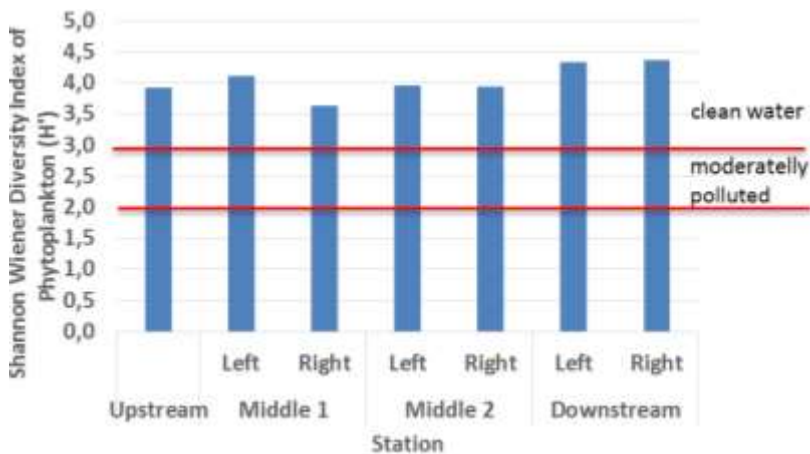


Figure5. Shannon-Wiener Diversity Index of Phytoplankton in Kromoleo Swamp



Figure 6. Trophic Diatom Index (TDI) value of phytoplankton in Kromoleo Swamp



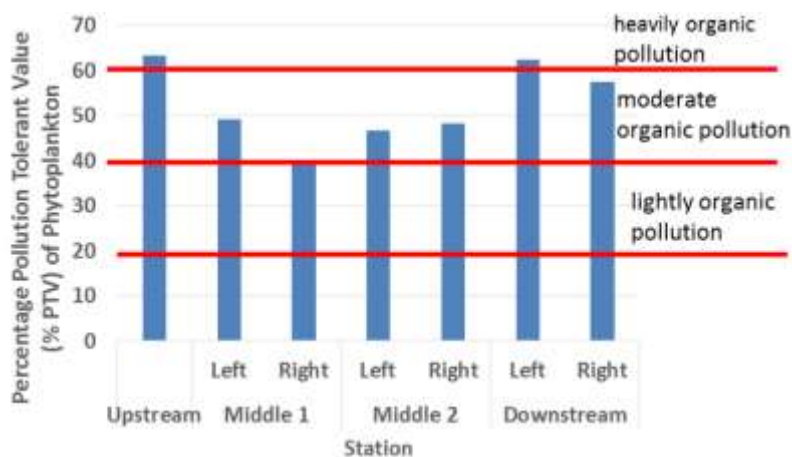


Figure 7. Percentage of Phytoplankton Pollutant Tolerant Value in Kromoleo Swamp

Trophic Diatom Index (TDI) was an index that used to determine the aquatic trophic status based on the richness and composition number of diatoms in the waters. Otherwise, the value of %PTV (Percentage Pollution Tolerant Values) is used to analyze the condition of waters, which indicates the contamination of organic matter grouped in several classes. If the value of %PTV is less than 20% means that the waters are free of organic pollutants, 21-40% means it polluted with light organic matter; 41 - 60% means it polluted with moderate organic matter, and if the value of more than 61% means it polluted by heavy organic matter [24]. TDI values can be grouped into four groups, oligo eutrophic (0-25); meso-eutrophic (25-50); eutrophic (50-75); and hyper-eutrophic (75-100) [6]. The results of TDI values on phytoplankton (Fig. 6) in Kromoleo swamp ranged from 70.85 to 85.96 and included in the eutrophic - hypereutrophic category.

The results of the % PTV analysis on phytoplankton (Fig. 7) ranged from 39.13% to 63.33%. The highest %PTV value was in the upstream station (63.33%), which means the water polluted by heavy organic matter. Meanwhile, the lowest %PTV value is in the middle 1 (right side) station (39.13%), which means contaminated with lightly organic matter. So it could be concluded that the %PTV value of phytoplankton in Kromoleo Swamp was lightly-heavy contaminated organic pollution category.

#### Water Quality in Kromoleo Swamp Based on Periphyton

The highest periphyton taxa richness (Fig. 8) in Kromoleo swamp was in downstream (right side) station (22), and the lowest is in the middle 1 (left side) location (15). Important Value Index

(IVI) of periphyton in the upstream station was dominated by species between *Ulothrix* (18.66%), *Nitzschia palea* (16.58%), and *Nitzschia acicularis* (15.41%). In middle 1 (left side) there was co-dominance of *Synedra ulna* (24.45%), *Nitzschia filiformis* (22.39%), and *Navicula gregaria* (20.42%). In middle 1 (right side) station was dominated by *Ulothrix* (28.27%), *Scenedesmus* (27.51%), and *Navicula gregaria* (22.95%). In middle 2 (left side) station was dominated between *Skeletonema* (31.03%), *Achnanthes* (26.40%), and *Synedra ulna* (22.90%). In middle 2 (right side) there was-dominance of *Achnanthes* (33.69%), *Navicula gregaria* (24%), and *Skeletonema* (22.20%). In downstream (left side) station there was co-dominance between *Synedra ulna* (18.82%), *Skeletonema* (18.82%), and *Ulothrix* (14.09%). And in the downstream (right side) station there was co-dominance of *Synedra ulna* (16.43%), *Ulothrix* (16.31%), and *Pediastrum simplex* (13.93%).

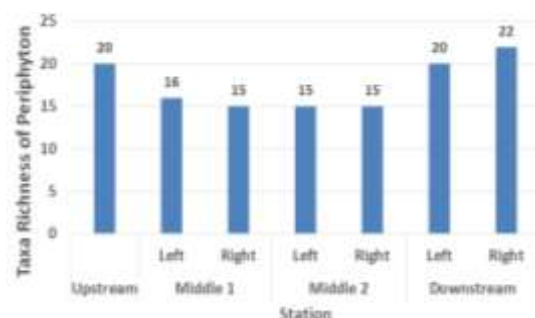


Figure 8. The Taxa Richness of Periphyton in Kromoleo Swamp

Three periphyton groups appeared in the waters based on the observation, namely Bacillariophyta, Cyanobacteria, and Chlorophyta

groups. Whereas in the results of the Periphyton Important Value Index (IVI) analysis (Fig. 9), the two highest groups dominate, namely Bacillariophyta and Chlorophyta. *Achnantes* genus is the highest number of the Bacillariophyta group. *Achnantes* is a genus that is sensitive and tolerant against organic pollutants [6]. Whereas the highest Chlorophyta group was from *Ulothrix* Genus.

Periphyton Diversity index based on Shannon-Wiener( $H'$ ) (Fig 10) in Kromoleo swamp ranged

from 3.33 to 3.99, the highest is in downstream(right side). It implies that the condition of the waters can characterize in clean waters.

The results of Periphyton TDI analysis (Fig. 11) showed that the tropical status of Kromoleo swamp has ranged from 69.10 to 86.71. The highest TDI value was in the middle 1 (right side) station and the lowest in the middle 2 (right side) station, which means that TDI value can be classified as eutrophic to hypereutrophic class.

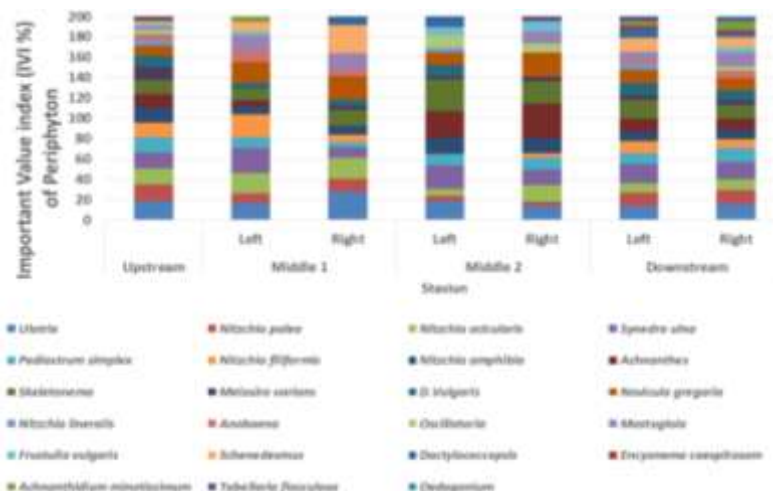


Figure 9. Important Value Index (IVI) of Periphyton in Kromoleo swamp

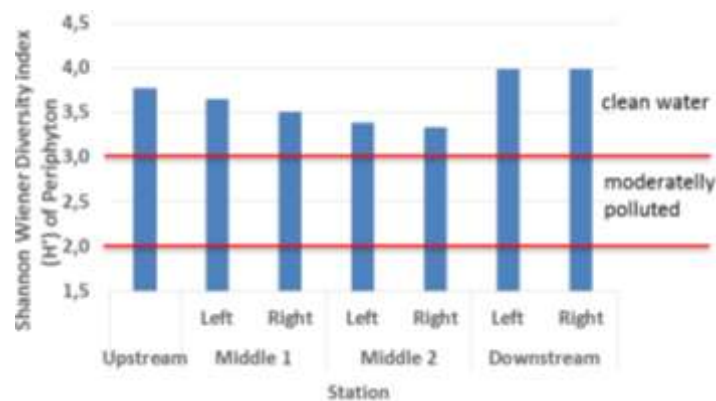


Figure 10. Shannon-Wiener Diversity Index of Periphyton in Kromoleo Swamp

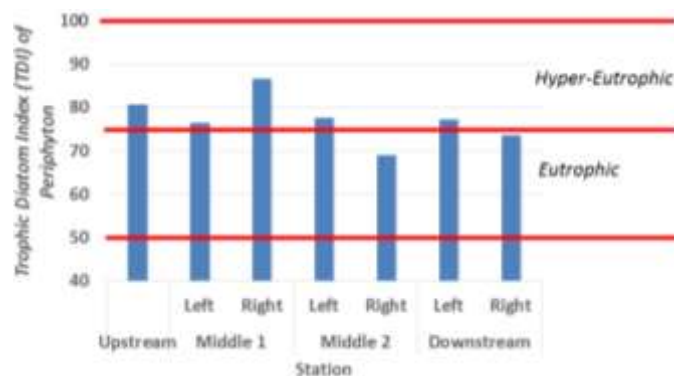
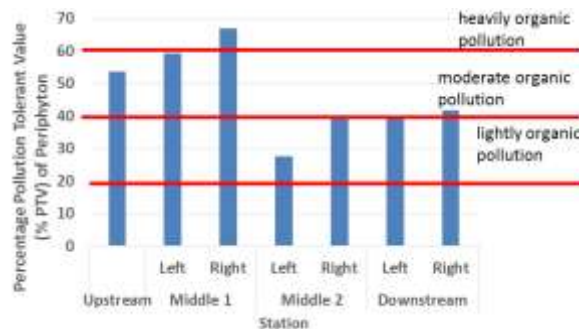


Figure 11. Trophic Diatom Index (TDI) value of Periphyton in Kromoleo Swamp



**Figure 12.** Percentage of Periphyton Pollutant Tolerant Value in Kromoleo swamp

The pollution level based on Periphyton %PTV analysis (Fig. 12) in Kromoleo swamp ranged from 27.62% to 66.88%. The highest value was in the middle 1 (right side) station, and the lowest was in the middle 2 (left side) station. Based on this value can classify as lightly organics polluted to heavy organics pollution. Diatoms are an organism that usually used as bioindicators to determine water quality that indicated the pollution level of organic matters [25].

Periphyton and phytoplankton will have an impact on Kromoleo swamp tourist area that has been designated as tourist centers. There are two types of aquatic organisms that have a special attraction for tourists. Based on using them as a bioindicator, tourists can appreciate about conditions in the tourist area and application of the ecological tourism concept, not only business-oriented but also regard to the environment. Tourists that focus on seeing the existing natural-tourism conditions will report, discuss, and follow up when they found a tourist spot that has a lot of pollution. Aquatic pollution in Kromoleo swamp that caused by the lack of tourism manager's attention will relate to the sustainability of tourism itself.

## CONCLUSION

Water quality in Kromoleo swamp based on its phytoplankton and periphyton indicated that the water polluted by organic matter and nutrient content. It reflected by high levels of BOD, turbidity, orthophosphate, and water brightness. It exceeds the water quality standards set in all study sites, while other parameters (water temperature, pH, DO, nitrate, and conductivity) were still normal levels. Shannon Wiener diversity index categorized in clean waters, which did not indicate toxic pollution. Trophic status based on the TDI index (Tropic Diatom Index) on phytoplankton and periphyton were in eutrophic to hypereutrophic category. Last, based on the %PTV on phytoplankton and periphyton were classified as

lightly organics polluted to heavy organics pollution. The impact of high pollution can decrease tourism attraction due to bad swamp condition, like unwell smell in Kromoleo swamp which can also decrease the income of surrounding communities whose depend on their economies in Kromoleo swamp tourist area.

## Acknowledgment

The author would like to thank the staff and surrounding community of Senggreng village in Sumberpucung Sub-district who provided very useful information and allowed researchers to take samples at Kromoleo Swamp. We also thanks all colleagues and staff Laboratory of the Ecology and Animal Diversity, University of Brawijaya Malang.

## REFERENCES

- [1] Onyema, I. C. 2013. Phytoplankton bio-indicators of water quality situations in the Iyagbe lagoon, South-western Nigeria. *actaSATECH* 4(2), 93-107.
- [2] Chellappa, N., F. Camara, and Rocha. 2009. Phytoplankton community: an indicator of water quality in the Armando Ribeiro Gonçalves Reservoir and Pataxo Channel, Rio Grande de Norte, Brazil. *Brazilian Journal of Biology* 69(2), 241-251.
- [3] Li, L., Z. Binghui, and L. Lusan. 2010. Biomonitoring and bioindicators used for river ecosystems: definitions, approaches, and trends. *Procedia Environmental Sciences*, 1510-1524.
- [4] Clesceri, L. S., A. E. Greenberg, and A. D. Eaton. 1998. Standard methods for the examination of water and wastewater 20<sup>th</sup> edition. American Public Health Association. Washington D.C.
- [5] Jorgensen, S. E., R. Costanza, and F. Xu. 2005. Ecological indicators for assesment of ecosystem health. Taylor and Francis Group. CRC Press. USA
- [6] Kelly, M. G., C. Adams, A. C. Graves, J. Jamieson, J. Krokowski, E. B. Lycett, J. M.

- Bligh, S. Pritchard, and C. Wilkins. 2001. The trophic diatom index: A user's manual. Revised edition. Environment Agency. Bristol.
- [7] Nontji, A. 2005. Laut Nusantara (Marine Nusantara). Djambatan. Jakarta, Indonesia.
- [8] Prasetyo, H. D. and C. Retnaningdyah. 2013. Peningkatan kualitas air irigasi akibat penanaman vegetasi riparian dari hidromakrofit lokal selama 50 Hari. *Biotropika* 1, 149-153.
- [9] Effendi, H. 2003. Telaah Kualitas Air. Kanisius. Yogyakarta.
- [10] Kwon H. K., S. J. Oh, and H. S. Yang. 2013. Growth and uptake kinetics of nitrate and phosphat by benthic microalga for phytoremediation of eutrophic coastal sediments. *Bioresource Technology* 129, 387-395.
- [11] Faza, M. F. 2012. Struktur komunitas plankton di Sungai Pesanggrahan dari bagian hulu (Bogor, Jawa Barat) hingga bagian hilir (Kembang, DKI Jakarta). Universitas Indonesia Press. Jakarta.
- [12] Morrison, G., O. S. Fatoki, L. Persson, and A. Ekberg. 2001. Assesment of the impact of poinr source pollution from the Keiskammahoek sewage treatment plant on the Keiskamma river - pH, electrical conductivity, oxyge -demanding substance (COD) and nutrients. *Water SA* 27(4), 475-480.
- [13] Weirich, C. A. and T. R. Miller. 2014. Freshwater harmful algal blooms: toxins and children's health. *Current Problem Pediatric Adolescent Health Care* 44(1), 2-24.
- [14] Oram, P. B. 2014. Watershed assessment, education, training, and realtime water quality monitoring. Available at: <http://www.water-research.net/index.php/watershed>.
- [15] McCoy, W. F. and B. H. Olson. 1986. Relationship among turbidity, particle counts and bacteriological quality within water distribution lines. *Water Research* 20(8), 1023-1029.
- [16] Mandaville, S. M. 2002. Benthic macroinvertebrates in taxa tolerance values, metrics, and protocols. Project H-1, Soil and Water Conservation Society of Metro Halifax 5, 48-120.
- [17] Caraco, N. F. and J J. Cole. 2002. Contrasting impacts of a native and alien macrophyte on dissolved oxygen in a large river. *Ecological Applications* 12(5), 1496-1509.
- [18] World Health Organization (WHO). 2011. Nitrate and nitrite in drinking water: WHO guidelines for drinking water quality. WHO.
- [19] Beaty, T. A. 2015. Life on the Mississippi: Reducing the harmful effects of agricultural runoff in the Mississippi River Basin. *Ohio NUL Rev.* 41, 819-965.
- [20] Lu, J., H. Wu, and M. Chen. 2011. Effects of nitrogen and phosphorus on phytoplankton composition and biomass in 15 subtropical, urban shallow lakes in Wuhan, China. *Limnologica* 41, 48-56.
- [21] Pratiwi, N. T. M., S. Hariyadi, I. P. Ayu, A. Iswantari, and J. F. Amalia. 2013. Komposisi fitoplankton dan status kesuburan perairan Danau Lido, Bogor-Jawa Barat melalui beberapa pendekatan. *Jurnal Biologi Indonesia* 9(1), 111-120.
- [22] Gilpin, L. C., K. Davidson 2004. The influence of changes in nitrogen: silicon ratios on diatom growth dynamics. *Journal of Sea Research* 51, 21-35.
- [23] Dallas, H. F. 2008. Water temperature and riverine ecosystems: An overview of knowledge and approaches for assessing biotic responses, with special reference to South Africa. *Water SA* 34(3), 393-404.
- [24] Schmalz, N. and N. Fohrer. 2014. Study progress in riverine phytoplankton and its use as bio-indicator – a review. *Austin Journal of Hydrology* 1(1), id1003.
- [25] Retnaningdyah, C. and E. Arisoesilaningsih. 2018. Using benthic diatom to assess the success of batch culture system phytoremediation process of water irrigation. *Journal of Tropical Life Science* 8(3), 259-268
- [26] Retnaningdyah, C., E. Arisoesilaningsih, and S. Setijono. 2017. Use of local hydromacrophytes as phytoremediation agent in pond to improve irrigation water quality evaluated by diatom biotic indices. *Biodiversitas* 18(1), 1611-1617.
- [27] Ayers, R. S. and D. W. Westcoc. 1985. Water quality for agriculture, irrigation and drainage. Paper No. 29 (Rev. 1). FAO. Rome.
- [28] Carlson, R. E. and J. Simpson. 1996. A coordinator's guide to volunteer lake monitoring methods. North American Lake Management Society.

## Socio-economic and Environmental Sustainability of Ecotourism Implementation: A Study in Ubud Monkey Forest-Bali, Indonesia

Omar Sambou<sup>1\*</sup>, Harsuko Riniwati<sup>2</sup>, Zaenal Fanani<sup>2</sup>

<sup>1</sup>Master Program of Environmental Resource Management and Development, University of Brawijaya, Malang,  
Indonesia

<sup>2</sup>Postgraduate School, University of Brawijaya, Malang, Indonesia

### Abstract

Ecotourism is the fastest growing sector in the global tourism industry and provides for environmental conservation, socio-economic development, cultural preservation, employment and empowerment of indigenous people of ecotourism destinations. This study seeks to find the socio-economic and environmental sustainability of ecotourism practices in Ubud Monkey Forest-Bali under the three dimensions of sustainable development; economic progress, environmental protection and conservation, and socio-cultural preservation. Both quantitative and qualitative research methodologies used with the following conduct: (1) Questionnaire administration, (2) Interviews, and (3) Observations. Data was analyzed using Content Analysis and Multidimensional scaling (MDS) techniques to describe: (1) the sustainability of ecotourism in Is ecotourism in Ubud Monkey Forest (2) sustainability index of each of the dimensions under study in Ubud Monkey Forest, and (3) describes the level of sensitivity of sustainability of each dimension in Ubud Monkey Forest. The Kite Diagram of Sustainability Analysis presents that the sustainability status of all the used dimension which classified as sustain. The overall sustainability status of ecotourism is sustainable with an index of 76.49. The most sustainable dimension is education and recreation, while the least is the participation dimension. It shows that the dimensions under study support sustainability in ecotourism. The results of this study confirmed that within the parameters of the study, the forest maintained an ecological balance, socio-economic advancement, and cultural preservation. Ecotourism has high attraction potentials for both tourist and local businesses while impacting less on the culture, environment and the traditional practices of the Balinese people. Notwithstanding, there is a general problem of land-use change and waste management in Bali.

**Keywords:** Ecotourism, Environment, Monkey Forest, Socio-economic, Sustainability.

### INTRODUCTION

Tourism is continuously seen as a basic instrument in progressing economic development, alleviating poverty, and advancing food security [1]. There are different attraction factors to tourist visits in every destination. It is widely believed that modern-day tourism is increasing in politically stable countries with a rich culture, beautiful nature, and biodiversity, which is referred as ecotourism. Exploring local people's contributions to ecotourism destinations should be a prerequisite for sustainable tourism, particularly if the destination's characteristics are associated with local culture and tradition [2].

Bali is a tropical island in Indonesia famous for tourism due to its beautiful nature, green vegetation mountains, beaches, coral reefs, and rice production, etc. With its exceptional natural sites and indigenous cultures, Indonesia could

become one of the world leaders in ecotourism, with Bali playing a key role.

The role of the indigenous people in maintaining the island in a way that attracts tourists and also enables them to carry out their socio-economic activities and agricultural practices is of great importance and pivotal in the quest for sustainable ecotourism and human development in the area. Cultural landscapes that link human and natural systems are not only places of natural beauty but also provide background information about the history of human adaptations to nature but also provide background information about the history of human adaptations to nature [3].

Bali is chosen for this research as it is the biggest/highest tourist destination In Indonesia and metaphorically referred to as the Paradise on Earth. The research intends to find out; (1) the sustainability of ecotourism in Is ecotourism in Ubud Monkey Forest (2) sustainability index of each of the dimensions under study in Ubud Monkey Forest, and (3) describes the level of sensitivity of sustainability of each dimension in Ubud Monkey Forest.

This paper highlight the existing trend in the practice of ecotourism towards sustainable development and economic growth in Bali by; (1)

---

\* Correspondence Address:

**Omar Sambou**

E-mail : [osambou@utg.edu.gm](mailto:osambou@utg.edu.gm)

Address : Postgraduate School, University of Brawijaya Jl.  
MT. Haryono 169, Malang 65145

analyzing the index of sustainability of each dimension understudy on the ecotourism site, (2) analyze the sensitivity of sustainability of each dimension in Ubud Monkey Forest, and (3) analysis to improve the sustainability of each dimension understudy in Ubud Monkey Forest.

## MATERIAL AND METHOD

### Study Area

Bali Island is situated east of Java and the west of the Lesser Sunda Islands in the Indonesia archipelago. The island covers an area of 5,632.86 km<sup>2</sup> and is the primary home of the Hindu community in Indonesia [3]. Ubud Monkey Forest is located in Padangtegal Village. It has spiritual connections as well as nature conservation and socio-economic activities through tourism. It has a total land area of 12.5 hectares, and according to the staff, it's a habitat for approximately 700 crab-eating macaques (*Macaca fascicularis*) commonly called the Monkey Temple.

### Method and Analysis

In this study, exploratory research applied to deeply explore the topic from the perspective of sustainable development under three areas of interest; Environment, Economic progress, and social equity through a Descriptive Qualitative Research Method. However, the quantitative method was used due to the nature of the topic, and the combination of these two methods in research is called a Mixed Method. Content Analysis and Multidimensional Scaling (MDS) were used in the data analysis to know the sustainability status of the forest.

### Data Collection

Mixed methods research focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Data was collected through purposive sampling using observations, questionnaires, and interviews.

**Observation:** Non-verbal observation was done on the site based on the interest of the research, online observation of reviewers, and rates of the forest. Personal observations on the site include the activities on the site, tourist and nature interaction, and available sustainability programs. Reviews and ratings on the website of the forest were used to acquire information or data.

**Questionnaire:** They are used to know the level of sustainability of ecotourism, its problems,

and the attraction potentials. Sixty (60) questionnaires were administered in the forest and the surrounding environment. The forest employees, tourists, elderly farmers, businessmen, tourist taxi drivers, and tour guides were respondents to the questionnaires. The questionnaire is about the sustainability index and the level of sensitivity of sustainability under five (5) dimensions namely Conservation, Participation, Education and Recreation, Economy, and Control.

**Interviews:** Employees of the forest, close business owners, tourist taxi drivers, elderly farmers, and tourists were interviewed, and a general opinion of people about the forest were sought out of casual discussions.

## RESULT AND DISCUSSION

Nature destruction is a threat to sustainable tourism in a destination. Therefore tourism development must include the environment as part of tourism resources that need to be developed in terms of quality and its variety [4].

Ubud Monkey Forest is considered to be one of the most famous parks in Bali and has over the years been visited by thousands of tourists. The park welcomes approximately 10,000 tourists every month. Over 30,000 visitors reviewed their experience in the park, and 20,236 people rated the site. The following information acquired from the internet (Table 1).

Table 1. Rating by Visitors

Rating	No. of People	Percentage
Excellent	9,412	47
Very Good	7387	37
Average	2582	13
Poor	481	2
Terrible	374	1
<b>Total</b>	<b>20,236</b>	<b>100</b>

#### Sources:

[https://www.tripadvisor.com/Attraction\\_Review-g297701-d378969-Reviews](https://www.tripadvisor.com/Attraction_Review-g297701-d378969-Reviews)

The above table indicated that 97% of the ratings are within the acceptable satisfaction of the visitors. Total 47% of the visitors rated the forest as excellent, 37% rated as Very Good, while 13% rated it as average. The above can be considered as acceptable satisfaction whereas 2% rated it as bad and 1% as terrible.

The park maintains a good management practice and visitor satisfaction from a management point based on the ratings. Acceptably, the park has registered an improved socio-economic advancement both for staff and community through its attraction factors. It



attracts tourists and small businesses within the area, thereby improving the income level of the locals while maintaining an ecological balance within the park and providing high visitor (tourist) satisfaction. The randomly picked reviewed comments indicated that most of the visitors have a positive impression on the park which means that the park is properly managed and nature is maintained.

### Questionnaire

A questionnaire was administered on the research site and surrounding businesses to people with some understanding of the subject matter. The total number of respondents is 60, in which 39 (65%) of them are males, and 21 (35%) are female. A total of 50 respondents are native Indonesian Balinese, which represents 83.3% of the total respondents, and ten tourists representing 16.7%, among whom four are male and six are female. Among the native Indonesian Balinese, 35 are male, and 15 are female. A total of 12 (20%) are employees of the park, 11 (18.3%) are local businessmen, 10 (16.7%) are elderly (farmers), 9 (15%) are tour guides, and 8 (13.3%) taxi drivers.

**Table 2 :** Characteristics of Respondents

Description	No. of People	Percentage
Park Employees	12	20.0
Businessmen	11	18.3
Tourist	10	16.7
The elderly (farmers)	10	16.7
Tour Guide	9	15.0
Tourist Taxi Drivers	8	13.3
<b>Total</b>	<b>60</b>	<b>100</b>

Sources: Primary Data obtained, 2019

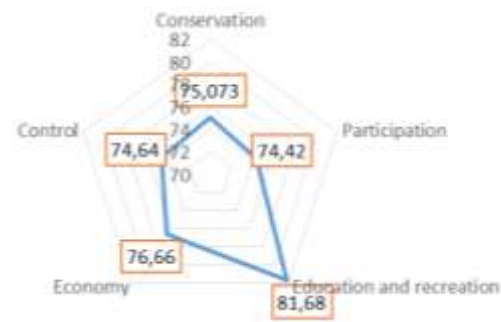
### MDS Rapfish Results Analysis

The result of goodness-of-fit calculation for MDS-Rapfish analysis is displayed in Table 3. According to Table 3, the S-Stress value of the four dimensions is less than 0.25, and the R-squares are more than 0.90. It means that the result of MDS-Rapfish analysis can be accounted for or veritable. Since the criteria for **goodness-of-fit** fulfilled, then the analysis to assess sustainability status for each dimension can be carried.

**Table 3.** Summary Goodness-of-fit MDS-Rapfish Analysis

Dimension	Stress (S)	R-Square (R)
Conservation	0.2267	0.9262
Participation	0.2081	0.9262
Education and recreation	0.2304	0.9379
Economy	0.2353	0.9195
Control	0.2430	0.9055

Source: Add-ins Ms. Excel Rapfish, 2019



**Figure 1.** Kite Diagram of Sustainability Analysis  
Sources: Primary Data Processed, 2019

Figure 1 presents the sustainability status of all the used dimension classified as sustain. The overall sustainability status of ecotourism is sustainable, with the index as many as 76.49. The most sustainable dimension is education and recreation, while the least is the participation dimension. The maximum attainable figure is 100, which is the highest level of sustainability. The higher the figure, indicates the higher the rate of sustainability, and the lower the figure, indicates lower the sustainability.

### Interview

The information of the respondent is presented as follows. GW is an employee of the Monkey forest as a security guard for many years. The following information was acquired willingly from him.

*"Environmental conservation and management is a key component of any sustainable development quest including sustainable ecological tourism, which cannot be attain without the participation of local communities".*

Joint management of natural resources between a community and tour operator can offer a means of sustainable utilising resources [5]. Ceding of authority to a local community and allowing its members to decide how local resources are used, can be a powerful incentive to alter behaviour towards conservation and thereby protection of natural resources.

At the Ubud Monkey forest, the *Tri Hita Karana* concept is used to manage the park. It is a Balinese doctrine which values the existence of God and reconciles the environment and society for a sustainable livelihood without destruction. Ecotourism has been proposed as a viable economic activity that can minimize negative human impacts on wildlife habitat and provide an

incentive to preserve natural areas. The potential of ecotourism as a wildlife conservation strategy is limited by its inability to ensure the long-term protection of environmental assets and by its tendency to contribute directly to environmental degradation [6].

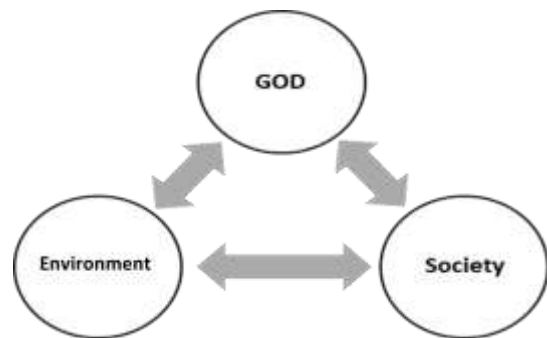
Economically, the forest employs many people directly and indirectly. Many businesses around the park are established because of the high tourist attraction potential of the park. Local people are employed, and they earn a good living from the existence of the forest. Many direct and indirect jobs are created; tour guides, tourist taxi drivers, local businesses, restaurants, homestay apartments, hotels, etc. Yet, these activities are not completely positive as land-use changes while other members of society are involved in other activities as ecotourism is an expensive venture. In practice, ecotourism has often failed to deliver the expected benefits to indigenous communities due to a combination of factors, including shortages in the endowments of human, financial and social capital within the community, lack of mechanisms for a fair distribution of the economic benefits of ecotourism, and land insecurity [7].

Bali is a Hindu dominant province of Indonesia, where over 80% of the people are Hindu in a Muslim dominated country. WWF [8] believe that there is an enormous common ground between the attitudes of faith towards the environment and the current international efforts to complete a global, ecologically-representative protected area network. Both are rooted in a shared ethical view that humans have an obligation to avoid destroying the rest of biodiversity through their actions, and both are based on the concept of setting aside areas of land and water to facilitate the conservation of wild nature.

Tourism has contributed significantly to the economic and social advancement of the people of Bali but has also contributed negatively to their cultural values and lifestyles a little. Youngsters copy some western lifestyles, but dominantly, our cultural values are highly respected and maintained. The employees of the forest dress in a traditional outfit to promote our culture.

In summary, the interviews conducted conclude that the activities of the Balinese towards sustainability is not by chance, but it is principally part of their religion and culture. There is a general problem of waste management, which is not due to ecotourism,

although generally linked to tourism. While ecotourism attracts businesses that were lead to land-use change in the area.



**Figure 2.** Illustration of the Tri Hita Karana Doctrine

Source: Illustration by author, 2019

## CONCLUSION

Ecotourism is considered to be the fastest growing sector in the global tourism industry. It has the potentials to protect and conserve the environment, promote the economic development of local people, bring infrastructural development, and promote the culture and tradition of local people of ecotourism destinations. The Balinese doctrine *Tri Hita Karana* is very essential for the quest for sustainable ecotourism in Bali. It has inculcated a sense of responsibility and common concern in the Hindu people of Bali in their quest for sustainable development.

The Ubud Monkey Forest is a sustainable ecotourism site based on the Indonesian regulation, ecotourism, and sustainability principles, within the context of the three dimensions of sustainable development; economy, environment, and society. The Kite Diagram of Sustainability Analysis presents that the sustainability status of all the used dimensions classified as sustain. The overall sustainability status of ecotourism is sustainable with the index 76.49. The most sustainable dimension is education and recreation, while the least is the participation dimension.

The results of this study confirmed that within the parameters of the study, the forest maintained an ecological balance, socio economic advancement, and cultural preservation. Ecotourism has high attraction potentials for both tourist and local businesses while impacting less on the culture, environment, and the traditional practices of the Balinese people. Land-use change is dominantly the problem associated with ecotourism destinations. The surrounding environment attracts businesses due



to the high attraction potential of the ecotourism destination, which often results to change in land-use from farming (rice production) to business centres, hotels, restaurants, etc. There is a high rate at which local people lose lands to national and international investors.

#### **Acknowledgement**

I acknowledge the support and assistance of Susan Stage and Nick Burgoyne. Big thanks to IDB.

#### **REFERENCES**

- [1] Čerović, S., M. Knežević, V. Matović, I. Brdar. 2015. The contribution of tourism industry on the GDP growth of Western Balkan Countries. *Industrija* 43(3), 497-15.
- [2] Hakim, L., J. E. Kim, and S. K. Hong. 2009. Cultural landscape and ecotourism in Bali Island, Indonesia. *Journal of Ecology and Environment* 32(1), 1-8.
- [3] Hakim, L. 2008. Planning for nature-based tourism in East Java: recent status of biodiversity, conservation, and its implication for sustainable tourism. *ASEAN Journal on Hospitality and Tourism* 7, 155-167.
- [4] Sutawa, G. K. 2012 . Issues on Bali Tourism development and community empowerment to support sustainable tourism development. *Procedia Economics and Finance* 4, 413-422 .
- [5] Hill, J. L. and R. A. Hill. 2011. Ecotourism in Amazonian Peru: Uniting tourism, conservation and community development. *Geography* 96(2), 75-85.
- [6] Isaacs, J. 2000. The limited potential of ecotourism to contribute to wildlife conservation. *Wildlife Society Bulletin*. 28. 10.2307/4617284.
- [7] Coria, J. and E. Calfucura. 2012. Ecotourism and the development of indigenous communities: The good, the bad, and the ugly. *Ecological Economics* 73, 47-55.
- [8] Worrlid Wildlife Fund. 2005. The arguments for protection series: beyond beliefs, linking faiths and protected areas to support biodiversity conservation. World Wide Fund for Nature, UK.

## Strategy for the Development of Kampung Sasirangan as Edutourism Village

Nasruddin, Ellyn Normelani\*, Rosalina Kumalawati

Department of Geography Education, Faculty of Teaching and Education Science, Lambung Mangkurat University,  
Banjarmasin, Indonesia

### Abstract

Kampung Sasirangan is one of the centers of traditional textile production of Banjarese called Sasirangan in South Kalimantan. Sasirangan was produced by the local community in the home industry scale with traditional process and production. The aim of the research is to identify and develop strategy to develop Kampung Sasirangan as an edutourism destination. The methods consist of direct observation in the home industry of Sasirangan traditional textile, in-depth interview, literature study, and focus group discussion. Research result shows that strategy to create edutourism sites of Sasirangan textile should include local community and local government participation. The Sasirangan product should be able to create a competitive product, reasonable prices, and high quality of the textile product. To provide edutourism attraction for educational purposes, it is important to provide a program for tourist to directly observe the traditional process to make Sasirangan. A guide from local people or craftsmen was important to ensure the interpretation of the traditional process was delivered properly. In such a case, the community development is crucial. The local government should be able to promote community development program through the establishment of a community group which is work in edutourism in the village. There also important to provide training, working capital, production tools, and assistance in promotion and marketing.

**Keywords:** Edutourism, traditional textile, Sasirangan.

### INTRODUCTION

Traditional fabric produced by Banjarese in South Kalimantan is one of the intangible cultural heritage of Indonesia. This traditional textile called *Kain Sasirangan* was produced by local community in Banjarese village, through the traditional process. Like many form of Indonesian fabric, these traditional textile identified has high cultural value, represent the important spiritual and economic value [1]. This traditional textile is one of the ten important commodity of South Kalimantan Province. As far, Sasirangan textile has been marketed and sold as textile and cloth. The Sasirangan textile has been sold as a souvenir of tourism in South Kalimantan.

Threats to the Sasirangan textile, however, comes from textile which area produced through modern technology. Modern textiles have rich in terms of the motif and cheap. Support for technology and modern machines influence the massive production textile [2].

Using tourism as education media has been promoted widely. Tourism has been reported as potential strategy to promote biodiversity conservation, cultural preservation, and local economic development. Tourism also contributes

to local community development. The term of ecotourism has been proposed to illustrate the alternative of tourism, which can support biodiversity conservation, local culture conservation, and local economic development. The recent definition of ecotourism argues that education is important part of ecotourism. In such a case, it is clear that interpretation is an important part of the recent ecotourism program and activity. Through ecotourism, it is expected that local culture and tradition were promoted to the global community, especially the young generation [3].

Using tourism as education tools are also known as Edu-Tourism [4,5,6]. In edutourism, the student traveling to a particular area, which provides material to increase student understanding about some particular subject. Through edutourism, it is expected students increase their knowledge and perspective on particular subjects and issues. Edu-tourism has been reported as a significant strategy to increase student awareness. Edutourism provides opportunities to learn directly, and therefore it is important to increase student knowledge [7,8,9].

The area with potential resources for education programs should develop a strategy to meet Edu-tourism market needs. Planning and development strategies are a crucial factor to ensure the sustainability and competitiveness of tourism destinations, especially in the high competition era of the tourism business. The

---

\* Correspondence Address:

**Nasruddin**

E-mail : [ellynnormelani80@gmail.com](mailto:ellynnormelani80@gmail.com)

Address : Lambung Mangkurat University, Brigjen Haji  
Hasan Basri, Banjarmasin 70124

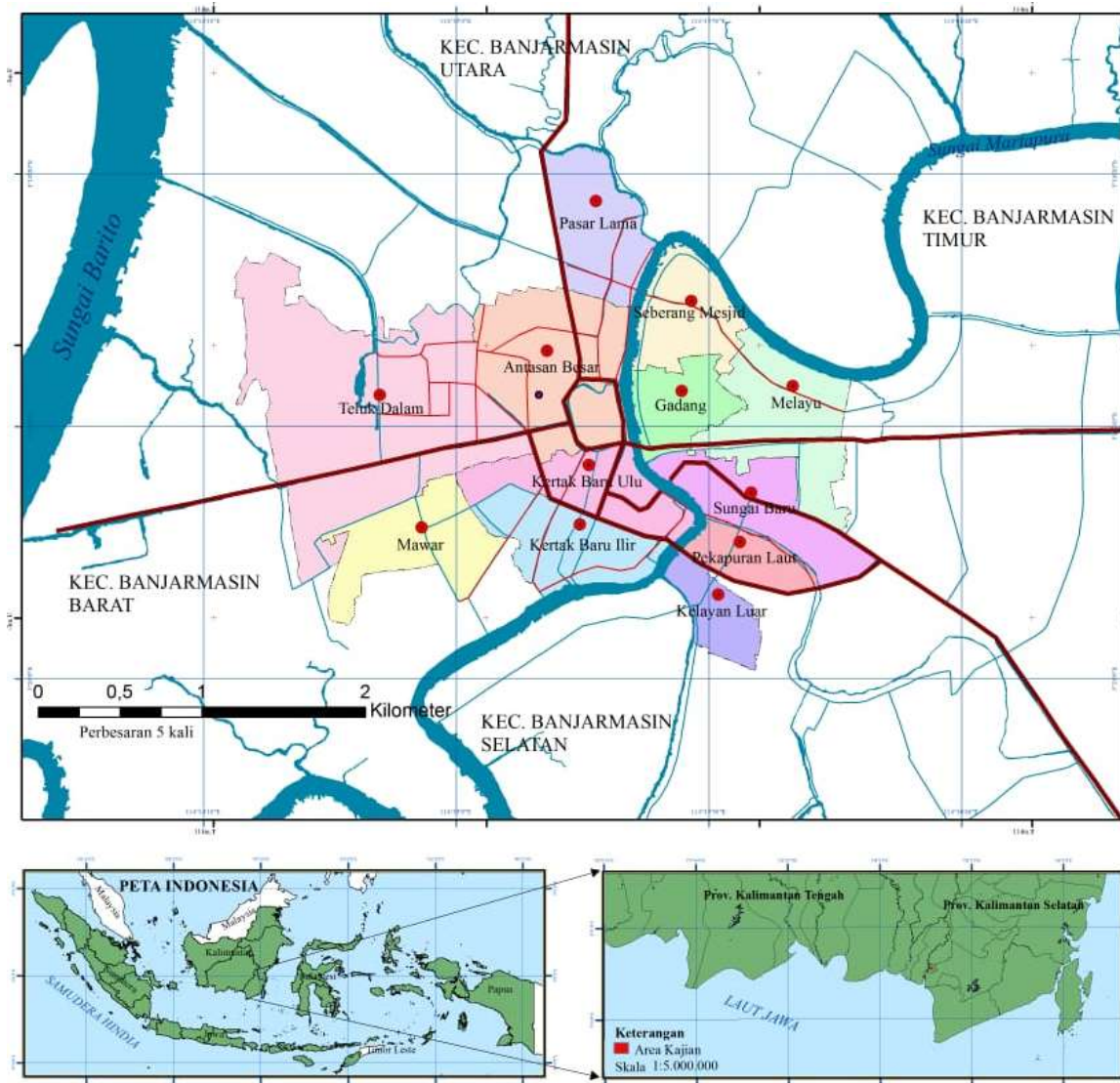
proper strategy will provide a blueprint for the significant action to meet destination objectives [10]. Scholars point out that one of the important methods to build the proper strategy is based on the community and local government perspectives. The objectives of the study were to describe the strategy for the development of the Sasirangan production area as a sustainable and competitive edu-tourism destination.

## METHODS

Before to the focus group discussion, authors visit Sasirangan Village to get permission and general information related to the objective of the study. Meeting with villages leader and traditional textile producers were implemented

to collect basic information regarding the recent status of Sasirangan textile production. The observation of villages and their daily life were implemented. The observation also conducted in traditional textile production sites, which was focused on observing methods and processes of Sasirangan textiles production.

In-depth interviews implemented to collect data and information related to the aspects of traditional textile production. Observation was done at 11 production sites in Sasirangan Village. The key informant of this research includes the staff of the Tourism Office of Banjarmasin City and the local community in Sasirangan Village. Data were analyzed descriptively. The location of study is shown in Fig. 1.



**Figure. 1** The location of Sasirangan villages (Kampung Sasirangan) in Banjarmasin  
**Source:** Shella Oktaviani Sholehah, 2018.

## RESULT AND DISCUSSION

### The Sasirangan Textile

In 2018, 64 home industry producing Sasirangan textile recorded in Banjarmasin city, in which 11 home industry found in Sasirangan Village. There were some important steps to produce Sasirangan textiles, in which traditional techniques have been implemented in production process. Sasirangan textile is one of the traditional textiles created and produced by the local community in South Kalimantan, called Banjarese. There are numerous motifs and colors of the textile, represent the rich idea of Banjarese to produce unique Sasirangan (Fig. 2).

Sasirangan is well-known as a cloth with diverse and exotic colors. Interestingly, a different area often produces different motifs and colors, lead to the high diversity of the Sasirangan motif in South Kalimantan. The traditional process has been influencing the diversity of motif and color of Sasirangan cloth.

The motif also subjects of consumer order, in which consumers able to request specific motifs and colors.

There are some steps in the production of Sasirangan textiles. According to the informant, the first step was drawing motif in sheets of cloths. In the drawing step, a pencil used to draw a motif. The next was include sewing cloth, or in Bajarese called *menyirang* with the needle, then pulled out to create wrinkles impact to the sheets of cloth. The sheets of cloth were colored using the dye solution.

After the coloring process, the sheets of cloth washed using cold water, and the tied cloths were released to produce motifs. To ensure the durability of color and motif in sheets, local craftsmen of Sasirangan use a chemical solution called *fixanol*. The final step for the process was include drying. The dry by air recommended ensuring the durability and high quality of Sasirangan. The complete steps shown in Fig. 3.



*Naga Balimbur and Jumputan combination*



*Kulat Karikit*



*Ombak*



*Kulat Karikit and Naga Balimbur*



*Kulat Karikit and Gagatas*



*Modern Kangkung Kaombakan*



*Iris Pudak*



*Iris Pudak combined with Gagatas*



*Turun Dayang*

**Figure 2.** Some motif of Sasirangan textile produced by Banjarese in Kampung Sasirangan  
(Source: Afni Zulaika Pratiwi, 2018)





**Figure 3.** Some illustration of traditional processing of Sasirangan  
(Source: Afni Zulaika Pratiwi, 2018)

#### **Strategy for the Edu-tourism Development**

The result of the FGD outlined into two strategy approaches, namely strategy related to the community and strategy that belong to the local government responsibility. According to the discussion participant, these strategies should be integrated and basically cannot be separated from each other.

##### *Local Community Strategy*

For the local community strategy, the important strategy explained as follows. First, it is important to create an attraction which is able to attract tourist to actively learn about the history and traditional techniques to produce Sasirangan. Tourists should have direct experiences with Sasirangan processing, from material preparation motif design and processing (Fig. 3). Attention to produce interesting Sasirangan, however, should be paid in dye materials. As far, the coloring solution to produce a motif in a sheet of fabric consist of chemical dye. It was reported that the coloring process results in significant waste [11]. In which it potentially contributes to environmental pollution. The alternative for reducing pollutant material included promoting natural dye [12].

Second, it is important to produce Sasirangan with high-quality standard products and processes. It is especially important in the era of

the high competition of the textile product. Problems, however, found in the human resources, especially traditional craftsmen to produce Sasirangan. There are important issues to produce Sasirangan following high standard products in an environmentally acceptable process.

Developing a new motif and color combination also becomes an important aspect to be considered in production. The innovation appears to be crucial issues in the development of Sasirangan fabric. The recent innovation of local craftsmen includes making numerous goods based on Sasirangan, such as shoes, sandals, a woman's bag, pencil box, head cap, table-cover, bed linen, and other product following market demand. Innovation is the key to the success of a product in market competition. In Indonesia, the innovation to produce numerous goods is one of the strategies to increase the market sales of small and medium enterprises products [13,14].

Thirds strategy included promoting tourism awareness programs (*Sadar Wisata*) to the community in Sasirangan village. Seven principles of tourism awareness promoted by the Indonesia government (*Sapta Pesona*) should be introduced. It includes secure, orderly, clean, fresh, beauty, hospitality, and memory. The local atmosphere to meet seven principles of *Sapta Pesona* should be introduced and implemented

as one of the keys to the success of tourism in Sasirangan Village [15].

#### *Local Government Strategy*

Local government strategy in the development of Sasirangan villages as an edutourism area includes the following explanation. First, it is important to local government to promote local community organizations to initiate and manage tourism in the community level. The development of *Sadar Wisata* community seems to be crucial. In such a case, training and other activity to improve local community knowledge and skill in tourism implementation are important. As far, these action has been poorly implemented. Other issues related to the local community tourism development related to the ability of the local community to find and manage potential attraction becomes an attractive tourism object. It is especially important as an effort to diversify tourism products for educational purposes [10].

The second strategy includes improving human resources knowledge and skill in fabric production. The ability of human resources in managing potential resources is one of the keys to community-based tourism. It is especially important in rural tourism, in which human resources sectors are important. Rural tourism has been identified to yield many economical benefits to the resident [16].

The third strategy includes providing capital to ensure the sustainability of craftsmen in producing Sasirangan. The production of Sasirangan requires many different kinds of material, in which it is often difficult to access by the local craftsmen. The small enterprise's group in villages often lack capital, skill, and knowledge. Several factors have been identified as factors to the competitiveness of products in the market, including packaging. Post-production tools are also important, especially for packaging fabric products.

Fourth, it is crucial for local government to assist the marketing aspect of Sasirangan. The local community often has a limitation in skill, knowledge, and networking to sell their product. In a situation where access to the market difficult, it is important to support marketing intensively.

#### **CONCLUSIONS**

The four strategies of the development of Sasirangan edutourism villages established by the local community and local government are as follows: 1) Establishing community awareness to

tourism, 2) Developing tourism attraction which provides opportunities to enjoy Sasirangan processing and production, 3) Increasing product competitiveness through human resources development to produce traditional textile with local wisdom characters, and 4) Providing capital support and marketing assistance.

#### **REFERENCES**

- [1] Gittinger, M. 1979. Splendid symbols: textiles and tradition in Indonesia. The Textile Museum. Washington, DC.
- [2] Hill, H. 1992. Indonesia's textile and garment industries: Developments in an Asian perspective (No. 87). Institute of Southeast Asian.
- [3] Hakim, L. 2004. Dasar-dasar ekowisata. Bayumedia.
- [4] Holdnak, A. and S. Holland. 1996. Edutourism: vacationing to learn. Parks and Recreation, 72-75.
- [5] Gibson, H. 1998. The educational tourist. Journal of Physical Education: Recreation and Dance 69 (4), 32-34.
- [6] Vieira, O. A. D. 2018. Developing edutourism in an urban indigenous community: the case of Aldeia Bananal (Brasília-DF- Brazil). International Journal of Tourism Anthropology 6(2), 133-153.
- [7] Smith, C. and P. Jenner. 1997. Educational tourism. Travel and Tourism Analyst 3, 60-75
- [8] Ma'rifah, D. R., and I. G. P. Suryadarma. 2015. Penyusunan panduan Edutourism Hutan Wisata Tlogo Nirmolo guna memunculkan karakter peserta didik Kelas X. Jurnal Inovasi Pendidikan IPA 1(2), 126-137.
- [9] Hayati, R. S. 2017. Edutourism Taka Bonerate National Park through scientific approach to improve student learning outcomes. Journal of Physics: IOP Conference Series 812(1), 012023.
- [10] Attar, M., L. Hakim and B. Yanuwidi. 2013. Analisis potensi dan arahan strategi kebijakan pengembangan Desa Ekowisata di Kecamatan Bumiaji-Kota Batu. Journal of Indonesian Tourism and Development Studies 1(2), 68-78.
- [11] Utami, U. B. L. and R. Nurmasari. 2007. Pengolahan limbah cair sasirangan secara filtrasi melalui pemanfaatan arang kayu ulin sebagai adsorben. Jurnal Sains MIPA 13(3), 190-196.

- [12] Fauziyah, N. and L. Hakim. 2015. Plants as natural dyes for Jonegoroan Batik processing in Jono Cultural Tourism Village, Bojonegoro, East Java. *Journal of Indonesian Tourism and Development Studies* 3(2), 41-44.
- [13] Setiawan, H. 2012. Pengaruh orientasi pasar, orientasi teknologi dan inovasi produk terhadap keunggulan bersaing usaha Songket skala kecil di Kota Palembang. *Orasi Bisnis* 8(2), 12-19.
- [14] Dewi, N. W. P. N. and G. Suparna. 2017. Peran inovasi dalam memediasi pengaruh orientasi kewirausahaan terhadap keunggulan bersaing industri kain Endek. *E-Jurnal Manajemen Universitas Udayana* 6(9), 5144-5174.
- [15] Rahmawati, S. W., S. Sunarti, and L. Hakim. 2017. Penerapan Sapta Pesona pada desa wisata (analisis persepsi wisatawan atas layanan penyedia jasa di Kampung Wisata Kungkuk, Desa Punten, Kota Batu). *Jurnal Administrasi Bisnis* 50(2), 195-202.
- [16] Purmada, D. K., and L. Hakim 2016. Pengelolaan desa wisata dalam perspektif community based tourism (studi kasus pada Desa Wisata Gubugklakah, Kecamatan Poncokusumo, Kabupaten Malang). *Jurnal Administrasi Bisnis* 32(2), 15-22.

## MANUSCRIPT SUBMISSION

### FOCUS AND SCOPE

Competitiveness of destinations, products and Indonesian tourism business; Diversification of tourism products; Incentive system of business and investment in tourism; Information, promotion and communication in tourism; Tourism supporting infrastructure; Security and convenience in tourism; Tourism policy; Unique tourism community life (living culture); Local knowledge, traditions, and cultural diversity; Diversity and attractions in ecotourism; Diversity of natural attractions in ecotourism; Pluralistic diversity of ecotourism society; Diversity of ecotourism activities; Hospitality of the local resident; The quality of tourism services; Quality of HR in tourism (Standard, accreditation and competence certification); The market share of tourism and integrated marketing system; Package of tourism attraction; Development of tourism regions; Community based Eco-Tourism.

### PEER REVIEW PROCESS

Publication of articles by JITODE is dependent primarily on their validity and coherence, as judged by peer reviewers, who are also asked whether the writing is comprehensible and how interesting they consider the article to be. All submitted manuscripts are read by the editorial staff and only those articles that seem most likely to meet our editorial criteria are sent for formal review. All forms of published correction may also be peer-reviewed at the discretion of the editors. Reviewer selection is critical to the publication process, and we base our choice on many factors, including expertise, reputation, and specific recommendations. The editors then make a decision based on the reviewers' advice, from among several possibilities:

*Accepted*, with or without editorial revisions  
Invite the authors to revise their manuscript to address specific concerns before a final decision

*Rejected*, but indicate to the authors that further work might justify a resubmission

*Rejected outright*, typically on grounds of specialist interest, lack of novelty, insufficient conceptual advance or major technical and/or interpretational problems

### PUBLICATION FREQUENCY

JITODE publish 3 Issues per year.

### OPEN ACCESS POLICY

This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

### COPYRIGHT NOTICE

Authors who publish with this journal agree to the following terms:

Authors retain copyright and grant the journal right of first publication with the work simultaneously licensed under a Creative Commons Attribution License that allows others to share the work with an acknowledgement of the work's authorship and initial publication in this journal.

Authors are able to enter into separate, additional contractual arrangements for the non-exclusive distribution of the journal's published version of the work (e.g., post it to an institutional repository or publish it in a book), with an acknowledgement of its initial publication in this journal.

Authors are permitted and encouraged to post their work online (e.g., in institutional repositories or on their website) prior to and during the submission process, as it can lead to productive exchanges, as well as earlier and greater citation of published work (The Effect of Open Access).

### PRIVACY STATEMENT

The names and email addresses entered in this journal site will be used exclusively for the stated purposes of this journal and will not be made available for any other purpose or to any other party.





**Title Typed in Bold, Capitalize each First Letter of Each Word, Except  
Conjunctive, *Scientific name* should not be Abbreviated  
(Calibri 14 Bold Center, should not exceed 12 words, except conjunctive)**

First Author<sup>1\*</sup>, Second Author<sup>2</sup>, Third Author<sup>3</sup> (Calibri 12 Center, without title)

<sup>1</sup>First Author Affiliation, Correspondence author should be indicated by \* symbol (Calibri 9 Center)

<sup>2</sup>Department of Biology, Faculty of Mathematics and Natural Sciences, University of Brawijaya, Malang, Indonesia

<sup>3</sup>Laboratorium of Physiology, Faculty of Medicine, University of Brawijaya, Malang, Indonesia

**Abstract (Calibri 9 Bold Center)**

This article illustrates preparation of your paper using MS-WORD (.doc or .rtf). Manuscript was numbered consecutively. Main text typed in two columns (67 characters), except title and abstract in one column. The manuscript should be written in English. The length of manuscript should not exceed 10 pages including table and figure in this format using A4 paper single space. The text should be in the margin of 3 cm up, down and left side, 2.5 cm on right side. Abstract includes the research purposes, research method and research results in one paragraph of *essay*, not *enumerative*. No citation in abstract. Abstract should not exceed 200 words. Keywords typed after abstract. (Calibri 9 Justify).

**Keywords:** manuscript, English, format, 5 words maximum (Calibri 9 Left)

---

**INTRODUCTION\***(Calibri 10 Bold, Left, Capslock)

All submitted manuscripts should contain original research which not previously published and not under consideration for publication elsewhere. Articles must be written in ENGLISH and manuscripts may be submitted for consideration as research report articles, short reports or reviews.

The introduction explains the background of the problem, the study of literature and research purposes. Some initial introduction paragraphs explain the problem and background to these problems [1]. The next few paragraphs explain the study of literature that contains recent knowledge development which is directly related to the issues. The last paragraph of the introductory section contains a description of the purposes of the study. (Calibri 10 Justify)

**MATERIAL AND METHOD**(Calibri 10 Bold, Left, Capslock)

This section describes the types of methods (qualitative, quantitative or mixed-method) with details of methods of data collection and data analysis [2]. This section also describes the perspective that underlying the selection of a particular method. (Calibri 10 Justify)

**Data Collection** (Calibri 10 Bold, Left)

Explain the data collection methods, i.e. surveys, observations or archive, accompanied by details of the use of such methods. This section also describes the population, sampling and sample selection methods. (Calibri 10 Justify)

The use of English language should followed proper grammar and terms. Name of organism should be followed by its full scientific name in the first mention, in *italic* [3]. Author of the scientific name and the word of “var.” typed regular. Example: *Stellaria saxatillis* Buch. Ham. First abbreviation typed in colon after the abbreviated phrase.

Author must use International Standard Unit (SI). Negative exponent used to show the denominator unit. Example: g l<sup>-1</sup>, instead of g/l. The unit spaced after the numbers, except percentage [4]. Example: 25 g l<sup>-1</sup>, instead of 25gl<sup>-1</sup>; 35% instead of 35 %. Decimal typed in dot (not coma). All tables and figures should be mentioned in the text.

**RESULT AND DISCUSSION** (Calibri 10 Bold, Left, Capslock)

This section contains the results of the analysis and interpretation or discussion of the results of the analysis. Describe a structured, detailed, complete and concise explanation, so that the reader can follow the flow of analysis and thinking of researchers [5]. Part of the results study should be integrated with the results of the

---

Correspondence address: (Calibri 8 Bold, Left)

**Full name of correspondence author**

Email : sapto@jurnal.ub.ac.id

Address : affiliation address include post code

analysis and the results and discussion are not separated.

### Table

Table should be submitted within the manuscript and in separated file of *Microsoft Excel* (xls.). Table should not exceed 8 cm (one column) and 17 cm (two columns). Table should be embedded in different page after references.

Table should be numbered in sequence. Table title should be brief and clear above the table, with uppercase in initial sentence. Vertical line should not be used. Footnote use number with colon and superscripted. Symbol of (\*) or (\*\*) was used to show difference in confidence interval of 95 and 99%.

**Table 1.** Example of the Table (Calibri 8.5 Left)

No	Point (Calibri 8.5 Justify)	Description
1		
2		
3		
4		
5		

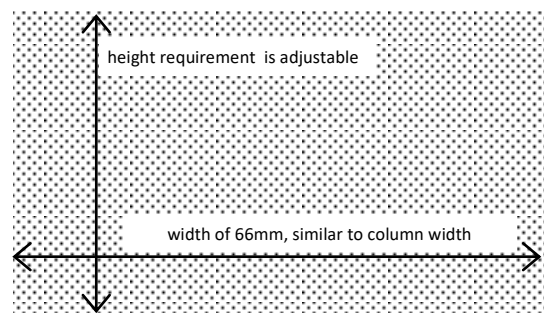
Sources: Journal of PPSUB (Calibri 8.5 Left)

### Figures

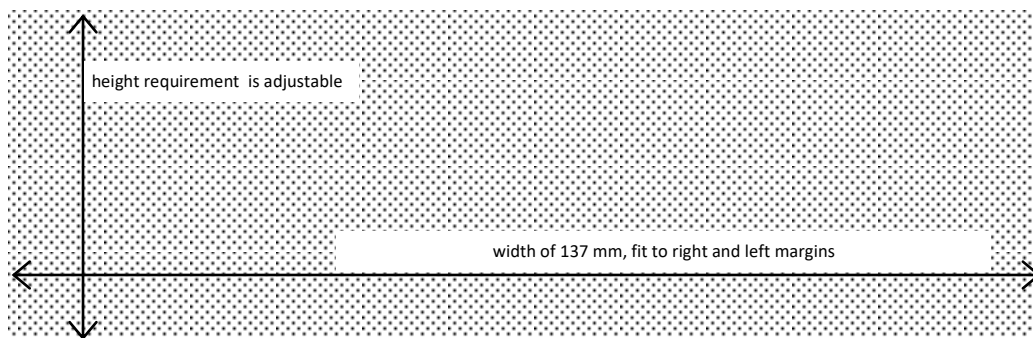
Figures should be in high resolution and well contrast in JPEG or PDF with the following conditions:

- Monochrome image (line art), figures of black and white diagram (solid/no shades of gray), resolution 1000-1200 dpi (dot per inch).
- Combination Halftone, combine figure and text (image containing text) and coloured graphic or in grayscale format. Resolution 600-900 dpi.
- Halftone, coloured figure or grayscale format without text. Resolution 300 dpi.

- Black and white figure should be in the grayscale mode, while coloured figures should be in RGB mode.
- Figure should not exceed the width of 8 cm (one column), 12.5 cm (1.5 columns) or 17 cm (two columns).
- Figures title typed clearly below the figure.
- Figure with pointing arrow should be grouped (grouping).
- Figures were recommended in black and white.
- Legend or figure description should be clear and complete. If compressed, the figure should be readable.
- Statistic graphic should be supplemented with data sources.
- If the figures come from the third party, it should have the copyright transfer from the sources.



**Figure 1.** Illustration of Dimensional Figure of one column width. Figure dimension adjusted to the width of one column. Name the figure (diagram) written below the image. (Calibri 8.5 Justify)



**Figure 2.** . Illustration of Dimensional Figure of two column width. Figure dimension adjusted to the width of two columns (137 mm). Figure were align top or bottom of the page. (Calibri 8.5 Justify)

## References

1. Primary references include journal, patent, dissertation, thesis, paper in proceeding and text book.
  2. Avoid self citation.
  3. Author should avoid reference in reference, popular book, and internet reference except journal and private ana state institution.
  4. Author was not allowed to use abstract as references.
  5. References should been published (book, research journal or proceeding). Unpublished references or not displayed data can not be used as references.
  6. References typed in numbering list (format number 1,2,3,...), ordered sequentially as they appear in the text (system of Vancouver or author-number style).
  7. Citation in the manuscript typed only the references number (not the author and year), example: Obesity is an accumulation of fat in large quantities which would cause excessive body weight (overweight) [1]. Obesity is a risk factor of diabetic, hypertension dan atherosclerosis [2].
- [4].Syafi'i, M., Hakim, L., dan Yanuwiyadi, B. 2010. Potential Analysis of Indigenous Knowledge (IK) in Ngadas Village as Tourism Attraction. pp. 217-234. In: Widodo, Y. Noviantari (eds.) *Proceed-ing Basic Science National Seminar 7* Vol.4. Universitas Brawijaya, Malang. (Article within conference proceeding)
- [5].Dean, R.G. 1990. Freak waves: A possible explanation. p. 1-65. *In* Torum, A., O.T. Gudmestad (eds). *Water wave kinetics*. CRC Press. New York. (Chapter in a Book)
- [6].Astuti, A.M. 2008. The Effect of Water Fraction of *Stellaria* sp. on the Content of TNF- $\alpha$  in Mice (*Mus musculus* BALB-C). Thesis. Department of Biology. University of Brawijaya. Malang. (Thesis)

## CONCLUSION (Calibri 10 Bold, Left, Capslock)

Conclusion of the study's findings are written in brief, concise and solid, without more additional new interpretation. This section can also be written on research novelty, advantages and disadvantages of the research, as well as recommendations for future research. (Calibri 10 Justify)

## ACKNOWLEDGEMENT (Calibri 10 Bold, Left, Capslock)

This section describes gratitude to those who have helped in substance as well as financially. (Calibri 10 Justify)

## REFERENCES (Calibri 10 Bold, Left, Capslock)

- [1].(Calibri 10 Justify, citation labelling by references numbering)
- [2].Vander, A., J. Sherman., D. Luciano. 2001. *Human Physiology: The Mecanisms of Body Function*. McGraw-Hill Higher Education. New York. (Book)
- [3].Shi, Z., M. Rifa'i, Y. Lee, K. Isobe, H. Suzuki. 2007. Importance of CD80/CD86-CD28 interaction in the recognition of target cells by CD8<sup>+</sup>CD122<sup>+</sup> regulatory T cells. *Journal Immunology*. 124. 1:121-128. (Article in Journal)

**Cover:**

Kemloko, Nglegok  
Blitar

**Photo by:**

Jordan Matukkenna

**Editorial Address**

1st floor Building E of Graduate Program, Brawijaya University  
Mayor Jenderal Haryono street No. 169, Malang 65145, Indonesia  
Phone: +62341-571260 / Fax: +62341-580801  
Email: [jitode@ub.ac.id](mailto:jitode@ub.ac.id)  
Website: [jitode.ub.ac.id](http://jitode.ub.ac.id)

